

AGEING AT HOME WITH THE HELP OF INFORMATION AND COMMUNICATION TECHNOLOGIES

STARANJE DOMÁ S POMOČJO INFORMACIJSKO-KOMUNIKACIJSKIH TEHNOLOGIJ

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The proportion of the elderly in society is increasing.
Delež starejših v družbi se povečuje.

Ageing at home with the help of information and communication technologies

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ABSTRACT: Due to the ageing of the population, developed countries are facing increasing financial needs to provide suitable healthcare, social care and housing for the elderly. One of the ways in which society has responded to such issues is the idea that the elderly should be able to remain in their home environment as long as possible, where they would be capable of leading their lives as independently as possible with the best possible quality of life. This article is based on the assumption that the concept of ageing at home can be implemented with the help of information and communication technologies, which is why developed societies should integrate it into their regular healthcare and social welfare systems as soon as possible. The implementation process has proven to be very complex and as such requires careful planning, especially in Slovenia.

KEY WORDS: geography, gerontology, the elderly, ageing at home, information and communication technologies (ICT), telecare

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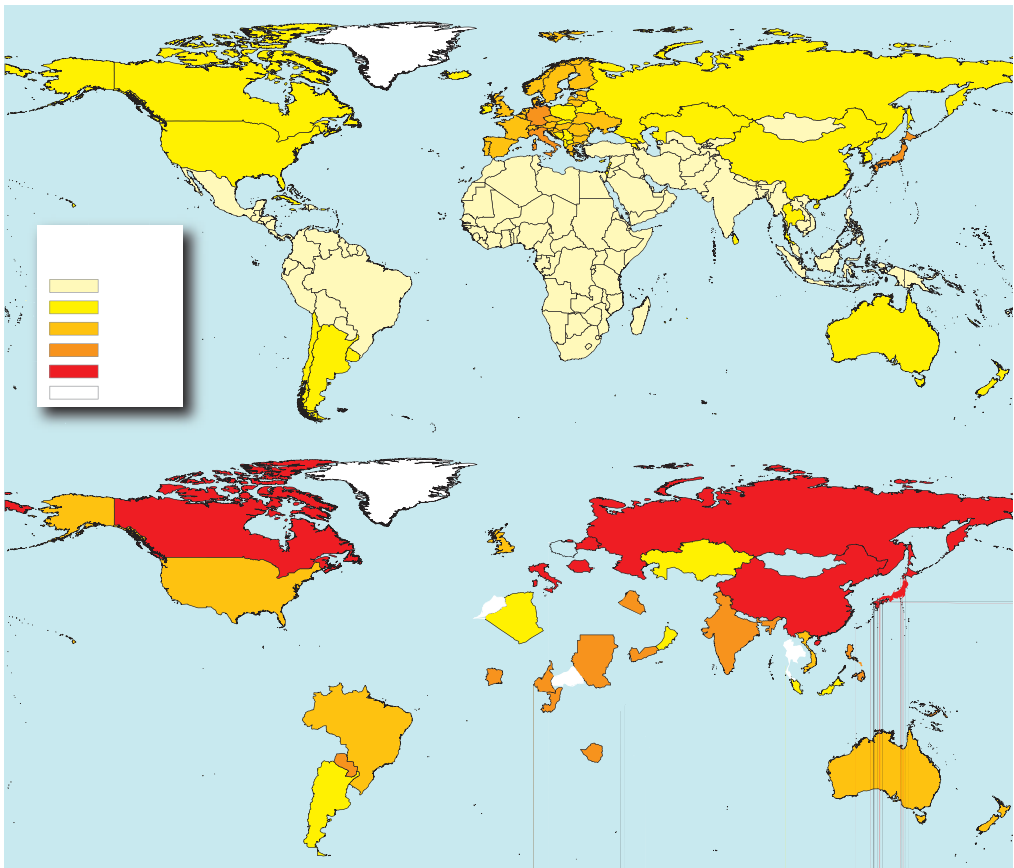
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1 Introduction

Western society is becoming increasingly older. Due to ageing of the population, countries are facing an increase in financial needs to provide suitable healthcare and social care, as well as the issue of insufficient capacities and long waiting lines at healthcare institutions and institutional care facilities for the elderly. One of the ways in which society has responded to such issues is the idea that the elderly should be able to remain in their home environment as long as possible, where they would be capable of leading their lives as independently as possible with the best possible quality of life. »Ageing at home« or »ageing in place« is a concept that has been the main topic of numerous research programmes as well as strategic plans and action plans in some countries in recent years; for example, in the UK, US, Canada and Japan. The goal is to reduce the growing costs of carrying out services and thus reduce the pressure on state funds for meeting the healthcare and social needs of the ageing population. This idea is widely supported in society because it is in line with the wishes and needs of the elderly. Most of them would like to remain at home, in the same familiar living and social environment, and they would also like to retain their independence and self-reliance as long as possible. Even though the preferences of the elderly depend on cultural differences, in most places the elderly see institutionalisation as a very traumatic experience and mostly have a negative attitude towards it. It is often the last resort, and many times they consider it to be their final refuge before death. Such a mentality is more deeply rooted in societies where there is no diversity in institutions and group housing for the elderly; for example, in Slovenia. Avoiding institutional care as long as



possible is therefore in the interest of the elderly and it is also in the public interest because it tends to limit the demand for institutional care only to people that really need this form of social assistance.

With the development of the information society, the idea of moving elderly care activities to their home environment and implementing efficient and high-quality healthcare and social services at home can be achieved with the help of information and communication technologies (ICT). However, this poses numerous questions, such as how these technologies function within the context of enabling ageing at home and, especially, how to integrate the concept of ageing at home with the help of ICT into existing healthcare and social care systems. This article discusses the role and significance of ICT or their applications to the needs of ageing at home and the conditions and requirements concerning their integration into the system for providing regular and general healthcare and social care for the elderly. Current achievements of implementing the concept of ageing at home on the basis of ICT are presented, and the achievements and obstacles to implementing this concept in Slovenia are discussed more critically. The article is based on analysis of research concerning this and it introduces new information, ideas and critical viewpoints to Slovenia. At the same time, it highlights issues for further consideration and provides the premises for future research and applied work in this area in Slovenia.

2 Information and communication technologies for enabling the elderly to age at home

The term »information and communication technology« refers to the system of electronic integration of providers, hardware, software and Internet users. It is used to obtain, save, manage, process, transmit and disseminate data through the telecommunications system (Barlow et al. 2007). According to Hojnik-Zupanc (1999), it reduces the physical distance and expands the social dimension of space. The ICT application for enabling ageing at home is called telecare. Barlow et al. (2005a, 441) define this as »the use of ICT to support health and social care remotely.« Telecare is a synthesis of management, telecommunications and computer technology, suitable information service and service networks providing assistance to individuals at home (Rudel 2004). Its typical model is known as the B-2-C (business-to-customers) model, as part of which the healthcare and social sectors provide its services directly to the end users (patients) at their home (European Telecommunications Standards Institute 2005). According to Porteus and Brownsell (2000), ICTs that are included in the telecare system are divided into three generations. The first generation is the safety-alarm system, a technically simple device based on a telephone connection. A special telephone set is installed at the user of the service and it is equipped with a wireless remote trigger that the person carries with him like a bracelet on his arm or a locket around his neck. This supervisory and communications platform enables the user to request assistance at any time from anywhere in his home by merely pressing the wireless trigger; he can call a relative, neighbour, acquaintance or the coordination and information centre, and talk to the operator concerning assistance (Miskelly 2001). The first ICT generation included in this safety-alarm system is the most basic and simplest telecare application.

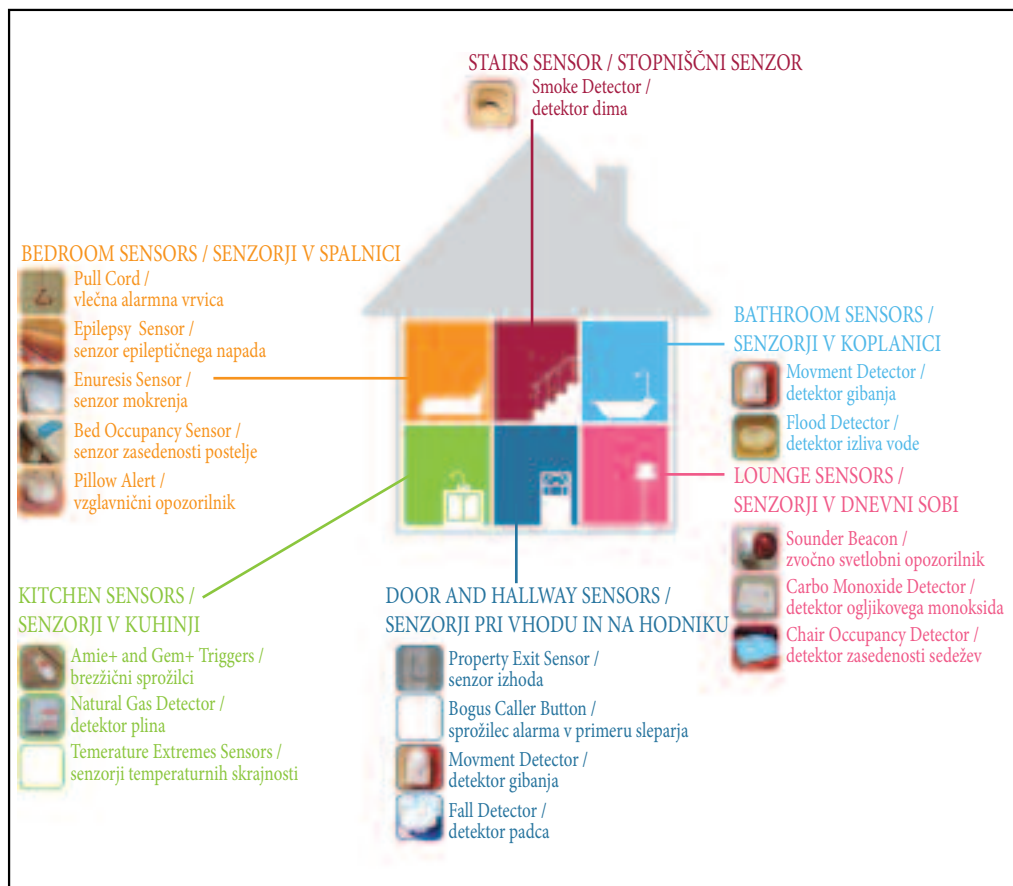
The second ICT generation within the scope of telecare is an improvement of the safety-alarm system. It is an innovative system representing one of the applied ICT-based forms of ambient intelligence or smart environment (Remagnino and Shapio 2007; Pecora and Cesta 2007). The users' home environments arranged according to the concept of smart homes are connected into a network of remote supervision and through this network they are connected with caretakers and other service providers. The second-generation telecare system functions using sensors that are discretely built into the user's home smart environment (e.g., on door handles, other handles, watches, etc.) and monitor the following: (1) sudden changes in the room (e.g., falling, epileptic seizures, etc.), (2) the user's life cycle (they measure/detect his physiological functions such as heartbeat, blood pressure, skin moisture, blood sugar levels, body weight, body temperature, carbon dioxide levels in exhaled air, murmurs in the body, etc.) and (3) psychological functions (slow and permanent lifestyle changes); they evaluate the behavioural pattern of the person monitored (e.g., based of the number of times a person walks through a door, how often they open the refrigerator, the frequency of stepping onto the rug in front of their bed, frequency of bed use, etc.). The devices also issue warnings to the user – these warnings are automatic reminders (e.g., the electronic pill dispenser warns the user that it is time to take their medication, etc.). All the information is transmitted and recorded by means of a remote information (control) system. In addition to these devices that



SOURCE SWEDISH INSTITUTE OF ASSISTIVE TECHNOLOGY 2011

Figure 2: Wireless trigger for requesting assistance in the form of a bracelet.

monitor the user's condition, devices that determine any unusual conditions or unusual circumstances in the living environment are also built into the smart environment. These include a fire, smoke or gas detector, a water leakage detector, a movement detector and so on. If the system detects any changes that might deviate from the user's normal parameters, an alarm automatically goes off and is forwarded to the call (alarm) centre (to the remote caretaker). This centre appropriately responds in the user's home environment (Rudel and Premik 2000). For this reason, this type of a telecare system is defined by Barlow et al. (2006) as response mode or r-mode. By its nature, the telecommunications alarm centre may be an information and coordination centre and assumes the role of a mediator between the users and assistance providers (as is the case with the safety-alarm system). It may perform the role of a combined mediator carrying out information and coordination as well as implementation activities, and may also include assistance providers in its work; for example, home nursing, social workers, emergency medical care, fire fighters, relatives or neighbours and so on. Depending on the type and scope of the problem(s), the person in charge at the call centre provides suitable instructions (or recommendations) to the user (e.g., to take medication, see a doctor, etc.) or informs the public service or service providers about the user's needs (Rudel 2007). The operation of the call centre is also supported by a medical team that occasionally remotely accesses the data gathered in the information database of the clinic. Recognising various biophysical patterns offers relevant information during the early stages of discovering the deterioration of an individual's medical condition or can contribute to a more suitable adjustment of the recovery programme or to relieving a potential chronic condition. It enables not only automation of the routines but also better and more informative insight into the patients' condition and understanding of their needs. Users of a telecare service that wish to monitor the results of their efforts relating to their health may access their aggregate data at any time equipped with suitable recommendations or advice via ICT. This



SOURCE: CHESTER & DISTRICT HOUSING TRUST 2011

Figure 3: The second-generation ICT telecare system includes various sensors built into the home environment of an elderly person.

way, they may actively and effectively participate in the process of ensuring health, care and remote security (Jelenc 2007). This form of telecare is defined by Barlow et al. (2006) as preventative mode or p-mode (some other authors do not define this form as telecare but as telehealth – they understand telecare only as the responsive aspect of such a system). In comparison with the second generation of ICT described above within the scope of telecare, the third generation focuses on the quality of the user's life rather than on his independence and safety. These technologies allow the user constant contact with people and provision of services without the user having to leave his home, which prevents him from feeling lonely and isolated.

Telecare as an ICT application for enabling ageing at home is thus a great opportunity for the elderly because it makes it possible for them to remain in their home environment in which they are capable of leading their lives as independently as possible with a good quality of life as long as possible, and institutionalisation is not necessary or is postponed to a later time. According to Barlow et al. (2005a), research findings confirm that telecare enhances the psychophysical condition of the elderly and it has been proven that there have been fewer hospitalisations; however, if these occur, they are shorter than they would be for the population that has not been included in remote care. It is better, more efficient and cheaper care that is one of the possibilities for a more extensive reduction of the costs of healthcare and social services in societies with an ageing population. However, the question is how to incorporate this into the existing social and healthcare systems.

3 Implementing the concept of ageing at home with the help of information and communication technologies

Even though it is very important for technologies to be reliable and suitably incorporated into an appropriately set-up living environment in order to effectively carry out telecare as an ICT application for enabling ageing at home, the technologies themselves do not guarantee successfully implementing the ageing-at-home concept into the system of regular healthcare and social care. According to Barlow et al. (2006), implementation is very complex because it is a combination of technological and organisational planning and includes a large number of groups of people that have different ideas about risks as well as different value systems that need to be satisfied. Implementation also changes the existing relationships among the stakeholders (Table 1).

Table 1: Potential participants in implementing the concept of ageing at home with the help of information and communication technologies.

Role	Potential stakeholders	Concerns/risks
End users	The elderly, patients, disabled persons	Does it help me – benefits/effects? Costs? Reimbursement of costs? Privacy and confidentiality issues?
Buyers/payers of care services	Insurance companies municipalities / the state	Costs? Meeting statutory requirements and regulations? Consequences for the existing social and healthcare insurance system are not clear.
Care service providers	Medical care providers	There are problems concerning implementing long-term changes in inflexible social and healthcare systems with numerous stakeholders. Costs? Effects? Integration with existing services? Provision of funds? Capacities?
	Social assistance providers	Costs? Effects? Integration with existing services? Provision of funds? Capacities?
	Private care service providers (medical care, social assistance, housing), informal caretakers, voluntary associations	Costs? Effects? Integration with existing services? Provision of funds?
Telecare providers	Telecommunications alarm centres Other home-care service providers	Role? An information and coordination centre or an information and coordination centre as well as a care service centre? Sources of funding for the activities? Data protection and responsibilities?
Suppliers of technical equipment necessary for providing telecare	Developers, installers / systems integrators	Product development, marketing? Role? Reimbursement of costs for investment and maintenance?
Suppliers of the infrastructure necessary for providing telecare	Suppliers of software and data equipment, suppliers of telecommunications services	Software development and the telecommunications network capacity? Reimbursement of costs for investment and maintenance?

Source: adapted from Barlow et al. (2005b)

Based on studies on integrating innovations into existing systems, these conditions or requirements for successfully implementing the ageing-at-home concept into the regular healthcare and social care system may be defined:

- *Support in the »local« environment*

When introducing an innovation from the global into the »local« social environment, its implementation is defined with the characteristics of the »local« environment. According to Rudel (2004), how the innovation will be accepted in the new local environment depends on the people involved or subjects that identify with it and assume the role of the initiator and agent of the implementation. The lack of strategic support and decision-making, political and expert bodies is a significant obstacle that prevents implementation from happening at the very outset. In circumstances in which political will and the decision-making infrastructure are weak and information about innovation is insufficient, the main efforts of implementation management must first be focused on assigning meaning to introducing the innova-

tion – the analysis of the existing state and the purpose, goals and expected benefits of the new application – and on developing a collective »understanding of the innovation« through various forms of providing information and communicating (Edmondson 2003). The next step should focus on active involvement of politics. Goodwin (2010) believes that this is the only way to determine the clear and solid legal frameworks necessary for successfully implementing the innovation. The political support for introducing innovations into social and healthcare systems is especially important in welfare state systems (such as Slovenia), in which the government legally regulates the social and healthcare system, determines the policies and priorities, sets forth legal and ethical rules of action and is the main provider of funds.

- *Mutual cooperation*

According to Norris (2002) and Hailey and Crow (2003), successfully implementing more complex innovations requires close, harmonised and coordinated cooperation between all groups of stakeholders; specifically, between and within individual groups (the vertical network of those involved) and with certain stakeholders also between the various levels of operation (the horizontal network of those involved) – that is, a comprehensive approach, networking according to Ravbar (2011). Mutual cooperation is essential for achieving high levels of recognisability and awareness, showing better cost effectiveness, increasing transparency while taking into account user needs, searching for solutions for interoperability, adjusting legal frameworks, dividing risks in research and innovations, and monitoring progress in general (Commission of the European Communities 2007).

- *User needs and requirements*

In order for an innovation to succeed, it is necessary that the capacities offered by the new technology match the needs, requirements and capacities of the users. The users are not interested in the technological aspects of innovation, but primarily in its usefulness. So it is the service or »the experience of the service« that they are interested in and not the devices or systems themselves. The technical functioning is important but it is not enough. The main question is what users like and what works for them (Saranummi et al. 2006). As already mentioned by Rogers (1962), the lack of consideration for the needs of the users proved to be one of the major obstacles for implementing innovations in general as well as implementing medical technologies (Shaw 1985). According to Barlow and Veneables (2003), the reason for this must be sought with the suppliers, who carry out marketing »strategies of technological push« instead of »pull strategies« and are thus creating a gap between the buyers' demands for systems that help them carry out everyday tasks and products that are available to them. Wyatt (2000) believes that ICT innovations in public services are also problematic because the suppliers are not always completely clear who the »leading users« are; specifically, the users that, according to Hippel (1998), detect the needs for new products and services before others and thus form an early demand for innovation. It is thus most important for the successful adoption of innovations that the potential users be included in the planning, development and implementation process. ICT innovations must therefore be planned for the users and with them (Milligan et al. 2011). As stated by numerous researchers (e.g., Smixmith and Smixmith 2000; Levy et al. 2003; Demiris et al. 2004; Hanson and Percival 2006), the failure to consider the needs and requirements of the users is the reason why innovations are not accepted in society after implementation.

- *Readiness of organisations and the change of norms*

When implementing innovations, the common obstacles are the resistance of organisations and the compliance of the innovations with values and »cultural« norms of an organisation. Therefore, according to Weick and Sutcliffe (2003), it is important for an organisation introducing an innovation to abandon and replace some existing organisational routines, and behavioural and mental patterns, and to prepare itself suitably with regard to organisation, which is connected with (a) being prepared with regard to planning; that is, developing strategic and business plans and models, assessing and analysing needs, defining health and social care providers and advocates in high management positions, and (b) the readiness of the working environment (i.e., training and educating personnel), implementing process reorganisation and changing management. According to Faif (2008), this is the only way to think and act creatively and the author also cautions that with such reorganisations the approaches must be carefully planned and prepared for the needs of each individual organisation. According to Barlow et al. (2010), we must therefore act not only according to the »one approach for all« principle because this may lead to resistance, especially in less flexible organisations.

- *Ability to prove potential effectiveness*

Innovations are positively accepted by the environment only if the potential effects (and benefits) are visible and if they satisfy every stakeholder group. Stakeholders are mostly interested in the measurable values of implementation: what the costs are and what benefits the implementation will bring, how the costs will be divided, how the innovation can improve the efficiency of existing care-provision systems, how soon the system will become (financially) more efficient, when the investment will be returned and so on. The proofs concerning the effects of innovations must be collected prior to implementation with the help of experiments and pilot projects and then they need to be evaluated (Brownsell et al. 2006). In order to reduce risks for potential users, Rogers (1962) believes that it is the extent to which an innovation can be tested in a controlled test environment that is the factor that improves the probability of an innovation's final success. However, it is very hard to precisely define all provable effects this way. In conditions that enable consistent evaluation, pilot tests may offer useful indicators concerning possible problems during the implementation process and proofs of the effectiveness of an innovation, but the data acquired must be accepted with reservations and criticism. This is the case partly because it is hard to organise large representative experiments and partly because, as has been discovered, numerous stakeholders, who have different needs and requirements, make decisions concerning the value and usefulness of an innovation. Some parameters also cannot be measured and shown or recalculated into monetary values (e.g., well-being, better housing quality, unburdening informal caretakers etc.). Numerous benefits are also seen only in the long term (Bayer et al. 2007). For this reason, Finch et al. (2003) stress that a slightly more pragmatic approach is necessary when introducing more complex innovations into social and healthcare systems, in which there is great emphasis on high standards and proving effectiveness before the commercial phase of products and innovations. This means that one should go ahead with implementation even if not all the proofs concerning the effectiveness of an innovation are available (yet).

The conditions and requirements concerning implementing innovations into existing systems also include *ethical and legal acceptability* and *the suitability of the distribution of funds among the stakeholders*, and with telecare, which is an ICT application for enabling ageing at home, also *the technical reliability of an innovation* and *the suitable arrangement of the living environment*, as already mentioned in the introduction to this section. Despite the complexity of the concept discussed and the multilayered conditions or requirements concerning its implementation into the regular social and healthcare system, some western countries have already achieved visible results in putting these innovations into practice.

4 Achievements with regard to implementing the concept of ageing at home with the help of information and communication technologies

The use of the safety-alarm system as the first generation of ICT innovations for ensuring ageing at home varies: in some western countries it is widely used, whereas in other countries (such as Slovenia) it is used only rarely or it has not even been implemented yet. According to the *ICT & Ageing – European Study on Users, Markets and Technologies* (Kubitschke and Cullen 2010), the percentage of users over 65 is the highest in the UK and Ireland (14–16%) and in Sweden, Finland and Denmark (6–10%), followed by 1–3% in the US, Spain, Germany, Hungary, the Netherlands, Italy, France and Japan. In the US, there are already multiple providers of the most advanced ICT systems that gather information concerning vital functions and transmit them through residential networks and broadband communication paths to special healthcare and nursing centres. The UK plays the most important role in the world concerning the attempt to implement this form of ICT innovations. Its government has defined implementing the second generation of telecare into the regular health and social care system as one of the country's most important strategic development priorities. According to Barlow and Hendy (2009), £175 million was allocated to this purpose between 2006 and 2011 in order to carry out pilot projects in England, Wales, Northern Ireland and Scotland. By doing this, they wished to acquire as much practical experience and data as possible, based on which they could successfully implement ICT innovation into the regular healthcare and social welfare system with greater certainty. Even though the initial results show many problems and obstacles indicating that implementing the second generation of telecare will be carried out with greater difficulty than



SOURCE: UNIVERSITY OF SOUTHERN QUEENSLAND 2011

Figure 4: Outside Slovenia, the concept of ageing at home with the help of advanced ICT innovations has significant support of users.

initially anticipated, the data are very encouraging, especially concerning potential effectiveness. In Scotland, for example (Joint Improvement Team 2010), £8 million was allocated to development and implementation, which saved a staggering £48.4 million, of which 47.5% is due to the reduced number of admissions into institutional care facilities for the elderly, 42% due to the reduced number of unnecessary hospitalisations (quicker discharge and alternative post-discharge remote care) and the number of unexpected hospital admissions (quick response time of the telecare system regarding injuries in the home environment) and 9.1% due to reduced night duty and house calls. Between 2007 and 2010, 25% of new users chose this form of ICT innovation, which confirms the effectiveness of informing people and the increased trust in the concept of ageing at home with the help of ICT.

With regard to implementing the ICT innovation for the needs of ageing at home, Slovenia is far behind other developed countries. At the time this article was written (July 2011), Slovenia had only the most basic ICT-supported service: the safety-alarm system called »Rdeči gumb« (the 'red button', known by experts as the Lifeline Programme), and even this only to a very limited extent and with numerous deficiencies. Even though this service has been offered in Slovenia since 1992, the number of its users is very low – in 2010, only 343 people living at home were using it (Smolej et al. 2010), which is 0.1% of people older than 65, and the number of users is falling (there were 363 in 2008). The geographic distribution of the service is also poor and it is not accessible to all people entitled to it. Ten regional (call) centres were planned for 2010; however, only five are currently in operation, of which only the one in Ljubljana is defined as a regional centre and covers the City of Ljubljana, the City of Kranj and the municipalities of Medvode and Jesenice. The other centres are in Celje, Maribor, Koper and Nova Gorica; however, they only cover the urban municipalities and their surrounding areas. The disadvantage of these centres is that they use different ICT equipment (only the centres in Ljubljana and Celje use a similar approach), which makes cooperation and a possible merger and upgrade into a single centre impossible. A study concerning the operation of the remote protection service conducted in 2006 (Zajec 2006) also showed deficiencies regarding the personnel – because the centres did not have sufficient trained staff, the majority of workers were employed through the public works programme, which affected the quality of the service provided. Another problem is the manner of securing funding for establishing and operating the centres. The majority of

the start-up funds (70%) for acquiring technical equipment and the continuing education of trained staff must be provided by the municipalities and the remaining funds are provided by the state. The funds for the future operation of the centres must also be provided by the municipalities and they must also subsidise the difference to the full price of the service. Due to the different subsidies, the price of the service that the users must pay is also not uniform nor is it low (somewhere between €12 and €75 per month); it is thus accessible only to a small circle of the elderly population that is able to cover the cost. In Scotland, for example, the use of the safety-alarm system is free and generally in Great Britain it costs between €10 and €25 per month (Kubitschke and Cullen 2010).

5 Obstacles to implementing the concept of ageing at home with the help of information and communication technologies in Slovenia

In Slovenia the concept of ageing at home with ICT-supported innovations has not come to life because its first condition, which is important for integrating innovations into existing systems in society, has not been met; that is, support in the »local« environment. This mostly involves political support, which is proven by the following:

- (a) Slovenia is following the strategic guidelines of the Commission of the European Communities and is adopting them into its strategies and programmes (the development of nursing and healthcare ICT-based services is, for example, foreseen in the Strategy for the Informatisation of the Slovenian Healthcare System – »E-zdravje 2010«, the 2010 Social Welfare Strategy, the 2008–2013 Resolution on the National Healthcare Plan, the Elderly Care Strategy until 2010, etc.); however, these documents lack the appropriate action and operational plans and laws regulating and setting forth their implementation. In Slovenia, the political will concerning the introduction of ICT applications for the needs of ageing at home and the (re)organisation of care is expressed only at a moral, abstract level.
- (b) The support for offering the safety-alarm system already existing depends on the will of local decision-makers. The fact that only ten municipalities were included in (co)financing the safety-alarm system service in 2009, which is less than 5% of all Slovenian municipalities (Smolej et al. 2010), and that there were still eleven in 2004 and twelve before that, shows that there is no political will for implementing the concept of ageing at home with the help of ICT even at the local level. To put it ironically, one could say that the decision-makers at the local level most frequently understand the concept of ageing in the home environment as building retirement homes in their municipalities. This is a project that could be fulfilled during the term of the ruling coalition, which also shows the effectiveness of its work. In addition, local companies may work on construction as well, these homes offer employment possibilities for the local (trained) staff, the persons being taken care of in these homes still live in a familiar environment, the informal caretakers (family members) are no longer burdened and at the same time they are close to the older members of their family. Thus, everyone in the local community is satisfied, although the basic problem is not solved. Moreover, with the new institutional care facility for the elderly the expenses necessary for providing suitable healthcare and social care services continue to increase.

The decision-makers would certainly be more in favour of this concept if it were better supported by other stakeholders. It is the indifference of the stakeholders or the insufficient determination of those that are in favour of the ageing-at-home concept that shows that the main problem hindering implementing this concept is much greater. Slovenia first needs comprehensive and radical changes in the mentality of society and the way it operates, which would also be the first condition for an in-depth discussion concerning the ways and possibilities of achieving or fulfilling the conditions and requirements for implementing the ageing-at-home concept on the basis of ICT. When discussing the current mentality and functioning of Slovenian society, there is a focus on two things from the viewpoint of implementing this concept.

The first is the partial interests and partial planning and functioning in various areas (i.e., in politics, healthcare and social care, planning the right to live in a private home, the economy (corporations, companies) and the insurance business as well as at various levels of functioning (local, state)), which is reflected in:

- Acquiring certain competencies and thus the lack of the desire, will or motivation for change and consequently ignoring or even preventing the functioning of those advocating changes (e.g., the state or professionals preventing the inclusion of private innovators and potential private investors);



Figure 5: In Slovenia, decision-makers at the local level mostly encourage institutional forms of housing for the elderly; the photo shows the retirement home in Logatec.

- The lack of mutual cooperation, exchange of information and the flow of knowledge;
- The fragmentation of systems and services (e.g., the division into the healthcare and social care systems, even though in practice, especially with implementing the concept discussed in this paper, integrated services of both are needed);
- The inappropriate distribution and lack of funds (e.g., the reorganisation of former municipalities into smaller local communities (and the non-existence of the second level of local government) has severely limited the funds for various investments, such as establishing and providing call centres).

The second thing is the excessive level of conformism and the lack of desire or the insufficient commitment to express the needs/requirements for diverse advanced forms of elderly housing by the NGOs that represent and bring together the elderly (societies, associations, etc.) at all levels (state, regional, municipal and local) and by individuals (the elderly and informal caretakers). For this reason, there is no motive for common, coordinated operation of these participants, which also makes it impossible to introduce a demand for implementing ICT innovations for the needs of ageing at home following a »bottom up« approach.

6 Conclusion

As an answer to problems connected with the ageing of the population, societies in developed countries began successfully including the concept of ageing at home with the help of ICT into existing healthcare and social care and housing-provision systems for the elderly some time ago. Great progress was made in this area especially with the distribution of the first ICT generation, the safety-alarm system, and numerous activities are also being carried out in connection with the attempt to implement more innovative

systems. Due to the complexity of technological and organisational planning, a large number of various stakeholder groups and thus the complexity of the conditions or requirements, numerous obstacles are arising in introducing these systems. However, this will not stop the process of implementing the concept discussed in this paper; on the contrary, activities and the search for suitable solutions are being carried out with greater intensity and, even more broadly, at national and international levels. In addition to obstacles, there is also an increasing amount of evidence concerning the positive effects or the general social acceptability and appropriateness of the concept of ageing at home with the help of ICT.

Whereas other developed countries are actively pursuing goals on economizing expenditures of state funds, which are laid down in numerous strategic documents, there is still a general lack of interest in Slovenia concerning the adoption of such measures despite the economic crisis and the intensive ageing of the population. If not sooner, future conditions themselves, which will most likely further deteriorate due to the lack of action, will force people to take such measures. Whoever decides to implement the concept of ageing at home with the help of ICT in Slovenia will need a lot of willpower, courage, managerial and negotiation skills and expert knowledge. Most likely, they will not be able to reconcile all viewpoints of various stakeholders and meet all of their conditions or requirements. There will still be many open questions, both general ones and Slovenia-specific ones (e.g., »the small size of the market« for investment), but it will still be necessary to take risks and hope for success. The experience with the safety-alarm system will surely help with the implementation, especially the experience provided by the users of this service. All evaluations to date have shown that the users and their informal caretakers are very happy with the service. An even more important step for developing and implementing more modern forms of the telecare system was made in Slovenia when this article was already going to press. After twenty years, as of October 2011, the most basic form of telecare, the safety-alarm system, is available to users all over Slovenia. This is the SOS Button service, which is available to users through a mobile or landline terminal, which connects with a call centre upon activation, where this call is received by a trained operator. This unification at the state level eliminated a large deficiency of already existing regional centres for remote security. A great advantage of the new service is also its affordability because offering it became more economical for all of Slovenia. When it was introduced, the service through a landline telephone cost €19.18 per month and an additional €25 had to be paid for the installation and €50 for the first visit, including advising. The mobile phone connection, which also enables the operator to determine the location of the caller, is free, and when it was introduced users paid approximately €20 per month and €50 for advising. Despite this, wider use of this service in Slovenia has not yet been ensured by far. In order for this to happen, a suitable level of providing information supported with the positive experience of »the locals with a home system« is very important. This is very important because Slovenians are generally reserved when it comes to experience of others and, as stated by Woolham and Frisby (2002), the telecare system is accepted and effective only if it is adjusted to the specific needs of a society or a country. However, even with this new service and a possible higher level of awareness and commitment in society, one cannot count on quickly or successfully implementing the second and third generation of telecare in Slovenia. Nonetheless, this could contribute to a »breakthrough« in mentality and the cooperation of all stakeholders and all Slovenian society, which would be a good basis for implementing this demanding task.

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8 References

- Barlow, J., Venables, T. 2004: Will technological innovation create the true lifetime home? *Housing Studies* 19. London. DOI: 10.1080/0267303042000249215
- Barlow, J., Bayer, S., Curry, R. 2005a: Flexible homes, flexible care, inflexible organisations? The role of telecare in supporting independence. *Housing Studies* 20. London. DOI: 10.1080/02673030500062467
- Barlow, J., Bayer, S., Curry, R. 2005b: Integrating telecare into mainstream care delivery. *Elaborat.* Bruselj.
- Barlow, J., Bayer, S., Curry, R. 2006: Implementing complex innovations in fluid multi-stakeholder environments: Experiences of Telecare. *Technovation* 26. London. DOI: 10.1016/j.technovation.2005.06.010

- Barlow J., Bayer S, Curry R, Hendy, J. 2007: The costs of telecare: from pilots to mainstream implementation. Canterbury.
- Barlow, J., Hendy, J. 2009: The challenges of adopting integrated mainstream telecare services: lessons from the UK. Eurohealth 15. London.
- Barlow J., Bayer, S., Curry, R. Hendy, J., McMahon L. 2010: From care closer to home to care in the home: the potential impact of telecare on the built environment. London.
- Bayer, S., Barlow, J., Curry, R. 2007: Assessing the impact of a care innovation: telecare. System Dynamics Review 23. Malden. DOI: 10.1002/sdr.361
- Brownsell, S., Blackburn, S., Aldred, H., Porteus, J. 2006: Implementing telecare: practical experiences. Housing, Care and Support 9. Hove.
- Chester & District Housing Trust 2011. ChesterCare service. Chester. Internet: <http://www.cdht.net> (22. 11. 2011).
- Demiris, G., Rantz, M., Aud, M., Marek, K., Tyrer, H. 2004: Older adults' attitudes towards and perceptions of 'smart home' technologies: a pilot study. Medical Informatics and the Internet in Medicine 29. Salford. DOI: 10.1080/14639230410001684387
- Edmondson, A., 2003: Framing for learning: lessons in successful technology implementation. California Management Review 45. Berkeley.
- European Telecommunications Standards Institute 2005: Human Factors (HF); Telecare services; Issues and recommendations for user aspects. Cedex.
- Faife, D. 2008: Reflections on developing an assistive technology/telecare service as a model for change management, creative thinking and workforce development. Housing, Care and Support 11. Hove.
- Finch, T., May, C., Mair, F., Mort, M., Gask, L., 2003: Integrating service development with evaluation in telehealthcare: an ethnographic study. British Medical Journal 327. London. DOI: 10.1136/bmj.327.7425.1205
- Goodwin, N. 2010: The state of telehealth and telecare in the UK: prospects for integrated care. Journal of Integrated Care 18. London. DOI: 10.5042/jic.2010.0646
- Hailey D., Crowe B. 2003: A profile of success and failure in telehealth-evidence and opinion from the Success and Failures in Telehealth conferences. Journal of telemedicine and telecare 9. London. DOI: 10.1258/135763303322596165
- Hanson, J., Percival, J. 2006: Differing perspectives on telecare: an attitudinal survey of older people, professional care workers and informal carers. London.
- von Hippel, E., 1988: The sources of innovation. Oxford.
- Hojnik-Zupanc, I. 1999: Samostojnost starega človeka v družbeno prostorskem kontekstu. Ljubljana.
- Jelenc, J. (ur.) 2007: Strateški razvojni načrt Tehnološke platforme I-TECHMED: inovativne in podporne tehnologije v medicini 2007–2013. Podnart.
- Joint Improvement Team 2010: An assessment of the development of telecare in Scotland: 2006–2010. Edinburgh.
- Komisija evropskih skupnosti 2007: Akcijski načrt za informacijske in komunikacijske tehnologije ter staranje. Bruselj.
- Kubitschke, L., Cullen K. 2010: ICT & Ageing – European Study on Users, Markets and Technologies. Bruselj.
- Levy, S., Jack, N., Bradley, D., Morison, M., Swanston, M. 2003: Perspectives on telecare: the client view. Journal of Telemedicine and Telecare 9. London. DOI: 10.1258/135763303767149960
- Milligan C, Roberts C, Mort M. 2011: Telecare and older people: Who cares where? Social Science & Medicine 72. London. DOI: 10.1016/j.socscimed.2010.08.014
- Miskelly, F.G. 2001: Assistive technology in elderly care. Age and Ageing 30. Oxford. DOI: 10.1093/ageing/30.6.455
- Norris, A. 2002: Essentials of telemedicine and telecare. London.
- Pecora, F., Cesta, A. 2007: DCOP for smart homes: A case study. Computational Intelligence 23. Hoboken. DOI: 10.1111/j.1467-8640.2007.00313.x
- Porteus, J., Brownsell, S. 2000: Using telecare: exploring technologies for independent living for older people. Kindlington.
- Ravbar, M. 2011: Creative social groups in Slovenia: contribution to geographic studying of human resources (Ustvarjalne socialne skupine v Sloveniji: prispevek h geografskemu proučevanju človeških virov). Acta geographica Slovenica 51. Ljubljana. DOI: 10.3986/AGS51204
- Remagnino, P., Shapiro, D. 2007: Artificial intelligence methodes for ambient intelligence. Computational Intelligence 23. Hoboken. DOI: 10.1111/j.1467-8640.2007.00312.x

- Rogers, E., 1962: Diffusion of innovations. London.
- Rudel, D. 2004: Je telecare tehnologija za pomoč na daljavo rešitev za krč države pri reševanju problema socialno zdravstvene pomoči starejšim v Sloveniji? Ljubljana.
- Rudel, D. 2007: Information and communication technologies for telecare of a patient at home/Informacijsko komunikacijska tehnologija za oskrbo bolnika na daljavo. Rehabilitacija 6. Ljubljana.
- Rudel, D., Premik, M. 2000: Oskrba na daljavo (tel-e-care) za zdravje starih, invalidov in trajno bolnih na domu. Informatica Medica Slovenica 6. Ljubljana.
- Saranummi, N., Korhonen, I. Kivisaari, S., Ahjopalo, H. 2006: A framework for developing distributed ICT applications for health, distributed diagnosis and home healthcare. Arlington. DOI: 10.1109/DDHH.2006.1624816
- Shaw, B., 1985: The role of the interaction between the user and the manufacturer in medical equipment innovation. R&D Management 15. Hoboken. DOI: 10.1111/j.1467-9310.1985.tb00039.x
- Sixsmith, A., Sixsmith, J. 2000: Smart care technologies: meeting whose needs? Journal of Telemedicine and Telecare 6. London. DOI: 10.1258/1357633001934636
- Smolej, S., Nagode, M., Jakob Krejan, P. 2010: Izvajanje pomoči na domu: analiza stanja v letu 2009. Ljubljana.
- Swedish Institute of Assistive Technology 2011: Digital Social Alarms. Sundbyberg. Internet: <http://hi.se/en> (22. 11. 2011).
- University of Southern Queensland 2011. The Queensland Smart Home Initiative. Hervey Bay. Internet: <http://www.usq.edu.au> (22. 11. 2011).
- United Nations 2009: Population, Ageing and Development 2009. New York.
- Weick, K., Sutcliffe, K., 2003: Hospitals as cultures of entrapment: a reanalysis of the Bristol Royal Infirmary. California Management Review 45. Berkeley.
- Woolham, J., Frisby, B. 2002: Building a local infrastructure that supports the use of assistive technology in the care of people with dementia. Research Policy and Planning 20. Cambridge.
- Wyatt, S. 2000: ICT innovation in central government: learning from the past. International Journal of Innovation Management 4. London. DOI: 10.1016/S1363-9196(00)00021-4
- Zajec, K. 2006: Varovanje na daljavo v Sloveniji – razvoj in perspektive. Ljubljana.

Staranje doma s pomočjo informacijsko-komunikacijskih tehnologij

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IZVLEČEK: Zaradi staranja prebivalstva se razvite države vse bolj soočajo s povečevanjem finančnih potreb za zagotavljanje ustreznega zdravstvenega varstva in socialne ter stanovanjske oskrbe za starejše. Eden od odzivov družbe na te probleme je zamisel, da bi moralo biti starejšim ljudem zagotovljeno, da bi čim dlje časa ostali v domačem okolju, v katerem bi bili sposobni živeti čim samostojneje in čim bolj kakovostno. Članek izhaja iz domneve, da je koncept staranja doma uresničljiv s pomočjo informacijsko-komunikacijskih tehnologij in da bi ga zato morale razvite družbe čim prej vključiti v sistem rednega izvajanja zdravstvene in socialne oskrbe. Izkazalo se je, da bi bilo udejanjanje zelo zapleteno in bi zahtevalo skrbno načrtovanje, še posebej v Sloveniji.

KLJUČNE BESEDE: geografija, gerontologija, starejši ljudje, staranje doma, informacijsko-komunikacijske tehnologije (IKT), telenega

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1 Uvod

Za zahodnjaško družbo je značilno, da se vse bolj stara. Zaradi staranja prebivalstva se države soočajo s povečevanjem finančnih potreb za zagotavljanje ustrezne zdravstvene in socialne oskrbe ter s problemom premajhnih zmogljivosti ter dolgih čakalnih vrst v zdravstvenih ustanovah in zavodih institucionalnega varstva za starejše ljudi. Eden od odzivov družbe na te probleme je zamisel, da bi moralo biti starejšim ljudem zagotovljeno, da bi čim dlje časa ostali v domačem okolju, v katerem bi bili sposobni živeti čim samostojneje in čim bolj kakovostno. Staranje doma (angl. *ageing at home*) oziroma staranje v/na kraju bivanja (angl. *ageing in place*) je koncept, ki je v zadnjih letih glavna tema številnih raziskovalnih programov ter strateških in akcijskih načrtov v nekaterih državah; na primer v Združenem kraljestvu, ZDA, Kanadi, na Japonskem. Cilj je znižati naraščajoče stroške za izvajanje storitev ter tako zmanjšati pritisk na državna sredstva za zadovoljevanje zdravstvenih in socialnih potreb starajočega se prebivalstva. Zamisel ima široko podporo v družbi, saj je skladna z željami in s potrebami starejših ljudi. Večina jih namreč želi ostati v svojem domu, v istem, znanem bivalnem in socialnem okolju, poleg tega pa želijo, kolikor je mogoče, dolgo ohraniti svojo neodvisnost in samostojnost. Čeprav so preference starejših odvisne od kulturnih razlik, dojemajo starejši ljudje institucionalizacijo bolj ali manj povsod kot zelo travmatično izkušnjo in imajo do nje povečini odklonilen odnos. Pogosto jim pomeni izhod v sili, velikokrat jo pojmujejo kot zadnje zatočišče pred smrtjo. Tako mišljenje je močnejše zakoreninjeno predvsem v družbah, v katerih ni raznovrstnosti ustanov in skupinskih oblik bivanja za starejše; kot na primer v Sloveniji. Čim poznejše institucionalno varstvo je torej v interesu starejših oseb in tudi v javnem interesu, saj se teži k temu, da se povpraševanje za zavodsko varstvo omeji le na tiste osebe, ki tako obliko socialnega varstva res potrebujejo.

Slika 1: Staranje svetovnega prebivalstva (vir: United Nations 2009).
Glej angleški del prispevka.

Z razvojem informacijske družbe je zamisel o selitvi oskrbne dejavnosti v domače okolje starejših ljudi ter učinkovitem in kakovostnem izvajanju zdravstvenih in socialnih storitev na domu uresničljiva s pomočjo informacijskih in komunikacijskih tehnologij (IKT). Vendar pa se ob tem odpirajo številna vprašanja, kot na primer, kako te tehnologije delujejo v okviru zagotavljanja staranja doma, in zlasti, kako koncept staranja doma s pomočjo IKT vključiti v obstoječe sisteme zdravstvenega varstva in socialne oskrbe. Namen prispevka je zato razprava o vlogi in pomenu IKT oziroma njihovih aplikacij za potrebe staranja doma ter pogojih in zahtevah glede njihove vključitve v sistem rednega, splošnega zagotavljanja zdravstvene in socialne oskrbe starejših ljudi. Predstavljeni bodo dosednji dosežki implementacije koncepta staranja doma na podlagi IKT, posebej kritično bodo obravnavani dosežki in ovire za uvedbo obravnavanega koncepta v Sloveniji. Članek temelji na analizi pomembnejše znanstvene literature o obravnavani temi in vnaša v slovenski prostor nova spoznanja, zamisli ter kritična stališča, obenem pa odpira dileme za nadaljnja razmišljanja ter izhodišča za raziskovalno in aplikativno delo na tem področju v Sloveniji v prihodnje.

2 Informacijsko-komunikacijske tehnologije za zagotavljanje staranja doma

Izraz informacijsko-komunikacijska tehnologija se nanaša na sistem elektronskega povezovanja izvajalcev, strojne in programske računalniške opreme ter uporabnikov v medmrežju. Služi pridobivanju, shranjevanju, upravljanju, obdelavi, posredovanju in širjenju podatkov prek telekomunikacijskega sistema (Barlow in ostali 2007). Kot navaja Hojnik-Zupanc (1999) se z njo zmanjšuje fizična razdalja in širi socialna dimenzija prostora. Aplikacija IKT za zagotavljanje staranja na domu se imenuje telenege (angl. *telecare*). Barlow in ostali (2005a, 441) jo razlagajo kot »... uporabo IKT za zagotavljanje socialnovarstvenih in zdravstvenih storitev na daljavo ...«. Pri telenege gre za sintezo menedžmenta, telekomunikacijske in računalniške tehnike, ustrezne informativne službe in servisnih mrež storitev za pomoč posameznikom na domu (Rudel 2004). Zanj je značilen tako imenovani model B-2-C (angl. *business-to-customers*), v okviru katerega zdravstveni in socialni sektor s svojimi storitvami neposredno oskrbuje končnega uporabnika (pacienta) na njegovem domu (European Communications Standards Institute 2005). Kot navajata Porteus in Brownsell (2000), so IKT, ki so vključene v sistem telenege, razvrščene v tri generacije. Prvo generacijo

predstavlja varovalno-alarmni sistem (angl. *safety alarm system*), tehnično preprosta naprava, ki temelji na telefonskem priključku. Pri uporabniku storitve je nameščen poseben telefonski aparat, opremljen z brezžičnim daljinskim sprožilom, ki ga oseba nosi na sebi; kot na primer zapestnico na roki ali obesek okoli vratu. Ta nadzorno-komunikacijska platforma omogoča uporabniku, da kadar koli ali od koder koli v bivališču le s pritiskom na brezžično sprožilo pokliče na pomoč skrbnika; na primer svojca, soseda, znanca ali koordinacijsko-informacijski center in se pogovori z operaterjem glede pomoči (Miskelly 2001). Prva generacija IKT, vključena v varovalno-alarmni sistem, predstavlja najosnovnejšo in najpreprostejšo aplikacijo telenege.

Slika 2: Brezžični sprožilec za klic na pomoč v obliki zapestnice (vir: Swedish Institute of Assistive Technology 2011). Glej angleški del prispevka.

Druga generacije IKT v sklopu telenege je nadgradnja varovalno-alarmnega sistema. Gre za inovativen sistem, ki predstavlja eno od aplikativnih oblik ambientalne inteligence (angl. *ambient intelligence*) ali inteligentnega okolja (angl. *smart environment*), ki temeljijo na IKT (Remagnino in Shapio 2007; Pecora in Cesta 2007). Pri tem so domača okolja uporabnikov, ki so urejena po konceptu pametnih domov (angl. *smart homes*), povezana v omrežje oddaljenega nadzora in prek njega z izvajalci oskrbe in drugih storitev. Sistem telenege druge generacije deluje tako, da senzorji, ki so na diskreten način vgrajeni v domačem pametnem okolju uporabnika; na primer v kljukah, ročajih, ročnih urah in podobno, spremljajo: prvič, nenadne spremembe v prostoru (na primer padec, epileptični napad in podobno), drugič, življenjski cikel uporabnika – merijo/zaznavajo njegove fiziološke funkcije (na primer srčni utrip, krvni tlak, vlažnost kože, stopnjo sladkorja v krvi, telesno težo, temperaturo telesa, stopnjo ogljikovega dioksida v izdihanem zraku, šume v telesu in podobno) in tretjič, psihične funkcije – počasne in trajne spremembe v življenjskem stilu, ocenjujejo vedenjski vzorec opazovane osebe (na primer na podlagi števila prehodov skozi vrata, pogostnosti odpiranja vrat hladilnika, frekvence stopanja na preprogo pred posteljo, zasedenost postelje in podobno). Naprave uporabniku posredujejo tudi opozorila – gre za avtomatizirane opomnike (na primer tako imenovani elektronski delilnik tablet opozori, ko je čas za jemanje zdravil in podobno). Vse informacije se prenašajo in beležijo v oddaljenem informacijskem (nadzornem) sistemu. Poleg teh naprav, ki spremljajo stanje uporabnika, so v pametnem okolju vgrajene tudi naprave, ki ugotavljajo nenavadno stanje ali nenavadne razmere v bivalnem okolju. Mednje spadajo detektor ognja, dima ali plina, detektor izliva vode, detektor gibanja in podobno. Če sistem zazna kakršne koli spremembe, ki odstopajo od normalnih parametrov uporabnika, se samodejno sproži alarm, ki se prenese v klicni (alarmni) center (k oddaljenemu skrbniku). Ta se ustrezno odzove v uporabnikovem domačem okolju (Rudel in Premik 2000). To vrsto sistema telenege Barlow in ostali (2006) zato opredeljujejo kot odzivna oblika telenege (angl. *response mode* ali *r-mode*). Telekomunikacijski alarmni center je lahko po svoji naravi informacijsko-koordinacijski in ima vlogo mediatorja med uporabniki in izvajalci pomoči (kot je to pri varovalno-alarmnem sistemu). Lahko pa opravlja vlogo kombiniranega, tako imenovanega informacijsko-koordinacijskega in izvajalskega posrednika in v svoje delo vključi še izvajalce pomoči; na primer patronažno službo, socialne delavce, nujno medicinsko pomoč, gasilce, svojce ali sosede in podobno. Glede na vrsto in obseg težav(e) odgovorna oseba v klicnem centru posreduje ustrezna navodila (priporočila) uporabniku (na primer jemanje zdravil, obisk pri zdravniku in podobno) ali pa o potrebi uporabnika obvesti javno službo oziroma izvajalce storitev (Rudel 2007). Delovanje klicnega centra podpira tudi zdravstvena ekipa, ki občasno na daljavo dostopa do podatkov, zbranih v klinični informacijski podatkovni bazi. Prepoznave različnih biofizičnih vzorcev nudijo pomembne informacije pri zgodnjem odkrivanju poslabšanja zdravstvenega stanja posameznika oziroma lahko prispevajo k ustrežnejši prilagoditvi programa za okrevanje ali lajšanju morebitnega kroničnega stanja. Omogočajo pa tudi ne le avtomatizacijo rutin, ampak tudi boljši, informativnejši vpogled v stanje in razumevanje potreb bolnikov. Uporabniku storitve telenege, ki želi spremljati rezultate svojega prizadevanja za zdravje, so vsak trenutek prek IKT na voljo njegovi agregirani podatki, opremljeni z ustreznimi priporočili oziroma nasveti. Tako lahko dejavno in učinkovito sodeluje v procesu zagotavljanja zdravja, oskrbe in varovanja na daljavo (Jelenc 2007). Tako obliko telenege Barlow in ostali (2006) definirajo kot preventivno (angl. *preventative mode* ali *p-mode*; drugi avtorji te oblike niti ne opredeljujejo kot telenege, ampak kot telezdravje – pod telenege razumejo le odzivno obliko takega sistema). V primerjavi z opisano drugo generacijo IKT v okviru telenege se tretja generacija bolj kot na samostojnost in varnost življenja uporabnika osredotoči na kakovost njegovega življenja. Uporabniku namreč te tehnologije omogočajo stalen stik z ljudmi in opravljanje storitev, ne da bi moral zapustiti dom, s tem pa preprečujejo občutek osamljenosti in izolacije.

Slika 3: Pri sistemu telenege druge generacije IKT so v domačem okolju starejšega človeka vgrajeni različni senzorstvi (vir: Chester & District Housing Trust 2011).

Glej angleški del prispevka.

Telenege kot aplikacija IKT za zagotavljanje staranja doma je torej velika priložnost za starejše ljudi, saj omogoča, da lahko čim dlje časa ostajajo v domačem okolju, v katerem so sposobni živeti čim samostojneje in kakovostno, institucionalizacija pa ni potrebna oziroma je preložena na poznejši čas. Kot navajajo Barlow in ostali (2005a), rezultati raziskav potrjujejo, da se s telenege poveča psihofizična kondicija starejših ljudi, dokazano je manj hospitalizacij, če do teh pride, pa so krajše kot pri populaciji, ki ni bila vključena v oskrbo na daljavo. Prav boljša, učinkovitejša in cenejša oskrba je ena od možnosti za obsežnejše zmanjšanje stroškov zdravstvenih in socialnih storitev v družbah s starajočim se prebivalstvom. Vprašanje pa je, kako jo vključiti v obstoječe socialno-zdravstvene sisteme.

3 Uvedba koncepta staranja doma s pomočjo informacijsko-komunikacijskih tehnologij

Čeprav je za učinkovito izvajanje telenege kot aplikacije IKT za zagotavljanje staranja doma zelo pomembno, da so tehnologije zanesljive in da so ustrezno vključene v primerno urejeno bivalno okolje, pa tehnologije same ne zagotavljajo uspešne implementacije koncepta staranja doma v sistem rednega izvajanja zdravstvene in socialne oskrbe. Implementacija je namreč po Barlowu in ostalih (2006) zelo zapletena, saj zajema preplet tehnološkega in organizacijskega načrtovanja in vključuje veliko število skupin ljudi, ki imajo različna pojmovanja glede tveganj in različne vrednostne sisteme, ki jim je treba zadostiti, spreminja pa tudi obstoječe odnose in razmerja med déležniki (preglednica 1).

Preglednica 1: Potencialni déležniki v izvajanju koncepta staranja doma s pomočjo informacijsko-komunikacijskih tehnologij (prirejeno po Barlowu in ostalih 2005b).

vloga	možni déležniki	Pomisleki oziroma tveganja
končni uporabniki	starejši ljudje, bolniki, funkcionalno ovirani	Ali mi pomaga – koristi/učinki? Stroški? Povračilo stroškov? Vprašanja zasebnosti in zaupnosti?
kupci/plačniki storitev oskrbe	zavarovalnice občine/država	Stroški? Izpolnitev zakonskih zahtev in predpisov? Posledice za obstoječi socialno-zdravstveni sistem zavarovanja niso jasne.
izvajalci storitev oskrbe	izvajalci zdravstvene oskrbe	Obstajajo težave pri uvajanju daljnosežnih sprememb v neprožnih socialno-zdravstvenih sistemih s številnimi déležniki. Stroški? Učinki? Integracija z obstoječimi storitvami? Zagotovitev sredstev? Zmožnosti?
	izvajalci socialne oskrbe	Stroški? Učinki? Integracija z obstoječimi storitvami? Zagotovitev sredstev? Zmožnosti?
	zasebni izvajalci storitev oskrbe (zdravstvene, socialne, stanovanjske), neformalni skrbniki, prostovoljna društva	Stroški? Učinki? Integracija z obstoječimi storitvami? Zagotovitev sredstev?
izvajalci telenege	telekomunikacijski alarmni centri ostali izvajalci pomoči na domu	Vloga? Informacijsko-koordinacijski center ali informacijsko-koordinacijski center in hkrati tudi center izvajanja oskrbe? Viri financiranja dejavnosti? Varovanje podatkov in odgovornosti?
dobavitelji tehnične opreme za izvajanje telenege	razvojniki, inštalaterji/sistemski integratorji	Razvoj produktov, trženje? Vloga? Povračilo stroškov za investicijo in vzdrževanje?
dobavitelji infrastrukturne opreme za izvajanje telenege	dobavitelji programske opreme in podatkovne opreme, dobavitelji telekomunikacijskih storitev	Razvoj programske opreme in zmogljivosti telekomunikacijskega omrežja? Povračilo stroškov za investicijo in vzdrževanje?

Na podlagi študij o integraciji inovacij v obstoječe sisteme lahko opredelimo pogoje oziroma zahteve za uspešno implementacijo koncepta staranja doma v sistem rednega izvajanja zdravstvene in socialne oskrbe:

- *Podpora v »lokalnem« okolju*

Pri uvajanju inovacije iz globalnega v lokalni družbeni prostor je njena implementacija opredeljena z značilnostmi lokalnega okolja. Kako bo inovacija sprejeta v novem lokalnem prostoru, je po Rudelu (2004) odvisno od akterjev oziroma subjektov, ki se identificirajo z njo ter prevzamejo vlogo pobudnika in akterja implementacije. Pomanjkanje strateške podpore in odločevalnih, političnih, strokovnih teles je velika ovira, ki že v začetku prepreči, da bi prišlo do implementacije. V okoliščinah, v katerih sta politična volja in odločevalna infrastruktura šibki, znanje o inovaciji pa ni zadostno, morajo biti zato najprej glavni napor implementacijskega menedžmenta osredotočeni k osmišljanju uvajanja inovacije – analiza obstoječega stanja ter namena, ciljev in pričakovanih koristi nove aplikacije – in razvoju kolektivnega »razumevanja inovacije« prek različnih oblik informiranja in komuniciranja (Edmondson 2003). V naslednjem koraku pa k aktivnemu vključevanju politike, saj je po Goodwinu (2010) le tako mogoče določiti jasne in trdne zakonske okvire, potrebne za uspešno uvedbo inovacije. Politična podpora je za uvajanje inovacij v socialno-zdravstvene sisteme še posebej pomembna v socialno naravnanih družbenih sistemih (kot je na primer v Sloveniji), v katerih država zakonsko regulira socialno-zdravstveni sistem, določa usmeritve in prioritete, postavlja pravna in etična pravila delovanja ter je glavni plačnik storitev.

- *Medsebojno sodelovanje*

Po Norrisu (2002) ter Haileyu in Crowu (2003) je za uspešno implementacijo kompleksnejših inovacij nujno tesno, usklajeno in koordinirano sodelovanje med vsemi skupinami deležnikov, in sicer med posameznimi skupinami in znotraj posameznih skupin (navpična mreža deležnikov), pri posameznih deležnikih pa tudi med različnimi ravnmi delovanja (vodoravna mreža akterjev) – torej celosten pristop oziroma mreženje (glej Ravbar 2011). Medsebojno sodelovanje je namreč bistveno za doseganje visoke stopnje prepoznavnosti in ozaveščenosti, prikazovanje večje stroškovne učinkovitosti, povečanje preglednosti ob upoštevanju potreb uporabnikov, iskanje rešitev za povezljivost informacijskih sistemov, prilagoditev zakonskih okvirov, delitev tveganja pri raziskavah in inovacijah ter v splošnem za spremljanje napredka (Komisija Evropskih skupnosti 2007).

- *Potrebe in zahteve uporabnikov*

Za uspeh inovacije se morajo zmožnosti, ki jih ponuja nova tehnologija, ujemati s potrebami, z zahtevami in zmožnostmi uporabnikov, ki jih ne zanimajo toliko tehnološki vidiki inovacije, kot njena uporabnost. Torej je storitev oziroma »izkušnja storitve« tista, ki jih zanima, ne pa naprave in sistemi sami po sebi. Tehnično delovanje je pomembno, vendar ni dovolj za sprejetje. Glavno vprašanje je: kaj je uporabnikom všeč in kaj zanje deluje (Saranummi in ostali 2006). Kot piše že Rogers (1962), se je pomanjkanje poslušnosti za potrebe uporabnikov izkazalo za enega večjih zaviralcev implementacije uvedbe inovacij nasploh, kot tudi pri uvedbi medicinski tehnologiji (Shaw 1985). Po Barlowu in Veneablesu (2003) je vzrok za to treba iskati pri dobaviteljih, ki izvajajo trženjske »strategije tehnološkega potiska« namesto »strategije potega«, s tem pa ustvarjajo razkorak med povpraševanjem kupcev po sistemih, ki jim pomagajo pri izvajanju vsakodnevnih opravil, in produktih, ki so jim na voljo. Kot meni Wyatt (2000), so osnovane inovacije IKT v javnih storitvah problematične tudi zato, ker dobaviteljem ni vedno popolnoma jasno, kdo so »vodilni uporabniki«, torej tisti, ki po Hippelu (1998) zaznavajo potrebe za nove produkte in storitve pred ostalimi in tako oblikujejo zgodnje povpraševanje po inovaciji. Za uspešno prevzemanje inovacij, je torej najpomembnejše, da so potencialni uporabniki vključeni v proces načrtovanja, razvoja in implementacije. Inovacije IKT se torej morajo načrtovati za uporabnike in z njimi (Milligan in ostali 2011). Kot navajajo številni avtorji (na primer Smixmith in Smixmith 2000; Levy in ostali 2003; Demiris in ostali 2004; Hanson in Percival 2006) je prav neupoštevanje potreb in zahtev uporabnikov vzrok, da inovacije niso sprejete v družbi.

- *Organizacijska pripravljenost in sprememba norm*

Pri uvajanju inovacije sta pogosta ovira organizacijski odpor in neskladnost inovacij z vrednotami ter s »kulturnimi« normami organizacije. Zato je po Weicku in Sutcliffu (2003) za organizacijo, ki uvaja inovacijo, pomembno, da opusti in zamenja nekatere obstoječe organizacijske rutine, vedenjske in miselne vzorce, in se, kot navajajo Barlow in ostali (2006), organizacijsko na to ustrezno pripravi. To je povezano (a) z načr-

tovalsko pripravljenostjo, to je razvojem strateških in poslovnih načrtov ter modelov, ocene in analize potreb, določitve izvajalcev zdravstvenih in socialnih storitev in zagovornikov na visokih upravljaljskih položajih, in (b) s pripravljenostjo delovnega okolja, to je pripravo in z izobraževanjem osebja, uvedbo reorganizacijske procesov in upravljanjem s spremembami. Le tako je po Faifu (2008) mogoče razmišljati in delovati kreativno. Vendar avtor opozarja, da morajo biti pri tovrstnih reorganizacijah pristopi skrbno načrtovani in pripravljeni za potrebe vsake organizacije posebej. Po Barlowu in ostalih (2010) zato ne smemo delovati po načelu »en pristop za vse«, sicer lahko namreč pride do odpora, še zlasti v manj prožnih organizacijah.

• *Dokazljivost potencialne učinkovitosti*

Inovacija je v okolju ugodno sprejeta le, če so potencialni učinki (in koristi) vidni in bodo zadovoljili vsako od skupin deležnikov. Deležnike zanimajo predvsem merljive vrednosti implementacije: kakšni bodo stroški in katere bodo koristi zaradi uvedbe inovacije, kako bodo porazdeljeni stroški, kako inovacija lahko izboljša učinkovitost obstoječih sistemov oskrbe, v kolikšnem času bo postal sistem (finančno) učinkovitejši oziroma kdaj se bodo povrnila vložena sredstva in podobno. Dokaze o učinkih inovacij je pred implementacijo treba zbirati s pomočjo poskusov in pilotnih projektov, nato pa jih evalvirati (Brownsell in ostali 2006). Da bi zmanjšali tveganje za potencialne uporabnike je po Rogersu (1962) stopnja, do katere je mogoče preizkušati inovacijo v kontroliranem, testnem okolju, tisti dejavnik, ki izboljšuje verjetnost za končni uspeh inovacije. Vendar pa je na ta način zelo težko natančno opredeliti prav vse dokazljive učinke. Pilotni poskusi lahko potekajo v razmerah, ki omogočajo dosledno ocenjevanje. Običajno nudijo uporabne indikatorje o mogočih problemih pri procesu implementacije in dokaze o učinkovitosti inovacije, vendar pa je treba pridobljene podatke sprejeti z zadržkom in kritično. Deloma zato, ker je težko organizirati velike reprezentativne poskuse, in deloma zato, ker o vrednosti in uporabnosti inovacije odločajo številni deležniki, ki imajo različne potrebe in zahteve. Nekaterih parametrov tudi ni mogoče meriti in prikazati oziroma preračunati v denarne vrednosti (na primer dobro počutje, boljša kakovost bivanja, razbremenitev neformalnih skrbnikov in podobno), številne koristi pa so vidne tudi šele dolgoročno (Bayer in ostali 2007). Zaradi tega Finch in ostali (2003) poudarjajo, da je nujen nekoliko bolj pragmatičen pristop pri uvajanju kompleksnejših inovacij v socialno-zdravstvene sisteme, v katerih je sicer velik poudarek na visokih standardih in dokazovanju učinkovitosti pred komercialno fazo proizvodov in inovacij. To pomeni, da se je treba implementacije lotiti, tudi če (še) ni na voljo vseh dokazov o učinkovitosti inovacije.

Med pogoje in zahteve za implementacijo inovacij v obstoječe sisteme spadajo še *etična in pravna sprejemljivost in ustreznost razporeditve sredstev med deležniki*, pri telenehi, ki je aplikacija IKT za zagotavljanje staranja doma, pa tudi *tehnična zanesljivost inovacije in ustreznost urejenosti bivalnega okolja*, ki sta bili že omenjeni v uvodu tega poglavja. Kljub zapletenosti obravnavanega koncepta in večplastnosti zahtev glede njegovega udejanjanja v sistem zdravstvene in socialne oskrbe so v nekaterih zahodnjaških državah že dosegli vidne uspehe pri uvajanju te inovacije v prakso.

4 Dosežki glede uvedbe koncepta staranja doma s pomočjo informacijsko-komunikacijskih tehnologij

Razširjenost uporabe varovalno-alarmnega sistema kot prve generacije inovacij IKT za zagotavljanje staranja doma je različna: v nekaterih zahodnih državah je zelo visoka, drugod (med drugim tudi v Sloveniji) je nizka ali pa do njene implementacije sploh še ni prišlo. Po navedbah študije *ICT & Ageing – European Study on Users, Markets and Technologies* (Kubitschke in Cullen 2010) je delež uporabnikov, ki so starejši od 65 let, najvišji v Združenem kraljestvu in na Irskem (14–16 %) ter na Švedskem, Finskem in Danskem (6–10 %), z 1–3 % sledijo ZDA, Španija, Nemčija, Madžarska, Nizozemska, Italija, Francija in Japonska. V ZDA obstaja več ponudnikov naprednejših sistemov IKT, ki zajemajo podatke o vitalnih življenjskih funkcijah ter jih prek hišnih omrežij in širokopasovnih komunikacijskih poti prenašajo v posebne zdravstvene in negovalne centre. Najvidnejšo vlogo v svetu pri poskusu implementacije te oblike inovacij IKT ima Združeno kraljestvo. Tamkajšnja vlada je uvedbo druge generacije telenege v sistem rednega izvajanja zdravstvene in socialne oskrbe določila za eno najpomembnejših strateških razvojnih prioritet države. Kot navajata Barlow in Hendy (2009), je bilo v ta namen med letoma 2006 in 2011 zagotovljenih 175 milijonov funtov za izvedbo pilotnih projektov v Angliji, Walesu, na Severnem Irskem in Škotskem, s čimer so želeli pridobiti čim več praktičnih izkušenj in podatkov, na podlagi katerih bi lahko z večjo gotovostjo

uspešno izvedli uvedbo inovacije IKT v redni sistem zdravstveno-socialne oskrbe. Čeprav prvi rezultati razkrivajo številne težave in ovire, kar kaže, da bo implementacija druge generacije telenege težje izvedljiva, kot so sprva pričakovali, pa so zelo spodbudni podatki glede možne učinkovitosti. Na Škotskem (Joint Improvement Team 2010) so med letoma 2006 in 2010 za njen razvoj in izvajanje namenili osem milijonov funtov, prihranili pa zato kar 48,4 milijona funtov, od tega 47,5% na račun zmanjšane števila sprejemov v zavode institucionalnega varstva za starejše, 42% pa na račun zmanjšane števila nepotrebne bolnišnične bivanja (zaradi hitrejšega odpusta in nadomestne poboljšane oskrbe na daljavo) ter števila nepričakovanih sprejemov v bolnišnico (zaradi hitre odzivnosti sistema telenege pri poškodbah v domačem okolju) ter 9,1% na račun zmanjšanja števila nočnih dežurstev in obiskov na domu. Med letoma 2007 in 2010 se je za to obliko inovacije IKT odločilo 25% novih uporabnikov, kar potrjuje učinkovito informiranje in povečanje zaupanja v koncept staranja doma s pomočjo IKT.

Slika 4: V tujini ima koncept staranja doma s pomočjo naprednejših inovacij IKT precejšnje podporo pri uporabnikih (vir: University of Southern Queensland 2011).

Glej angleški del prispevka.

Slovenija pri uvajanju inovacije IKT za potrebe staranja doma močno zaostaja za drugimi razvitimi državami. V času pisanja tega prispevka (julij 2011) ima namreč le najosnovnejšo storitev, podprto z IKT – varovalno-alarmni sistem, imenovan »Rdeči gumb« (v strokovnih krogih je storitev znana kot »program Lifeline«), pa še to v zelo omejenem obsegu in s številnimi pomanjkljivostmi. Čeprav se storitev pri nas izvaja že od leta 1992, je število njenih uporabnikov zelo nizko – leta 2010 jo je uporabljalo le 343 oseb, ki so bivale doma (Smolej in ostali 2010), kar znaša 0,1% starejših od 65 let, število uporabnikov pa upada (leta 2008 jih je bilo še 363). Tudi prostorsko je storitev zelo slabo razširjena in ni dostopna vsem upravičencem. Za leto 2010 je bilo predvidenih deset regijskih (klicnih) centrov, trenutno pa jih deluje le pet, od tega je samo ljubljanski opredeljen kot regijski center in pokriva območja mestnih občin Ljubljana in Kranj ter občin Medvode in Jesenice. Drugi centri so še v Celju, Mariboru, Kopru in Novi Gorici, vendar pokrivajo le območja mestnih občin in okolice. Pomanjkljivost centrov je, da uporabljajo različno opremo IKT (podoben pristop imata le centra v Ljubljani in Celju), kar onemogoča sodelovanje ali morebitno povezovanje in nadgradnjo v enotni center, raziskava o delovanju storitve varovanja na daljavo, ki je bila izvedena leta 2006 (Zajec 2006), pa je razkrila tudi pomanjkljivosti na kadrovske področju – ker so imeli centri premalo svojih strokovnih kadrov, je bila večina izvajalcev zaposlena prek javnih del, kar je vplivalo na kakovost izvajanja storitve. Nadaljnja težava je način zagotavljanja finančnih sredstev za vzpostavitev in delovanje centrov. Za večino zagonskih sredstev (70%), to je za nabavo tehnične opreme in izobrazbo strokovnih delavcev, morajo poskrbeti občine, preostanek sredstev pa prispeva država. Tudi sredstva za nadaljnje delovanje centrov morajo zagotoviti občine, subvencionirati pa morajo tudi razliko do polne cene storitve. Zaradi različne višine subvencij tudi cena storitve, ki jo morajo plačati uporabniki, ni enotna niti nizka (giblje se med 12 in 75 evri na mesec), zato je dostopna le manjšemu krogu starejših, tistim, ki so zmožni plačati stroške zanjo. Na Škotskem, na primer, je uporaba varovalno-alarmnega sistema brezplačna, v splošnem pa uporaba tega v Veliki Britaniji stane med 10 in 25 evri na mesec (Kubitschke in Cullen 2010).

5 Ovire pri uvedbi koncepta staranja doma s pomočjo informacijsko-komunikacijskih tehnologij v Sloveniji

Menimo, da v slovenskem prostoru koncept staranja doma z inovacijami, podprtimi z IKT, ne zaživi, ker ni izpolnjen prvi pogoj, ki je pomemben za integracijo inovacij v obstoječe sisteme v družbi, to je podpora v »lokalnem« prostoru. Pri tem gre predvsem za politično podporo, dokaza za to pa sta:

- (a) Slovenija sicer sledi strateškim usmeritvam Komisije Evropskih skupnosti ter jih sprejema v svoje strategije in programe (razvoj oskrbnih in zdravstvenih storitev, ki temeljijo na IKT, predvidevajo na primer Strategija informatizacije slovenskega zdravstvenega sistema – »E-zdravje 2010«, Strategija socialnega varstva 2010, Resolucija o nacionalnem planu zdravstvenega varstva 2008–2013, Strategija varstva starejših do leta 2010 in podobno), vendar pa tem dokumentom manjkajo ustrezni akcijski in operativni načrti ter zakoni, ki urejajo in določajo njihovo izvajanje. V Sloveniji je politična volja glede uvajanja aplikacij IKT za potrebe staranja doma in (re)organizacijo oskrbe izražena le na moralni, deklarativni ravni.

- (b) Podpora za izvajanje že obstoječega varovalno-alarmnega sistema je odvisna od naklonjenosti odločevalcev na lokalni ravni. Dejstvo, da se je v letu 2009 v (so)financiranje storitve varovalno-alarmnega sistema vključilo le deset občin, kar je manj kot 5 % vseh slovenskih občin (Smolej in ostali 2010), in da jih je bilo leta 2004 še enajst, pred tem pa dvanajst, kaže, da tudi na lokalni ravni ni politične volje za implementacijo koncepta staranja doma s pomočjo IKT. Če se izrazimo nekoliko ironično, odločevalci na lokalni ravni koncept staranja v domačem okolju najpogosteje razumejo kot gradnjo domov za starejše v svojih občinah. Gre za projekt, ki ga je v mandatu vladajoče koalicije mogoče uresničiti, s čimer se kaže tudi učinkovitost njenega dela. Poleg tega lahko pri gradnji sodelujejo lokalna podjetja, domovi nudijo možnost zaposlitve za (strokovni) kader iz lokalnega okolja, oskrbovanci v domovih živijo še naprej v znanem domačem okolju, neformalni skrbniki (svojci) so razbremenjeni, hkrati pa so v bližini svojih starejših družinskih članov. Zadovoljstvo v lokalni skupnosti je torej vsestransko, čeprav osnovni problem s tem ni rešen. Še več, z novim zavodom institucionalnega varstva za starejše se izdatki za zagotavljanje ustrezne zdravstvene in socialne oskrbe še naprej povečujejo.

Slika 5: V Sloveniji odločevalci na lokalni ravni spodbujajo večinoma institucionalne oblike bivanja za starejše – na sliki je doma starejših v Logatcu.

Glej angleški del prispevka.

Prepričani smo, da bi bili odločevalci obravnavanemu konceptu bolj naklonjeni, če bi ga močneje podprli drugi déležniki. Prav ravnodušnost déležnikov ali premajhna odločnost tistih, ki so konceptu staranja doma naklonjeni kaže, da je glavni problem, ki zavira implementacijo koncepta, širši. Menimo, da so v Sloveniji najprej nujne celovite in korenite spremembe miselnosti slovenske družbe in njenega delovanja, kar bi bil sploh prvi pogoj za poglobljeno razpravo o načinih in možnostih za doseganje oziroma uresničevanje pogojev in zahtev za implementacijo koncepta staranja doma na podlagi IKT. Ko govorimo o trenutni miselnosti in delovanju družbe pri nas, gre pri tem z vidika implementacije obravnavanega koncepta predvsem za dva poudarka.

Prvi poudarek so parcialni interesi in parcialno načrtovanje in delovanje na različnih področjih; v politiki, zdravstveni in socialni stroki, na področju načrtovanja stanovanjskega varstva, gospodarstva (gospodarske družbe, podjetja) in zavarovalništva ter različnih ravneh delovanja (lokalna, državna), kar se kaže v:

- prilaščanju določenih pristojnosti, s tem pa v pomanjkanju želje, volje oziroma motivacije za spremembe ter posledično ignoriranje ali celo onemogočanje delovanja tistih, ki se za spremembe zavzemajo (na primer onemogočanje inovatorjev in potencialnih investorjev iz zasebnega sektorja s strani države/stroke);
- pomanjkanju medsebojnega sodelovanja, izmenjavi informacij in pretoku znanja;
- razdrobljenosti sistemov in storitev (na primer delitev na zdravstveni in socialni sistem, čeprav so v praksi, zlasti pa pri implementaciji obravnavanega koncepta, potrebne integrirane storitve obeh);
- neustrezni razporeditvi in pomanjkanju sredstev (na primer reorganizacija nekdanjih občin v manjše lokalne skupnosti (in odsotnost druge stopnje lokalne samouprave) je močno omejila sredstva za različne investicije, kot je vzpostavitev in zagotavljanje delovanja klicnih centrov).

Drugi poudarek je prevelika stopnja konformizma in pomanjkanje želje ali pa premajhna angažiranost pri izražanju potreb/zahtev po raznolikih, naprednejših oblikah bivanja za starejše s strani nevladnih organizacij, ki zastopajo in združujejo starejše ljudi (društva, združenja in podobno), na vseh prostorskih ravneh (državni, regionalni, občinski, lokalni) in s strani posameznikov (starejši ljudje, neformalni skrbniki), zaradi česar tudi ni motiva za skupno, usklajeno delovanje navedenih akterjev, s tem pa tudi ni možnosti, da bi prišlo do zahteve po uvedbi inovacij IKT za potrebe staranja doma po načelu »od spodaj navzgor«.

6 Sklep

Kot odgovor na probleme, povezane s staranjem prebivalstva, so družbe v razvitih državah v obstoječe sisteme zdravstvenega varstva ter socialne in stanovanjske oskrbe starejših začele že pred časom uspešno vključevati koncept staranja doma s pomočjo IKT. Velik napredek je bil na tem področju narejen zlasti pri razširjanju prve generacije IKT – varovalno-alarmnega sistema, številne dejavnosti pa potekajo tudi pri poskusih implementacije inovativnejših sistemov. Pri uvajanju teh se sicer zaradi kompleksnosti tehnološkega in organizacijskega načrtovanja ter velikega števila različnih skupin déležnikov in s tem kompleksnosti

pogojev oziroma zahtev pojavljajo številne ovire, vendar se zaradi tega proces implementacije obravnavanega koncepta ne ustavi, prav nasprotno, dejavnosti in iskanje ustreznih rešitev potekajo še intenzivneje in širše, na nacionalnih in nadnacionalnih ravneh. Poleg ovir je namreč tudi vse več dokazov o pozitivnih učinkov oziroma splošni družbeni sprejemljivosti in ustreznosti koncepta staranja doma s pomočjo IKT.

Medtem ko druge razvite države aktivno uresničujejo cilje o racionalizaciji porabe državnih sredstev, zapisane v številnih strateških dokumentih, z uvajanjem inovativnih rešitev IKT v zdravstvene in socialne sisteme, obstaja v Sloveniji kljub gospodarski krizi in intenzivnemu staranju prebivalstva splošna nezainteresiranost za izvajanje tovrstnih ukrepov. Če ne prej, nas bodo k temu v prihodnje prisilile razmere same, ki se bodo zaradi neukrepanja najverjetneje še dodatno poslabšale. Kdor koli se bo pri nas lotil implementacije koncepta staranja doma s pomočjo IKT, bo potreboval veliko volje, poguma, menedžerskih in pogajalskih veščin ter strokovnega znanja. Najverjetneje mu pred implementacijo ne bo uspelo zblížiti vseh stališč različnih deležnikov in izpolniti vseh pogojev oziroma zahtev. Odprtih vprašanj, splošnih in tudi takih, ki so specifična za Slovenijo (na primer problem »majhnosti trga« za investicijo), bo ostalo veliko, kljub vsemu pa bo treba tvegati in upati na uspeh. V pomoč pri implementaciji bodo gotovo lahko izkušnje z varovalno-alarmnim sistemom, zlasti tiste, ki so jih posredovali uporabniki te storitve.

Dosedanje evalvacije so namreč pokazale, da so uporabniki in tudi njihovi neformalni skrbniki s storitvijo zelo zadovoljni. Še pomembnejši korak za razvoj in implementacijo sodobnejših oblik sistema telenege pa je bil v Sloveniji strojen v času, ko je bil ta prispevek že v postopku objave. Po dvajsetih letih je namreč od oktobra 2011 najosnovnejša oblika telenege – varovalno-alarmni sistem – uporabnikom na voljo po vsej Sloveniji. Gre za storitev SOS-gumb, ki je uporabnikom dostopna prek mobilnega ali stacionarnega terminala, ki se ob sprožitvi poveže s klicnim centrom, kjer klic sprejme usposobljen operater. S poenotenjem na državni ravni je bila odpravljena velika pomanjkljivost dosedanjih regijskih centrov za varovanje na daljavo. Velika prednost nove storitve je tudi njena cenovna dostopnost, saj je organizacija za celotno Slovenijo bolj racionalna. Storitev na stacionarnem telefonu je ob začetku delovanja stala 19,18 evra na mesec, dodati pa je treba še 25 evrov za priključek in 50 evrov za prvi obisk s svetovanjem. Priklon na mobilnem telefonu, s čimer operater lahko ugotovil tudi lokacijo klicatelja, je brezplačen, uporabniki pa so ob začetku delovanja storitve plačevali približno 20 evrov na mesec in 50 evrov za svetovanje. Kljub temu pa širša uporaba te storitve pri nas še zdaleč ni zagotovljena. Da bi do tega prišlo, je zelo pomembna ustrežna stopnja informiranosti, podprta s pozitivnimi izkušnjami »domačinov z domačim sistemom«. Slednje je zelo pomembno, saj smo v Sloveniji v splošnem zadržani do izkušenj drugih, poleg tega pa, kot navajata Woolham in Frisby (2002), je sistem telenege sprejet in učinkovit le, če je prilagojen specifičnim zahtevam vsake družbe oziroma države. Vendar pa tudi z novo storitvijo in morebitnim dvigom ozaveščenosti in angažiranosti v družbi ne gre računati na hitro, predvsem pa na uspešno uvajanje druge in tretje generacije telenege pri nas. Lahko pa bi to pripomoglo k »preboju« miselnosti in skupnemu delovanju vseh deležnikov ter celotne slovenske družbe, kar bi bilo dobro izhodišče za izvedbo te zahtevne naloge.

7 Zahvala

Raziskavo, v okviru katere je nastal ta prispevek, je podprla Javna agencija Republike Slovenije za raziskovalno dejavnost.

8 Literatura

Glej angleški del prispevka.