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### The Older Patient: Ehealth and Mhealth Approach in Today's Context of Demographic Ageing



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### Background

The demographic trends projected over the long term reveal that Europe is 'turning increasingly grey' in the coming decades. By 2025 more than 20 percent of Europeans will be 65 or over, with a particularly rapid increase in the number of over 80s. This ageing trend will continue, and it is expected that by 2060 more than 30 percent will be 65 or over and the number of over 80s will reach 12 percent of the population. While in most parts of Europe life expectancy at birth continues to increase, the healthy life year expectancy is however not increasing in parallel and is even decreasing in some countries. This means that we can expect a sharp rise in the number of older people who will need support if nothing is done in the near future to empower them to cope with chronic diseases, old age frailty and the limitations on their daily activities that result from their health conditions. The rapid ageing of the population must be reflected in a greater empowerment of older citizens and consumers in all relevant areas and in particular in the whole innovation process of eHealth and mHealth solutions.

### Empowering Patients: From Theory to Practice

Many innovative eHealth and mHealth solutions are being developed in Europe today. Not all make it to their national market and even fewer are scaled up cross-border. The industry and policymakers are struggling to find ways to overcome the technical and structural barriers that hamper the development of a digital single market for eHealth and mHealth solutions.

But there are also other barriers, such as the huge differences in terms of health and digital literacy among older persons, between countries and the passive reluctance from a significant part of the demand side. This comes mainly from older patients but also carers, who are not so easily convinced of the added value such products would bring them.

### Make it Relevant for the Target Group

Let's take for example the electronic pill dispenser, which is promoted as an innovative way to support adherence to treatment, a major challenge among older people living at home. Just like a classical pill dispenser, the electronic dispenser has to be filled in once a week with medication divided per day and time of the day.

The advantage of the classical dispenser is that it is much smaller and you can carry it easily in your bag when you go out for a meal or on holiday. The advantage of the electronic dispenser is that it beeps when the patient needs to take a pill and it alerts the informal carer or physician if the patient forgets to take the pill out of the box at the pre-set time. Such a system can be helpful for people who live alone at home and have very severe health conditions for which it is really important to take certain medication at a given time. But what if the patient is unable to hear the beep, if he or she is having a nap (frail older people tend to take several naps during the day), has left the room to go to the bathroom or is sitting in the garden?

Most older people are prescribed a range of medications that should be taken around meals. They usually start their meal by emptying their pill box compartment on the table near their glass. Older patients are quite good at taking the pill(s) that have to be swallowed before they start eating, but some tend to forget the medication that has to be taken during or after the meal. The electronic pillbox does not help if they forget their pill(s) on the table and it gets thrown away with the breadcrumbs at the end of the meal, a scenario which is rather common among older people.

So, with the exception of those with very severe health conditions who are living alone, many older people just wonder what added value there is for them to have an electronic pill dispenser, which only reacts if they have not taken their pill out of the box at a certain time, but does not help them remember whether they really took their medication or not.

Many older people are also reluctant to use electronic devices that would alert a relative or carer whenever something is detected, for fear of false alarms, because they do not want to overburden their carer, or have no close relative or friend who could take up that role. Regardless of the type of dispenser used, a very simple way that can help many older patients check whether they have taken all their medication is by putting the pill(s) on a small cup near the glass. It is very easy then to see if the patient is adhering to their treatment.

Another barrier that is common with eHealth and mHealth solutions is the reluctance of many older people to be monitored all day long. No one will contest the benefit of monitoring vital functions, in acute care patients. Yet, because the technology is available, the industry's interest is to equip older patients — and even healthy people — with 24/7/365 monitoring of their vital functions, and some present this as a pre-requirement to ageing at home.

The push should not come from the industry, because older people do not necessarily see the need for such solutions and do not know what

solutions to trust. The voluntary certification scheme set up by the [Andalusian Agency for Healthcare Quality](#) is an interesting example of what can be done to better match needs, to overcome older people's reluctance and help them access the benefits of eHealth and mHealth solutions that have proved useful, safe and effective.

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## Co-Production Approach

To reach out to these growing numbers of potential patients, it is therefore of utmost importance that the eHealth and mHealth industry pays better attention to the specific and very diverse needs of older patients, and involves them in the co-production of innovative solutions that reflect their real needs and expectations. In other words, involving endusers in the co-production of eHealth and mHealth solutions is the best way to ensure that they are efficient, reliable, relevant and adaptable to the patient's own needs and situation, affordable and respectful of their privacy. Older people are more concerned than younger population groups about potential risk to their privacy and misuse of personal data. It is not always obvious for the older consumer to assess whether ethical issues around privacy have been properly addressed in the development of existing eHealth and mHealth solutions. Involving older people from the inception is a good way to ensure their concerns are addressed. To support the co-production approach, AGE Platform Europe has developed guidelines on involving older people in social innovation development in the framework of the [INNOVAGE project](#). In this publication AGE stresses that:

*Involving older users in the planning and development of innovative approaches is essential when developing new goods and/or services. Transforming users into partners ensures relevance and adequacy of new approaches and will help them to be implemented and adapted to different contexts (Age Platform Europe 2014).*

The co-production approach is also the core principle of the World Health Organization's initiative and methodology on age-friendly environments.

## Benefits of the Co-Production Approach

Based on our experience, the co-production approach helps:

- bridge gaps between research and practice;
- highlight ethical concerns;
- pinpoint issues of acceptability (eg privacy, safety);
- raise questions of affordability and costs;
- address issues of interoperability, technical reliability and support;
- cross-evaluate from a user's point of view the added value of the innovation and bring the experience of users in the innovation process;
- qualify the outcomes of the innovation process;
- identify issues that need to be further studied;
- draw attention from media and political stakeholders;
- strengthen the dissemination strategy;
- better adapt the innovation to the needs of different communities by listening to users from different contexts.

This list, which was initially developed by AGE for social innovation, applies equally to e and mHealth innovation.

## EU Movement on Age-friendly Environments

Another solution to improve the age-friendliness and acceptance of e- and mHealth solutions among older people is to join forces with the growing EU movement on age-friendly environments. This campaign started in the framework of the European Innovation partnership on active and Healthy Ageing in 2011, and is inspired by the WHO age-friendly environment approach.

Thanks to the [AFE-INNOVNET](#) thematic network a growing community of more than 300 partners is now working together to promote age-friendly environments, goods and services across Europe. This community will formalise through the Covenant of Demographic Change that will be launched in December 2015 with the support of the Committee of the Regions and the European Commission. The Covenant will gather bodies (ie local, regional and national authorities, as well as civil society organisations, industries, research centres and universities) that voluntarily commit to making age-friendly environments a reality in their communities and to share their experience with other Covenant members. EHealth and mHealth actors are welcome to join the AFE-INNOVNET thematic network and upcoming Covenant and share their expertise with those who are looking for innovative solutions to support active and healthy ageing.

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