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Introduction

How to cope with ageing societies is one of the grand challenges pointed out in the Lund Declaration¹. The rapidly growing share of seniors² in the population confronts Europe with a double demographic challenge. The ageing population's need for healthcare services increases at while the access to workforce declines³.

Use of technology can be increasingly important for the society to be able to offer health care services at a quantity and quality that mirrors the expectations of the European populations. Our society can choose different strategies for the care services, and for the introduction of new technological tools in this sector. The technology promises many opportunities, but there are challenges to be solved and ethical dilemmas to be considered. How can we best use new technology in care services, what is acceptable, how do seniors resist, and what type of options are policy makers faced with?

Scenarios

To create awareness of the possible consequences of political choices, the PACITA-project developed three scenarios that address how technology can be used in the elderly care. They differ with respect to which degree public and private players are providing future elderly care and how the seniors and other groups in the society organise themselves in order to meet their needs for care.

The three scenarios are called «One size fits all», «Freedom of choice» and «Volunteering community». A European stakeholder group has contributed to the scenarios, i.e. on a workshop in Bern in October 2013.⁴

To create awareness of the possible consequences of the possible choices, the project developed user stories. Four personas, two single people and one married couple, are pictured. Alternatives of how they could live their lives in 2025 in the given scenarios are described in nine user stories.⁵

Scenario workshop

To facilitate and provoke forward-looking discussions and identify policy alternatives the PACITA-project conducted ten national and regional scenario workshops. Scenario workshop is a method aimed at facilitating forward-looking discussions and identifying policy alternatives. The scenarios and user stories was used as a starting point to provoke discussions on how one can meet the needs and face the challenges of the rising number of older adults in the European countries.

In the PACITA-project, scenario workshops have been conducted in Denmark, Czech Republic, Hungary, Ireland, Catalonia (Spain), Norway, Wallonia (Belgium), Switzerland, Austria and Bulgaria.

¹ The Lund declaration, July 2009, <http://www.vr.se/download/18.7dac901212646d84fd38000336/>

² The term „elderly“ is commonly used. We are aware that this is a sensitive terminology. We have chosen to use the more neutral term "seniors" throughout this document.

³ An ageing population is defined as a population in which the number of elderly (65+) is increasing relative to the number of 20-64 year olds. <http://www.population-europe.eu/Library/Glossary.aspx>

⁴ The Stakeholder group is listed in Appendix A.

⁵ Scenarios on ageing society. What choices do we have for the future?, <http://wp6.pacitaproject.eu/wp-content/uploads/2014/03/Scenarioenglish.pdf>

The scenario workshops produced visions for what kind of elderly care services the Europeans (through the views of a diverse range of elderly care stakeholders) want, and policies envisaged to achieve these visions. This report summarises and analyses the results of the national scenario workshop held in Oslo, in Norway, March 26, 2014.

The findings from the ten national workshops will be gathered and analysed in a synthesis report, to be presented to regional, national and European policy-makers at a policy conference in Brussels in late 2014.

National context

Elderly citizens constitute a growing share of the Norwegian population. Norwegian and European surveys show that most prefer to live at home until they are no longer able to do so because of serious illness or reduced functionality. In Norway, for example, 50 per cent of people suffering from dementia live at home, and only half of those receive home care services.⁶

Demographics

The double demographic challenge is significant in Norway. The number of people aged 67 and over will more than double from 2000 to 2050. In the next few years the number of people between 67-79 years and the age group 90 years and over will increase rapidly in the population. The growth in the age group 80-89 years, however, is not expected to increase until the next decade.⁷

Increased number of elderly people increases the share of the population with age-related diseases (COPD, heart failure, cancer, dementia etc.). The incidence of illness and injury increases with age, and a significant proportion of elderly people have more diseases and injuries with varying degrees of disability.⁸

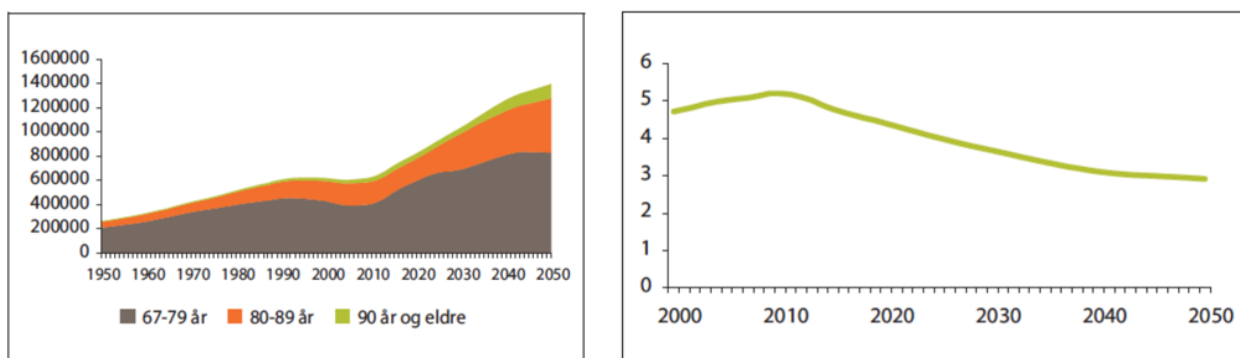


FIGURE 1A: NO OF PEOPLE FROM THE AGE OF 67 AND HIGHER FROM 1950 TO 2050 AND FIGURE 1B) NO OF PEOPLE IN WORKING AGE (16-66 YEARS) PER NO OF ELDERLY IN THE GROUP 67 YEARS AND MORE IN THE YEARS 2000 – 2050⁹

Projections indicate that the number of person-years needed in the health care sector may increase by almost 50 per cent or about 60 000 person-years by 2030 and be more than doubled up by 2050. Finding people and the money to employ more resources in the public sector is considered unrealistic, so in the future fewer staff must provide services for more clients. The use of modern technology will play a major role.

⁶ <http://www.regjeringen.no/en/dep/kmd/documents/white/propositions/2012-2013/meld-st-23-20122013-2/6.html?id=729047#note4>

⁷ White paper 2013:29: "Future Care". <http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2012-2013/meld-st-29-20122013-3.html?id=735302>.

⁸ White paper 2013:29: "Future Care". <http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2012-2013/meld-st-29-20122013-3.html?id=735302>.

⁹ White paper 2013:29: "Future Care", p. 40 and p 41. <http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2012-2013/meld-st-29-20122013-3.html?id=735302>.

Coordination Reform; Decentralised care, closer to home

In 2012, the Norwegian Government introduced the Coordination reform to ensure «sustainable, integrated and coordinated health and care services that are of high quality and tailored to the individual user». The Coordination reform is designed to generate a change of direction and forms the basis for a shift in the content and organisation of the municipal sector. The aim is decentralised care, closer to home.

The Government is focusing attention on renewal and innovation throughout the entire health and care services sector as a step in the effort to address the coming demographic, social and health-related challenges.

In many ways the Coordination reform also comprises a municipal reform. One of the main action points of the Coordination reform is to develop the role of the municipalities so that they are more capable than today of achieving the objectives related to prevention and early intervention to halt the development of disease. More support will be made available for the patient's own skills mastering, increased focus on preventive and health-promoting measures and the expansion of low-threshold services.

Ambitions to use welfare technology in Norwegian policies

New technology has the potential to enable people to live at home and remain self-sufficient and safe, despite illness or reduced functionality. In the future, living at home could be a viable alternative to staying in institutions or hospitals. The opportunities and challenge with the ageing population and use of welfare technology has been high on the political agenda the previous 4-5 years in Norway.

The stated ambition of the minister for Health and Care in Norway, Bent Høie is as follows: "*We are stepping up so that digital welfare technology should be a real option for all Norwegian citizens in 2020*». The current political platform for the government formed by the Conservative Party and the Progress Party states high ambitions for elderly care and they will increase investment in welfare technology. They also state that they will encourage the municipalities to innovate in care provision by introducing experimental legislation that provides the freedom and financial stimulus to try out new organisational forms and measures. In addition they will introduce quality indicators for the nursing and care sector, based in part on the experience of users and their family members.¹⁰

In Norway the term «welfare technology» is most commonly used for technologies used in the elderly care. The definition of welfare technology is given in the Digital Agenda for Norway as «technology that can help promote safety, security, social participation, mobility, and physical and cultural activities. Welfare technology enhances people's ability to manage everyday life despite illness or impaired social, mental, or physical capacity. Welfare technology can also help family members and others contribute towards improving accessibility, use of resources, and the quality of

¹⁰ Political platform for the government formed by the Conservative Party and the Progress Party, section 9: «Health and care». <http://www.regjeringen.no/pages/38500565/plattform.pdf>

services offered. Such solutions can often prevent the need for services or admission into institutions».¹¹

The policies on how to use technology to meet the opportunities and challenges with an ageing population in Norway was initiated by the report from the Norwegian Board of Technology in 2009; *Ageing of the future and new technology*¹². This report has been followed by an Official Norwegian report in 2011: *Innovation and care*¹³, and a White paper in 2013: *Future care (Morgendagens omsorg)*¹⁴. The White

paper constitutes the current policy in Norway today and is operationalized via a *national programme for development and implementation of welfare technology in the care services*¹⁵.



FIGURE 2: POLITICAL DOCUMENTS LEADING UP TO TODAY'S POLICY AND PLANS FOR THE IMPLEMENTATION OF WELFARE TECHNOLOGY IN THE NORWEGIAN HEALTHCARE SERVICE

«Ageing of the future and new technology»

The Norwegian Board of Technology gave several advice regarding the use and introduction of welfare technology in the Norwegian Health care services in the report *Ageing of the future and*

¹¹ Digital Agenda for Norway, section 6.1. <http://www.regjeringen.no/en/dep/kmd/documents/white/propositions/2012-2013/meld-st-23-20122013-2/6/1.html?id=729048>

¹² Norwegian board of Technology (2008): *Ageing of the future and new technology*. Oslo. <http://teknologiradet.no/english/more-care-with-better-technology/>

¹³ Official Norwegian Report on innovation in the care services (NOU 2011: 11 *Innovasjon i omsorg*). Ministry of health and care services. <http://www.regjeringen.no/en/dep/hod/documents/nouer/2011/nou-2011-11.html?id=646812>

¹⁴ White paper (2012-2013:29) *Future care*. Ministry of health and care services: Oslo. <http://www.regjeringen.no/nb/dep/hod/dok/regpubl/stmeld/2012-2013/meld-st-29-20122013.html?id=723252>

¹⁵ Report to Stortinget (white paper); «Future Care», <http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2012-2013/meld-st-29-20122013-3/2/5/3.html?id=735335>

new technology in 2009. Most of the recommendations were incorporated into the current policy for elderly care.

- *«Care kit» for all care recipients.* The municipal care services should include a voluntary care kit, which is a set of care technologies installed in the home, or carried by the user. Some examples include fall sensors, automatic medication, door control, tracking solutions for people suffering from dementia, as well as biosensors for those with chronic diseases such as COPD¹⁶, diabetes and cardiovascular diseases.
- *Demands towards the municipalities.* All new care and nursing homes should be built with infrastructure appropriate for smart house technology. Municipalities should also be able to handle messages and automatic alarms sent from homes and persons using care technology.
- *Ethical and justifiable use of new technology.* Use of care technologies can lead to unfortunate consequences. There is a danger that use of technology might increase loneliness if it diminishes human contact. If one is not able to master or understand the solutions implemented, one might feel alienated in one's own life or home. The purpose for the use of care technology must be to provide better and more targeted care. Use of technology tied to body or home must be voluntary.
- *Privacy.* A necessary consequence of the fact that we are moving medical surveillance into people's homes is a requirement for good routines for handling information, as well as for safe communications. There is a need for clear rules concerning how to maintain privacy.
- *Growing market for care technology.* Despite a significant need for new ways of thinking and rapidly growing markets for care technology, little innovation is being done in the care services. Norway already has well-functioning models for publicly facilitated innovation, which can be transferred to the health sector. Demands for user-oriented innovation in publicly supported development projects for the care sector should also be implemented.

«Innovation in the care services»

The «Hagen committee» submitted its Official Norwegian Report in 2011. The report highlighted the potential in the care services to adopt available and develop new technology to enable more people to live at home longer. According to the report, much of the safety and access to health and care services currently provided by nursing homes can also be provided in people's homes using new technology.

The second Coordination reform

The Hagen committee introduced the concept of «Close caregiving» and describe it as the second Coordination reform. The first Coordination reform focused primarily on improving the utilisation of resources in the collaboration between the municipal health and care services and the specialist health services on health-related and medical issues. The «Second coordination reform» revolves to an equal degree around mobilisation of resources, focusing on cooperation between the family, the social network and the local community. The committee advises to think along new lines regarding

¹⁶ Chronic Obstructive Pulmonary Disease

the interplay between the public schemes and civil society, to explore the new forms of volunteerism, and to place focus on alternative work methods, forms of operation and organisation that encourage participation of the citizenry.

Idealistic measures and enterprises in the form of NGOs and user-driven cooperatives should be given a much larger role in the development of the future care services. The committee believes that this will strengthen innovation and development activities in the care services and encourage active participation and co-creation of the new forms of ownership and models of operation needed to meet the exponential growth in caregiving needs expected after 2025.

Municipal Innovation

According to the Hagen Committee, demand for good housing solutions, activities, and welfare technology from both private households and the municipal care sector will grow, and a large and financially resourceful generation of senior citizens will drive and shape this demand. This situation may create significant opportunities for economic development in this area.¹⁷

The Hagen Committee assumes that innovation in the care services primarily will occur at the local level in the individual municipality, close to the users and the publicly elected officials responsible for the services. The committee proposes that the central government take a role to establish an incentive structure that promotes innovation within the sector and to develop an infrastructure for research, development and innovation in the care services that takes the initiative and responsibility for coordination, network building and the dissemination of results at the national level.

«Future Care»

In the White paper *Future Care*, welfare technology is assumed to open up many opportunities; to help people cope with their daily lives and health issues, allow more people to live longer in their own homes despite reduced functionality, and help prevent or postpone admission to an institution.

The white paper seeks to explore opportunities and looks for new ways of performing caregiving tasks. It states three main objectives: 1) to obtain knowledge about, reveal, mobilise and utilise the totality of society's care resources in new ways, 2) to develop new forms of care through new technology, new knowledge, new professional methods and changes in organisational and physical parameters and 3) to support and strengthen research, innovation and develop activities in the care services at the municipal level.

The aim is that greater implementation of welfare technology in the health and care services will: 1) enhance the ability of users to manage their own daily lives, 2) increase the sense of safety and security for users and their family members and relieve some of the concerns of family members and 3) increase the participation of users and their family members in user networks and enhance the ability to maintain on-going contact with each other and the support system.

Close caregiving is highlighted as important in the White paper. The report states that «most – and the best – care is provided through 'close caregiving', meaning that the public health and care services function as an integral part of a local community in close cooperation with the users themselves, their families and social networks, volunteer care providers, and local organisations and en-

¹⁷ Official Norwegian Report on innovation in the care services (NOU 2011: 11 *Innovasjon i omsorg*). Ministry of health and care services: Oslo <http://www.regjeringen.no/en/dep/hod/documents/nouer/2011/nou-2011-11.html?id=646812>

terprises.» Better adaptation of homes and the surrounding areas, new technology and new professional methods is seen as important to help people to manage their daily lives for a longer period of time on their own.

The white paper advocates the need to mobilise all of society's care resources and examine how tasks are distributed among the actors in the care services sector. The report states that the health care service must be organised so that it supports and stimulates the resources found among the users themselves, their families and social networks, neighbourhoods and local communities, idealistic organisations and trade and industry that assume their share of social responsibility.

National programme for the Development and Implementation of welfare technology

In order to fully exploit the potential of welfare technology, and to encourage the municipalities to make greater use of such solutions, a *National Programme for the Development and Implementation of welfare technology* in the municipal health and care services was launched in 2013. The main objective of the programme will be to make welfare technology an integral part of the care services by 2020. The budget is of 34 MNOK in 2014. The Norwegian Directorate of Health has the responsibility to run the program.

The welfare technology programme is the operationalization of the political ambitions stated in the white paper «Future Care». The programme has incentives for 1) development and testing of welfare technology solutions in the municipalities, 2) knowledge production and dissemination of welfare technology solutions, 3) promote the development of good models for the implementation and use of welfare technology, 4) competence-building, 5) legal framework as well as 6) the introduction of open standards for welfare technology.

Variations of welfare technologies are currently (June 2014) being tested out in 10 projects in 32 municipalities in Norway. Successful trials are going to be scaled and implemented in all municipalities in Norway. The trials will give input to how this should be implemented and scaled nationally towards 2020.

The welfare technology programme aims at trying out:

- 850 care kits
- 150 GPS
- 30 Digital supervision
- 200 nursing home places
- Resource Management of healthcare providers (logistics)
- Electronic lockers (about 50)
- Medicine dosage (about 50)

New law on GPS tracking of people with dementia

A new law on *GPS tracking of people with dementia* passed in March 2013¹⁸. The new law allows for the use of positioning technologies, including GPS to improve and facilitate the municipal health and care for people with dementia. Former regulations were seen as fragmented, unclear and

¹⁸ <http://www.regjeringen.no/nb/dep/hod/dok/regpubl/prop/2012-2013/prop-90-I-20122013.html?id=719104>

lacking when it came to the use of positioning services. Hearings revealed that many municipalities even saw the regulations as a hindrance to the use of welfare technology. There are concerns concerning the right for privacy for the demented, and their ability to consent to the use of the technology. The issue was raised in the report from NBT, the Official Norwegian Report in 2011 and by the Norwegian Data Protection authority.

Players and responsibilities in the care sector

The Norwegian health sector has more than 300,000 employees, and in 2011 around NOK 250 billion was spent on health and care.¹⁹

Municipalities play the main role

The aim of the Coordination reform was decentralised care, closer to home. The reform changed the municipalities' role so that they can fulfil the aims of prevention and early intervention while addressing the needs of patients with chronic diseases. The municipalities will thus play the largest part in meeting the growth in demand for health services. The municipalities should ensure that the patient receives the best effective health care service through cohesive patient pathways. The municipalities must view the health and care sector in context with other areas of society – and coordinate services that take into account the distinctive features and characteristics of various personnel groups.

There are 428 municipalities in Norway, and many of them are very small. The number of inhabitants range from a couple of hundred to several hundred thousand inhabitants in the larger cities. Oslo, the largest city and municipality in Norway, has just over 600,000 inhabitants in 2014.

The ambition of the Welfare technology programme is that 80% of the inhabitants in Norway, i.e. 300 municipalities will implement welfare technology as part of the health care services within 2020.

The Norwegian Labour and Welfare Administration

The Norwegian Labour and Welfare Administration (Norwegian: NAV, originally an abbreviation of «Nye arbeids- og velferdsetaten») is the current Norwegian public welfare agency, which consists of the state Labour and Welfare Service as well as municipal welfare agencies. It is responsible for a third of the state budget of Norway, administering programs such as unemployment benefits, pensions, child benefits and more. NAV was established as a result of the Norwegian Labour and Welfare Act of 2006.

In partnership with the local authorities in Norway, NAV is responsible for all procurement related to provision of assistive aids in Norway. NAV also organizes the *NAV Community Technical Aids Centres* in Norway (Norwegian: «NAV Hjelpemiddelsentral»). There is one such aid centre in each county. They have the overall and coordinating responsibility for the provision of assistive devices and adaptations for disabled people within their county.

¹⁹ Digital Agenda for Norway,
http://www.google.no/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CCUQFjAB&url=http%3A%2F%2Fwww.regjeringen.no%2Fpages%2F38354256%2FPDFS%2FSTM201220130023000EN_PDFS.pdf&ei=1gekU-uBN-X_ygPt24LIBQ&usg=AFQjCNEN3_UTtIPKD6uV393dtDauvNBgpA&sig2=ynTMdLj-wXnR_LUJ8Qk60A

Technological status and development

Welfare technology is, according to the Norwegian National Welfare Technology program, «... primarily technological assistance that contributes to increased safety, security, social participation, mobility and physical and cultural activity, and strengthens the ability of individuals to fend for themselves in everyday life despite illness and social, mental or physical disabilities»²⁰. Welfare technology can also act as technical support to relatives and otherwise help to improve availability, resource utilization and quality of service provisioning. Welfare technological solutions can in many cases prevent the need for services or admissions in institutions.

The programme distinguishes between two types of welfare technologies; *Care technology* is technology that aims to create the desired mastering of life and health and peace of mind to stay longer at home in existing housing. *Personal health technology* is technology that through the different levels of monitoring of vital functions enhances self-management, security and quality of life related to their own illness. Personal health technology is particularly relevant for people with chronic disease.

The security alarm (Norwegian: Trygghetsalarm) is the most commonly used welfare technology in Norway and has been in operation for many years. The security alarm is a notification service, where users can call for municipal assistance like a home care service. The users operate the alarm systems via necklace, bracelet, button or string. The alarm can be municipal, private or linked to the regional NAV Community Technical Aids Centre. Virtually all municipalities offer security alarms to their inhabitants and 77.000 are currently using them (in 2014). People over the age of 75 can apply for a pendant alarm, based on their medical condition. The service cost 190 NOK (in Oslo) per month. Low-income households can get the service for free.

Most municipalities must replace its security alarms due to the phasing out of analogue phone lines starting in 2017. Directorate of Health has initiated efforts to describe the future security alarms and which features local authorities should take into account as part of the national Welfare technology programme.²¹

The future security alarms will typically be part of a so-called «care-kit». The care-kit is expanded from the traditional security alarm which may also include more comprehensive welfare technology solutions like a self-triggering alarm, fall sensors, smoke detectors, electronic door openers, mobile phones, tracking solutions (GPS), bio-sensors, etc.

Such solutions have increasingly been piloted in several municipalities all over Norway. Until recently these efforts were not coordinated. The *welfare technology programme* aims at stimulating municipalities to try out technical solutions and do service innovation at the one hand and to coordinate and stimulate exchange of best-practices on the other hand. The programme also contributes with research, knowledge building and -sharing as well as the development of good models for the introduction of welfare technology. In parallel the programme works with defining standards and solving legal issues that arises during the pilots²².

²⁰ Presentation by Programme Manager Lasse Frantzen, Norwegian Directorate of Health; *Future care - Care plan 2020. National programme for development and implementation of welfare technology in the care services*, February 2014.

²¹ The work in progress can have a major impact on municipal procurement of security alarms. Directorate of Health is therefore asking municipalities to wait to acquire security alarms. There will be specific recommendations in mid-October 2014. <http://www.ks.no/tema/Innovasjon-og-forskning/Innovasjon/Vent-med-a-anskaffe-nye-trygghetsalarmer/>

²² <http://www.regjeringen.no/en/dep/hod/documents/regpubl/stmeld/2012-2013/meld-st-29-20122013-3/2/5/3.html?id=735335>

Scenario workshop in Norway

The Norwegian scenario workshop was held March 27, 2014 at the Ekeberg Restaurant, just outside, and with a view over, Oslo city centre.

Recruitment process and participation

The aim for the composition of the groups in the workshop was to have an equal number of participants representing 1) the senior community, 2) volunteering organisations, 3) employees in the health care sector, 4) researchers, 5) providers of technology solutions and 6) local decision makers.

The workshop had 32 participants. 7 people representing the senior community came from e.g. the National Council for Senior Citizens, the Pensioner Association, the «Action for Better Care of the Elderly» (Norwegian: «Eldreksjonen») as well as the Senior Group in the Norwegian Society of Graduate Technical and Scientific Professionals. 6 people representing volunteering organisations came from the church city mission in Norway and Norwegian Health Association²³. The 5 people representing employees in the sector came from the municipalities of Kristiansand, Trondheim, Ål and Oslo, as well as the Norwegian nurses association. The 4 researchers were faculty employees or PhD candidates within the medical and care area. Two researchers within the technical area were registered but they did not show up at the workshop. The 6 technology providers were from the two largest providers of health care systems for the care sector in Norway, providers of safety alarms as well as mobile-app providers. The 4 local decision makers had experience from the Norwegian Research Council as well as municipal and county council decision-making.

All in all it was a fairly good representation of different stakeholders. However, other types of professions in the health care services could have been valuable, e.g. a doctor, an occupational therapist and/or a physiotherapist.

Preparations

All participants got the scenario document when they registered for the workshop. It was expected that everyone had read this document before the workshop, which most participants actually did.

Organisation of the workshop

The workshop started with a short introduction to the PACITA project, the scenario workshop method, and a quick walkthrough of the scenario document.

The expected outcome from each phase of the workshop was explicitly explained before each of the three phases with group discussion.

8.30 – 9.00	Registration
9.00 – 9.10	Welcome and introduction
9.10 – 9.25	About the Norwegian board of Technology and the Scenario workshop method
9.25 - 9.45	Short walkthrough of the scenario document
	Participants locate their group (and grab a coffee)

²³ Norwegian Health Association is a voluntary, humanitarian organization with volunteer-led health and dementia groups throughout Norway

9.45 – 10.30	Phase 1: General response to the scenarios
10.30 – 10.45	Coffee break
10.45 – 11.45	Phase 2: How would reality be in scenario 1, 2 and 3?
11.45 – 12.30	Lunch
12.30 – 13.30	Plenary session – presentation of phase 2
13.30 – 14.45	Phase 3: Formulation of the participant's visions
14.45 – 15.00	Coffee break
14.00 – 15.45	Plenary session – presentation of participant's visions and recommendations
15.45 – 16.00	Concluding remarks, thank you and good bye

The workshop had 6 groups with 4-7 participants each. The participants sat around 6 round tables, in the same room. The list of participants is given in Appendix B.

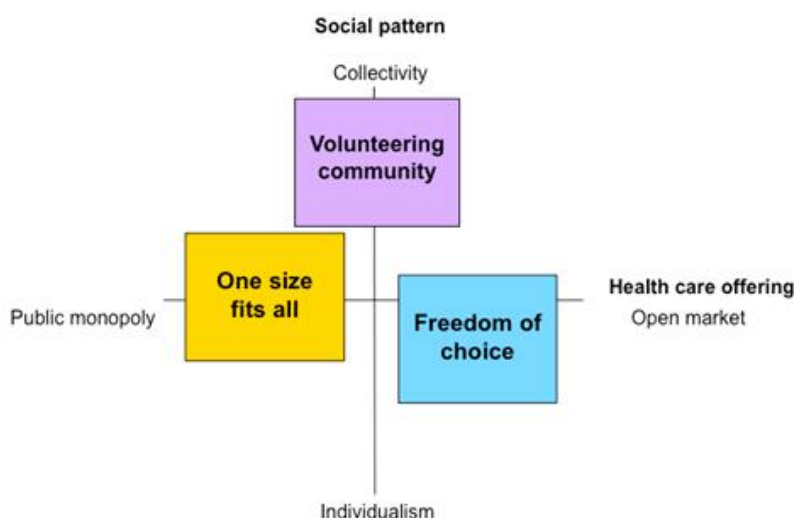
Responses to the scenarios (phase 1 and 2)

The scenarios address choices the politicians can take for improving the future care services for the seniors– and the dilemmas they are faced with. The two main concerns in our scenarios are:

- Is it the public or private health care providers who are providing future elderly care?
- How do the seniors and other groups in the society organize themselves in order to meet the needs for care?

We have chosen to represent at these two main concerns along two axes. On the horizontal axis the one extreme is the government deciding which technologies everybody will be entitled to and the other extreme is that people can choose freely themselves from a free market. On the vertical axis, the one extreme is that the seniors themselves, their relatives and the community cooperate and help out, and constitutes the dominant resource in the elderly care. The other extreme is that each senior has to find and choose his or her own care services.

To illustrate the consequences that might follow different decisions three scenarios have been developed. The three scenarios are not the aforementioned extremes but they include a combination of them. The way they address the main concerns is illustrated by where they are located in the coordinate system (see figure below):



The three scenarios illustrate different ways the community can develop using welfare technology. They show in particular how the health care services may develop, and how the municipalities may be affected by increased government control, a stronger private sector or a better-organised voluntary community. The scenarios also illustrate what municipalities can do to tackle the different reality models.

Scenario 1: One size fits all

One-size fits all is based on the assumption of lack of labour in the future, and it describes a large-scale governmental initiative using technologies to make people more self-reliant. The local munic-

ipalities provide most of the public support services. However, national standards now determine which home care technologies and services the municipalities must provide.

General response to scenario 1

All groups were asked to give their immediate reactions to the three scenarios: *positive and negative feedback. Are they realistic? Possible? Desirable? Why/why not?* Below are the main reactions to scenario 1.

It was generally perceived that the solutions offered in the One-size fits all scenario are closest to the reality in Norway. A standard set of services, tailored to each user's needs, will constitute a basic offering for all citizens. The service offerings described in the Freedom of choice scenario and the Volunteering society scenario will be added based on needs and availability of these services. However, there are several choices in what way these services are developed, implemented and stimulated.

«The public sector/ municipalities have a responsibility to develop standard packages, possibly with the opportunity to use private services and/ or volunteering organisations in addition.»

The term «standard» sparked two different kinds of discussions. Several participants pointed out that it could be interpreted in a negative way, as all citizens will receive the same standardised services with little support for individual needs and adaptations.

«But, how can one assure that one does not end up with a system that suites nobody?»

The other interpretation was that the term «standard» is a «minimum standard» of the level of services that should be delivered rather than all users receiving exactly the same services and that there still would be room for individual adaptations.

«The proposed technology can resemble an iPhone: a standard technology that can be loaded with apps, designed to fit the individual.»

Participants from local decision makers pointed out that standard solutions are needed to make the implementation of welfare technology simpler, like «plug-and-play». «A basic offering is a prerequisite for other services to function well in the society».

Individuals are already starting to invest in their own equipment.

«We already see today municipalities who give advice on technology to the seniors, e.g., sensors they can already buy at high street retailers».

It was agreed that a general basic service like a standard care-kit is a good solution and that this should be offered to everyone. The government must take responsibility for the organisation of this basic service. It will require a lot from the municipalities to choose and adapt the technology to the individual needs of their citizens. Technological competence as well as knowledge about the patients will be crucial for the employees in the sector. Training of the seniors themselves will also be important.

«The users are not a barrier; they are mostly motivated to learn».

Positive and negative response, dilemmas and other issues in scenario 1

Representatives from *research* and *providers of technology solutions* further discussed scenario 1. They were asked to write down positive and negative feedback on the scenarios in addition to the dilemmas and other issues that come up under the discussion.

Positive response related to scenario 1

Clear conditions and predictability. The researchers appreciate that this scenario gives clear frame conditions and predictability. But they also point out that they must be flexible and not too rigid. A national standard is needed, but each and every one must be able to choose.

Solutions that match user needs. The researchers emphasize that this scenario can lead to solutions that match real user needs, not only the (needs of the) market forces. Predictability makes more clarity for the technology providers so they can make technical solutions that can be further developed. The key would be to communicate the users' needs to the technology providers.

Minimum requirements for security and quality required. The researchers endorsed the minimum requirements for quality and security, and that the municipalities were responsible for public requirements of the services, for privacy and for the employees.

Compulsory training. The researchers also approved that training in use of welfare technology is compulsory for the employees in the sector.

Ensure minimum service offering. The technology providers were in general skeptical to this scenario. However, they appreciated that the citizens are assured a minimum and basic service. This will help especially people who are so sick and ill that they cannot choose for themselves.

Fast deployment of the care-kits. The technology providers also pointed out that this scenario will encourage a fast deployment of the technology in the whole country. This scenario will require less competence in the municipalities and procurement will be easier. A framework and standards was seen as useful as it will enable integrated solutions.

Negative responses to scenario 1

Standardization makes a rigid system. The technology providers' main concern was how to support the needs of each individual. Public care-kits and standardization can become too rigid and difficult to adapt to the needs of the individual. It is a challenge to make a unified system in a country with a high degree of demographic spread. It was a fear that standardised kits will exclude many user groups. They emphasized that flexibility will be crucial.

«It will be important that the users can be involved and be able to make choices and not be forced to use standard solutions.»

«If you get systems that do not suit you, you will not use them.» «How can one assure that one does not end up with a system that suits nobody?»

Unclear criteria for service delivery. The researchers pointed out that the criteria for receiving services and associated welfare technologies by the municipalities was not clear.

Passive use or active choice? The researchers pointed at that the users risk being pacified in their relationship with the technologies they use. It is important that the users get to decide which solutions work for them.

«People in need of care are not one uniform group.»

Development of welfare technology will become international. The technology providers feared that this scenario will lead to large, public EEA tenders and that the international competition will be too tough for Norwegian technology developers. Further they feared that

«with such comprehensive agreements we will not be able to turn fast enough and we will get out-dated technology and lag behind».

Will standardisation kill innovation? Both the technology providers and the researchers were concerned that this scenario would kill innovation. The researchers feared that

«it can be hard to innovate in this scenario, because it has to work for everyone».

The technology providers feared that

«we get proprietary solutions in a closed market».

Dilemmas in scenario 1

Privacy; consent and transparency. The researchers were concerned with privacy. Consent for the use of technology is important but not discussed in the scenario. Registration and logging of who has accessed the data for what purpose will be important to assure transparency and privacy. The balance between security and privacy is important to consider for all use of welfare technology.

«Will there be more surveillance than strictly needed?»

Empowerment vs. loneliness? The researchers were concerned about loneliness. This is an important dilemma to cope with. On the one hand technology can lead to empowerment in one's own home, but on the other hand

«independence in their own home can lead to loneliness».

Will the demand for additional education and training interfere with other important issues? The researchers were concerned that this scenario will pose large demands on personnel with regard to additional education and training.

«There are already many demands on additional education of the personnel. It must be made sure that these demands are meaningful.»

Other issues regarding scenario 1

Prevention at young age. The researchers missed reflections on the Coordination reform with respect to prevention of health issues.

«We cannot start with prevention when you are 80.»

Lack of technology competence on the local political level. The technology providers point out that there is a lack of competence on welfare technology on the political level, both in the government and in the municipalities.

«Today it is the industry that dictates. There are many players in this market, and many municipalities are confused.»

Collaboration between municipalities is needed. The technology providers meant that the large municipalities are capable to start implementing welfare technology, while small municipalities are left behind. Collaboration between the municipalities is necessary but can be hindered because they are different juridical units.

More men in health care? The technology providers pointed out that more use of technology can lead to more men applying for health- and care occupations, something that will be a desired development.

Differences between the groups

The technology providers were the most negative to this scenario. They claimed that the end-users want the freedom to choose for themselves.

«Future seniors will not accept to be offered standard solutions. They would rather shop around and choose for themselves. They are used to make individual choices and they have the money. But: what about those who are not healthy enough to choose for themselves?»

Scenario 2: Freedom of choice

Freedom of choice is based on a new political system where the incentives for care recipients go directly to the user. This scenario furthermore describes a society where you can buy a great variety of care services from the open market. Everyone in need for care is entitled to incentives and financial support depending on his or her health condition. The municipality's responsibility is now to ensure the existence of an adequate supply of care services for those living and residing there (national standards or higher).

General response to scenario 2

The groups were asked to give their immediate reactions to the three scenarios: positive and negative feedback. Are they realistic? Possible? Desirable? Why/why not?

Many participants were negative to this scenario, especially the seniors themselves.

«Is it really possible to have free choice of services?»

One representative for the seniors meant that this scenario in reality could mean that there will be a commercial actor that will decide for you. They also felt that the concept of Freedom of choice was misleading and that this scenario will enforce specific solutions on the users.

It was a general fear that this scenario could lead to greater social differences.

«Those who have many needs might have too little resources to meet their needs.»

It was appreciated that you have a choice, but what does this freedom entail in reality? In Oslo you have the right to choose the nursing homes you want, if you are entitled to long-term stay. The representatives from the volunteering organisations pointed out that experience from Oslo show that in practice, it is the relatives that choose. They are the ones that actually use this freedom of choice.

This scenario is dependent upon someone who can advise the users. Who will give advice; the seniors themselves, their relatives or employees in the sector? The healthy and active seniors might handle these choices themselves, but later in life they might need qualified, objective advice. Good advice requires new knowledge and skills. The relatives will play an important role to help e.g. people with dementia to find appropriate solutions. It can therefore be harder for those without relatives. The representatives for the seniors expected relatives to have a special role to contribute to selection, adaptation and tailoring of solutions for the users.

Positive and negative response, dilemmas and other issues in scenario 2

Representatives from *volunteering organisations* and *local decision makers* discussed scenario 2 in detail. They were asked to write down positive and negative feedback on the scenarios in addition to the dilemmas and other issues that come up under the discussion.

In the discussions, both groups set as a premise for the discussion a fair distribution of incentives and a minimum set of basic services provided to all citizens as a baseline for this scenario.

Positive responses to scenario 2

Equal distribution of funds based on user needs. The volunteering organisations appreciated that there was equal distributions of funds and that the distribution was based on user needs.

Responsible set of services. The local decision makers approved that the public sector assured a minimum and responsible set of services in this scenario.

Empowered and autonomous users. Both groups appreciated the freedom to choose solutions. This will lead to the user being empowered and more autonomous.

«You might be entitled to a phone, but you can choose yourself if you want an iPhone or an Android phone.»

User-friendly solutions. Both the volunteering organisations and the local decision makers believe that this scenario will lead to dynamic development and effective implementation of new technology and that this will drive forward user-friendly solutions. They believe that competition between the suppliers can lead to better product and service development for the end-users.

«Freedom of choice opens up for a larger diversity» (the local decision makers).

«Suppliers who fail to deliver good and useful solutions will be pushed out of the market.» (Volunteering organisations).

A final comment from the local decision makers was that

«businesses that deliver welfare technology solutions are more interested in the end-users than the government bodies are.»

More responsibility for your own health. The volunteering organisations pointed out that new technology, which makes it easier to monitor one's own health, can motivate seniors to take control over their own situation. This can also motivate citizens to take responsibility in planning their ageing.

Negative responses to scenario 2

Social and geographical differences. Both groups were concerned that social and geographical differences would create inequalities. They feared that those with the least resources will have the greatest needs and therefore there is a risk that disadvantaged groups become weaker. There is also a risk that there will be fewer health care services in the more remote districts.

«We have principles of equality in Norway, but there will still be strong groups that are pushing forward. Those who have more money can buy even more.»

Navigation in the market. Both volunteering organisations and local decision makers were concerned with how the end-user can navigate the market and find the right services and technologies. This scenario requires people to have good mental capacity and overview to be able to make good

choices. There is a need for certification of equipment and technological solutions that adhere to requirements set by the authorities.

Standardisation. Both groups call for standards set by the authorities. With many technology players in the market, standardisation is needed to avoid a fragmented development and systems that do not communicate with each other. «Certain standards must be present so that you can choose the equipment you want (TV, pad, phone) and not be locked into a specific technology.»

New roles. Both the volunteering organisations and local policy makers pointed out that we would probably see a change of roles. The representatives from the volunteering organisations pointed out that it is not clear who will do the screening of the patient? Will it be the GP, or the NAV community technical aids centres? They also asked if those who provide the technologies and services would become the new health care workers? Other questions were concerned with who the procurer will be, who will have the procurement competence, and how can the end-users trust the sellers of the technology? The local policy makers were concerned with what the role of the municipality would be?

«The municipalities can be a central player in the market if they acquire the right skills».

Privacy. The volunteering organisations were concerned about privacy. Can one trust the technology providers? Who will receive and manage the information and data from the technology?

Calculation and distribution of funds. The participants from the volunteering sector were concerned about how the amount of money you are entitled to is calculated. It is difficult to score different diagnoses against each other. Who will allocate the money to the end-users, and which criteria will be used? This scenario requires that the weakest people are identified and supported explicitly. Will control mechanisms introduce an extra layer of bureaucracy?

Dilemmas in scenario 2

The volunteering sector emphasized the following dilemmas:

Will it be possible to say «no»? There were many concerns about how the technology is going to be implemented and used in practice. The volunteering sector worried about whether users would be allowed to turn down technology and corresponding services. The local policy makers were concerned about whether the employees in the health sector have the right competence to procure technology solutions to assure the right level of technology use.

«Will too much trust in the technology lead to lack of personal contact?»

Will there be time and resources to interpret and deal with all the data? Self-monitoring creates a lot of data and subsequent demands to interpret these data into knowledge of their health. Some users will interpret the data themselves, while others will need help from professionals to interpret their data. The volunteering sector was concerned about whether the amount of data will create too much demand on the health care sector or if the sector could use it to become more effective?

«If the technology works, it can free resources. However, if the technology does not work, there can be fatal consequences.»

Differences between the groups

While the general response to this scenario was quite negative, the two groups who discussed this scenario in more detail were more appreciative.

The local decision makers appreciated this scenario as an add-on, given that the municipalities secured a set of basic services for all citizens (like the ones described in scenario 1). The volunteering organisations were concerned with how the incentives should be allocated to the user and based on what criteria.

Scenario 3: Volunteering community

Volunteering community is based on volunteering people as the key resource for the community and for each other. This could include the seniors themselves, their relatives, charities, neighbours, school children etc. The municipality's main role is to mobilize coordination of the volunteering organisations. The local municipalities are responsible for ensuring that there is a proper healthcare for its inhabitants, including monitoring the quality of care provided. The local municipalities are required to deliver some health services, to manage licenses for private operators and to mobilize coordination of the volunteering organisations.

The group was asked to give their immediate reactions to the three scenarios: positive and negative feedback. Are they realistic? Possible? Desirable? Why/why not?

General response to scenario 3

The participants found this scenario similar to what is described in the chapter about «Close care-giving» in the White paper «Future care». Many participants were in favour of this type of scenario. The seniors would like to contribute themselves.

There was a consensus among the groups that new technology and social networks will make the organisation of and participation in volunteering work easier. Technology has many positive effects, both regarding efficiency, resource allocation, independence and support for social networks. In this way technology makes it easier to contribute as a volunteer.

Redefinition of the health care service. The representatives from the volunteering organisations proposed to redefine what a health service is. Tasks related to care issues may be suitable for volunteers. However, tasks related to health issues and illnesses are better suited for health personnel, as it requires professional knowledge and experience. The scenario brought on a discussion about the content of health services. Is it cleaning, housing, food, medicine, or?

«Are nutrition and food information health services? Maybe not for the healthy people, but for sick people these are health services.»

Quality assurance. The volunteering organisations and networks involve many people. How can one define requirements for the quality of care and be assured that everyone involved upholds this quality?

Openness and privacy. Care work is often intimate. You have to be open about who you are and what your needs are. Will a scenario like this, require people to be more open – or should there be limitations to what kind of tasks volunteers can do? How can privacy be properly protected?

Positive and negative response, dilemmas and other issues in scenario 3

Representatives from the seniors and employees in the sector discussed scenario 3 in detail. They were asked to write down positive and negative feedback on the scenarios in addition to the dilemmas and other issues that come up under the discussion.

Positive responses to scenario 3

Both groups approved that everyone, including the seniors themselves, could contribute in a constructive way. This can lead to an active and social life. One can make one's own choices and have a great amount of flexibility in the system. One representative for the seniors said that

«this scenario makes it easier to be a recipient of healthcare, since it is voluntary rather than (job) duty that is the basis for the provision of healthcare and assistance».

Social networks. The seniors pointed out that social networks could facilitate resource allocation and coordination of volunteering work.

Citizens can take responsibility for their own ageing. The representatives for the employees in the sector was concerned with the fact that we all must take more responsibility for ourselves and our own aging, but the authorities must prepare people to the fact that they need to take more responsibility.

Negative responses to scenario 3

Dependence on incentives. The seniors emphasize that this scenario is dependent on incentives that inspire volunteering efforts.

Culture for volunteer work. The seniors pointed out that Norway does not have a culture for volunteering. This must be cultivated, if volunteers is to play an important role in the future care sector.

«We miss a volunteering culture in Norway but there is a 'community spirit' (Norwegian: 'dugnadsånd').»

New roles and responsibilities. Both groups were concerned about the types of tasks, which would be suitable for volunteers versus the public health care services.

Responsible volunteers? The seniors emphasized that it is uncertain, maybe also even very limited, what kind of tasks that are suitable for volunteering work. Some types of care require expertise and professional knowledge and cannot be handed over to lay people. Professionals and the public sector must handle some of the responsibilities. The employees in the sectors pointed out that there was a risk for too few employees and too little care. This might be overcome with technology, to a certain degree. They also pointed out that technology must be adapted to the clinical picture of the individual, this is not static - and must be done by professionals.

Seniors without relatives. The employees in the sector were also concerned with how seniors without relatives will manage in this scenario?

Dilemmas in scenario 3

Responsible relatives? The employees in the sector were concerned that the relatives will get much more responsibility. For some, this can end up being a big workload, causing them to become overworked. Should this type of volunteering work be included in the public funded «care-salary» (Norwegian: «omsorgslønn»), or, other types of compensation?

The seniors mentioned two dilemmas in the scenario.

Will the use of technology take away the good conversation? There was a concern that technology driven coordination and interaction can help certain tasks more effectively, but at the same time hinder «the good conversation» and human interaction. On the other hand, effective coordination of volunteering work can engage more people to do tasks person-to-person.

Will it be possible to say «no»? Volunteering work benefits from an existing and real need in many people to contribute to society. But, on the other hand expectations for volunteer contributions can be perceived as unwanted pressure, and it can lead to responsibilities being forced on individuals.

Differences between the groups

The group representing the seniors focused on how the seniors themselves could participate as volunteers, while the employees in the sector were especially focused on relatives as volunteers.

There was not much focus on other types of voluntary work, like the volunteering organisations, patient networks, school children or other types of organised work. This can be due to the lack of a culture of volunteer work in Norway?

General response to the scenarios

All in all the workshop participants found the scenarios useful as a point of departure to discuss the opportunities and challenges related to the future of ageing.

«These are three images of the future that forces one to think outside the box, because they present a different way to think about seniority than today's established thought pattern.»

However, there were some critical voices to the scenarios.

More focus on seniors as a resource, not only a challenge. Some participants found the scenarios a bit negative, focusing mostly on the aging population as a challenge. Some participants found the description of the people as passive receivers rather than active citizens. They found this difficult to relate to.

«The seniors must be viewed as a resource, not a problem. Many seniors are of good health, not everyone needs medical care.»

More focus on the care-technologies, too much focus on personal health technology. Another participant meant that there was too little focus on the care-part and the use of care-technology like detectors, alarms, smart-homes, GPS-trackers, etc.

«Too much focus on the «sick» part; on health and care related issues and facilitation for the sick.»

Should cover a larger age group. Some groups thought that the scenarios focused too much on a particular age group.

«There are also those under the age of 67 who need care services.»

More focus on loneliness and social isolation. The biggest social problem is loneliness, isolation, and lack of social presence. Dignity is important. These issues should have had more attention in the scenarios.

«Too little focus on social facilitation and prevention of loneliness and social isolation.»

Include the perspective of immigrants. Some participants missed the perspective of immigrants. Immigrants have other challenges - and opportunities than the native Norwegians. E.g. there is a challenge that many women with an immigration background do not speak nor understand Norwegian.

Analysis and synthesis of visions and recommendations (phase 3)

The participants were reallocated into heterogeneous groups for this part of the workshop. The new groups were asked to discuss and propose their own visions about the future of elderly care, and identify strategic and political choices that would be central in this vision.

The participants prioritised and formulated 1) 2-3 visions for what kind of elderly care services the participants want in the future and 2) policy recommendations needed to achieve these visions. The complete set of visions and recommendations are found in Appendix C.

A majority of the visions focused on the seniors and how they could live their lives in the future. These visions emphasized different values and priorities that will be important for seniors' quality of life. The other visions were about new, emerging roles and the future organisation of health- and care services and -sector.

After they had formulated their visions, the participants proposed policy recommendations, and identified actions needed to fulfil the visions.

The visions and policy recommendations are clustered in the following categories:

1. Recognition and acknowledgement of individual needs
2. Self-determination, autonomy and freedom of choice
3. Guaranteed basic care provision
4. Participation and inclusion
5. Frameworks, organization, roles and actors

Recognition and acknowledgement of individual needs

Visions

«Care services and technology is delivered according to the need, demand and capacity of the individual. The public sector has an important role as coordinator, and must be available and predictable.»

«Technological solutions must be facilitated for the individual, so that the user gets the help he/ she needs and so that health personnel can perform effective and proper services. »

Recommendations

Training of the seniors. Proper training of the seniors enabling them to make informed decisions is an important element for the solutions to meet each individual's needs. Not everyone is used to technology, and many seniors might feel uncomfortable when it comes to choosing appropriate services and technology.

Help seniors to choose the right solutions. Better organisation, categorization and approval of the technological solutions available are needed in order to choose the right technology for each individual. This is necessary whether it is the end-user, relatives, the municipality or the health care services that are making the decision.

Criteria for reimbursement. The Government must formulate clear and transparent criteria for assessing the needs of each individual, and allocating services based on these needs. Special attention should be paid to the weakest groups so they can be supported explicitly. The involved authorities must coordinate their efforts so that the allocation and/or reimbursement are simple and unbureaucratic. The Government should make sure there is better interaction between governmental bodies like the NAV community technical aids centres and the municipal sector, when it comes to criteria for financing as well as the organization and approval of welfare technology.

Users should evaluate the health care services. In order to assure that the individual needs are acknowledged, evaluations of the health service should be done in cooperation with the individual/senior in question. Evaluations will give proper feedback to the people providing the service, and a possibility to adapt the service to the user. The results can also be used in further development of products and services.

Self-determination, autonomy and freedom of choice

Visions

«We have a vision of a society for and with everyone, where everyone provides what he or she can and receive what he or she need. Everyone shall experience having control over their own lives (be the subject in one's life) independent of need, and, derived from the principal of user management, receive the help they need at the place where they are able to, and want to live. »

«We want an elderly care which empowers the elderly and give them opportunity and duty to make choices which impacts their own situation.»

«We want an elderly care which makes individuals able to utilize their recourses maximally, and where the technology helps people live as independently as possible.»

«Safety and coping: Development and use of technology should be a means and not a goal in itself in order to enable elderly to understand and cope with their situation at home as long as possible. »

Recommendations

Universal design. In order for the seniors to live autonomously, the technology has to be user friendly and not exclude anyone. Politicians should define requirements for Universal design for buyers and providers of welfare technology solutions, so they become suitable and user friendly for seniors.

Digital janitors. We are going to need a new type of actor; the so called «digital janitors» who clean up in the diversity of technologies, chooses the right technology for its purpose and makes sure it is maintained properly.

Address loneliness. While technology can lead to empowerment in one's own home, independence can also lead to loneliness. When welfare technology is introduced to a user, the health care service should always address the possible impact of loneliness.

Guaranteed basic care provision

Visions

«Technology as an instrument for securing health, activity and independence through old age.»

Recommendations

Standard care-kit to all - adaptable to users' needs. The government must take responsibility for providing a general, basic service; a standard care-kit for all citizens that is adaptable to each senior's needs. The municipalities are responsible for organizing this service and choosing the right care kit for the seniors, especially those who cannot take an active part themselves. This will require detailed knowledge about the seniors as well as high technology competence.

Collaboration between municipalities. Large municipalities might be capable of starting early with welfare technology based services, while the small municipalities risk to lag behind. In order to assure the same services all over Norway, it is crucial that the municipalities collaborate. The Government should provide incentives for collaboration between municipalities.

Sanctions for municipalities that do not perform. In order to guarantee basic care provisioning for all, it is critical that the municipalities follow the rules and regulations that are set in this area. Municipalities who do not perform according to the rules and regulation, should be sanctioned.

Participation and inclusion

Visions

«We wish that care for the elderly in the future should facilitate for the individuals' participation and view seniors as a resource beyond being a receiver of services.»

«We want an elderly care which brings people together, so that we avoid boredom, loneliness and helplessness, and makes sure that individuals can live in a way which is natural for them.»

Recommendations for these visions

Facilitate technology for participation in society. The Government should prepare for use of technology that helps the individual to participate actively in society, well into old age. Examples are technology that measures health parameters at home, or tools for interaction, such as videoconferences.

More focus on preventative work. Stronger incentives for preventative work, early efforts and arenas for social and physical activities must be developed.

Frameworks, organization, roles and actors

Visions

«Well defined framework and rules that are concrete and expresses what kind of care for the elderly we want. “

«There is a need for new thinking concerning organization of care tasks. Family, neighbours, friends and the elderly themselves can to a greater extent function as “frontline”, on the users premises. The local community should to a larger extent facilitate social and informal meeting places.”

«Cross-professional cooperation: We must organize the health- and care service so that it motivates qualified personnel to work and develop themselves.”

«Health care education must include technology, but also focus on dignity and respect.”

Recommendations for these visions

Changing roles: encourage other groups in the health care services. Municipal and public health care services should be the foundation of the care services, but they should also encourage involvement of other groups, like family, neighbours, friends and the elderly themselves to a larger degree. Training of «care networks» or «volunteering networks» should be encouraged.

Arenas for cooperation and exchange of experience. There is a need for arenas for cooperation and experience- and knowledge sharing across sectors – locally, nationally and on the EU-level. This is relevant for decision-makers and care workers, but it should also include cooperation between technology developers and user organizations.

Open standards. The Government must create a long-term framework for standardised solutions, to stimulate innovation among the technology providers. This will enable freedom to choose the solutions best suited for a user’s need and help avoid lock-in to specific providers.

Education and training. There is a need for change in education and training of several occupations in the care sector in order to meet the new reality where technology is an integrated part of the work. The traditional education for the health- and care sector needs to include welfare technology. On the other hand, education in technology should also include health and care as a career option. One should also try to recruit people from the technology sector to work in the care sector. A new type of professionals; «technology coordinators» could be introduced.

Alignment with National policies

The visions and recommendations from the scenario workshop are well aligned with the policies, ambitions and plans in Norway today. However, specifics in the recommendations from the scenario workshop can serve as important input when further plans for the use of welfare technologies are being made, when the actual implementation in the municipalities is done and when the rules and regulations on a national level are being set.

Summary and concluding remarks

In the discussions, visions and recommendations there were specifically seven topics that can serve as important input to policy-making on both the Norwegian and European level.

Guarantee basic care provision

The workshop participants were concerned that all citizens, regardless of social status and where they lived should get the same offer of basic health care. Consensus centred around the government having a central role in assuring that a basic service that can be adapted to each individual's needs, is available and affordable for all.

The Norwegian welfare technology programme has an objective of providing care-kits in 80% of the municipalities by 2020²⁴. The ambition is to reach the largest municipalities first. This means that the goal is that 300 municipalities will implement welfare technology within 2020. This ambition should be higher, and the participants argued that the goal must be 100% coverage.

Introduce user-evaluations and sanctions of municipalities

The workshop participants recommended that the end-users evaluate to which degree the health care services meet their needs. They also recommend that municipalities who do not perform according to expectations, rules and regulations can be sanctioned.

Evaluation of the health care sector is in line with the political platform for the current government, that states that it will «introduce quality indicators for the nursing and care sector, based in part on the experience of users and their family members»²⁵. In line with the recommendations from the workshops, these quality indicators should also include evaluation of how the services use welfare technologies, based on the users and their family member's experience.

Such evaluations can specifically address the concerns that were revealed in the workshop, like the usability of the technology in the service, how the information and privacy is handled, if participation in society is being better catered for, if loneliness is avoided etc.

Requirement for the municipalities' use of welfare technology in their health care services is under development. The evaluation from the end-users should continuously be fed in to these requirements. The participants also recommended that the Ministry of health and care develop a frame-

²⁴<http://helsedirektoratet.no/helse-og-omsorgstjenester/omsorgstjenester/velferdsteknologi/nasjonalt-velferdsteknologiprogram-nvp/Sider/default.aspx>

²⁵ <http://www.regjeringen.no/en/dep/smk/documents/Reports-and-action-plans/rapporter/2013/political-platform.html?id=743014>

work for sanctioning municipalities that do not perform according regulations and end-users expectations.

Focus on user-oriented health care services

Most of the visions and recommendations were about how to meet the individual needs of the seniors. In addition, they emphasize the importance of solutions that support principles like self-determination, autonomy and freedom of choice and to facilitate participation and inclusion in social life. Many also expressed worries that use of technology might lead to more loneliness.

Even if the white paper and other policy documents emphasize that the solutions shall be developed in a user-oriented way, according to user needs, and otherwise according to these principles, the discussions in the workshop revealed a concern for whether this will be done. The participants recommended that these values and principles be used when it comes to practical implementation. They also proposed to include them in the evaluation of the service (see next section).

Encourage new actors

Welfare technology will create opportunities for new and different actors in the health care sector. While municipal and public health care services are seen as the foundation for care services, the participants also welcomed new actors, like the elderly themselves, friends and family, neighbours, volunteering organisations, patient networks and private service providers.

To think along new lines regarding the interplay between the public schemes and civil society, to explore the new forms of volunteerism is in line with the white paper «Future Care». However, even if policies are concerned with how to stimulate the volunteering sector, few concrete plans have been put into action. The workshop identified a need to carefully define what kind of tasks that are suited for which actors. Some tasks can easily be handed over to lay-people, but tasks requiring expertise and professional knowledge must be done by professionals in the health care sector.

While these new roles and tasks are being defined, there is a need for arenas for cooperation and experience- and knowledge sharing across sectors – locally, nationally and on the EU-level. This is relevant for decision-makers and care workers, but it should also include cooperation between technology developers and user organizations. The participants recommended that there should be incentives and arenas for all types of care workers, also the ones that might enter new roles such as family, friends, volunteering organisations as well as the technology- and service developers.

The participants were also concerned that relatives and volunteering organisations will get too much responsibility. For some, this can end up with a big workload, causing them to become overworked. How well new actors are being included in the health care services should be part of the continuous evaluation of the services.

Make simple and transparent ways to choose and reimburse welfare technology solutions

In order to choose the right technology and services for each individual's needs, there is a need for someone to approve, certify, organize and categorize the different technological solutions. There is also a need for simpler rules for and unbureaucratic management of the reimbursement. Simplicity in these areas is needed whether it is the end-user herself, relatives, the municipality or the health care services that makes the decisions or pay for the services and technologies.

In the policy documents there are intentions to improve and develop consistent ways to both choose and reimburse the usage of services using welfare technologies. However, there are not many concrete plans or initiatives in this area. The participants address this as a large concern for the successful implementation of welfare technologies in the health care sector. The Ministry of health care should therefore accelerate their efforts in making simple and consistent means to both choose and reimburse services using welfare technology. In particular, the Directorate of health should establish a national wide system to organise, approve and certify solutions for welfare technology.

Adapt education, training and competence building

As the roles and tasks of the health care services change, there is a need for the education and training to adapt accordingly. The recommendations from the workshop identified needs for education and training both for the employees in the sector, the seniors themselves and for «care networks» and «volunteering networks».

In the current plans there are several initiatives for the employees in the sector. Training targeting seniors, their relatives and the volunteers seem to be missing in the plans. To follow up the recommendations from the scenario workshops more resources should be directed to the training of the seniors, relatives and volunteers.

Universal Design

Ease of use of the services and the involved technologies is crucial for the implementation and use of welfare technology.

Most political documents address the importance of Universal Design. They are concerned with Universal design for making « homes and surroundings suitable for the elderly and people with reduced functionality». However, principles for user friendly solution and Universal design will also be important for less tangible issues like services and software that uses welfare technology. Requirements for universal design should be incorporated in all standards for services and products related to welfare technology (e.g., ICT, buildings and assistive tools). User friendliness and use of universal design should be included as one of the evaluation criteria in the proposed end-user evaluation of the health care services.

Appendix A: European Stakeholder Group

Name	Institutions
Prof. Dr. Heidrun Becker	Zurich University of Applied Sciences
Dr. Martin Denz	Swiss Association for Telemedicine & e-Health, Lucerne
Prof. Dr. Annemarie Kesselring	University of Basel
Prof. Dr. Pasqualina Perrig-Chiello	University of Bern
Cecar Rubio	Spanish Federation of Healthcare Technology Companies (FENIN)
Dr. Angelika Rosenberger-Spitz	City of Vienna, Bureau for Seniors
Dr. Georg Ruppe	Austrian Interdisciplinary Platform on Ageing
Csaba Engi	The Hungarian Association of Information Technology Companies (IVSZ)
Éva Hegyesiné Orsós	Member of eVITA national technology platform “Fill Years with Life” “Életet az éveknek” Hungarian Association of Pensioners’ Clubs
Dr. Rostislava Dimitrova	European Commission, DG Health and Consumers
Dr. Aoife Callan	Irish Centre for Social Gerontology, National University of Galway, Ireland
Siv Iren Stormo Andersson	Country Governor of Sør-Trøndelag, Norway
Ivar Leveraas	The National Council for Senior Citizens, Norway
Dagfinn Wåge	Head of Innovation at Lyse Energi AS, Norway
Kerstin Zimmerman	Austrian Federal Ministry for Transport, Innovation and Technology
Claude Collette	Administrator of Domivie, Belgium
Véronique Tellier	Director of the Walloon Observatory of Health
Zeno Veselik	ABC Works, Czech Republic

Appendix B: List of participants in the scenario workshop

Name		Type organisation	Organisation	Phase 1+2	Phase 3
Anders	Aarø	Representing seniors	Seniorteknologene	A	A
			Geriatris ressurscenter, Almas hus.	B	B
Sigrid	Aketun	Volunteering sector	Helseetaten Oslo kommune	F	F
Maja	Arnestad	Local decision makers	Arnestad Assistanse	D	D
Mari S.	Berge	Researchers	Høgskolen i Bergen	F	F
			Helse- og sosialkomiteen i Oslo bystyre	C	C
Per Henry	Christiansen	Local decision makers	og bydel Nordre Aker	C	C
Jo	Craner	Working in the sector	Norsk Sykepleierforbund	B	B
Gro Anita	Fosse	Working in the sector	Kristiansand kommune	A	E
May-Hilde	Garden	Volunteering sector	Nasjonalforeningen for folkehelsen	D	B
Anne	Hanshus	Representing seniors	Pensjonistforbundet	E	A
			Høgskolen i Bergen, THOM (Teknologi, Helse og OMsorg) og videreutdanning i Omsorgsteknologi	F	F
Grete Oline	Hole	Researchers		E	C
		Industry / service providers	Visma	A	B
Leif-Inge	Jakobsen	Local decision makers	Kirkens bymisjon	B	A
Anne Marie	Johansen	Volunteering sector	Kirkens bymisjon	D	B
Øyvind	Jørgensen	Industry / service providers	Visma Software Labs AS	A	A
Christian	Kavli	Researchers	COWI AS	E	C
Ståle	Killie	Representing seniors	Statens seniorråd	A	B
Ivar	Leveraas	Industry / service providers	iGlobalTracking AS	B	D
Tor Jo	Meyer	Representing seniors	ITI	B	F
Stefan	Mitchell-Trading	Volunteering sector	Kirkens bymisjon	B	A
Inger	Molvik	Volunteering sector	Kampen Omsorg+, Kirkens Bymisjon	C	A
Marit	Müller-Nilssen	Volunteering sector	Nasjonalforeningen for folkehelse	E	E
Synnøve	Mæhlum	Working in the sector	Trondheim kommune, Enhet for ergoterapitjeneste	B	F
Toril	Nervik	Industry / service providers	Tieto Norge avd Velferd	E	B
Ellen	Normannseth	Industry / service providers	M TRADING	C	F
Henrik	Olsson	Working in the sector	Oslo kommune	A	C
Anne Berit	Rafoss	Representing seniors	SeniorTeknologene, Tekna	E	D
Gudrun Q.	Rognerud	Industry / service providers	Vakt og Alarm AS	F	F
Øivind	Solli	Local decision makers	Bjugn Kommune	D	C
Siv Iren	Stormo Andersson	Researchers	Senter for omsorgsforskning	C	
Laila	Tingvold		Ål kommune, Utviklingssenter for sykehjem i Buskerud	A	E
Oddveig	Tveitehaug	Representing seniors	Pensjonistforbundet	A	F
Sverre	Worum	Representing seniors	Eldreaksjonen		
Kari Bruun	Wyller				

Appendix C: Summary of visions and policy recommendations from the workshop

Vision A1: “Well defined framework and rules which are concrete and expresses what kind of care for the elderly we want. “

Choices, policies and/or instruments needed for vision A1

1. Cooperation and communication across sectors
2. Common communication and coordination between volunteers, public and private actors.
3. Frame conditions being decided on EU-level.
4. Build on experiences from other countries, such as Ireland, England and Scotland
5. Support schemes in some form to stimulate use (and preparation of) common standards and demands
6. Technical and administrative systems that “talk with each other”
7. Avoid predetermining and putting unnecessary limits on technological development

Vision A2: “Technology as an instrument for securing health, activity and independence through old age.”

Choices, policies and or instruments for vision 2

1. That will benefits the elderly cognitively, mentally, physically and socially is universal for all age groups. Even young age groups need the arrangements and resources that are being developed and implemented.
2. Strengthen raising of competencies and dissemination of information for a series of groups (public workers, private co-operators, health personnel, bureaucrats, relatives, society, users)

Vision B1: “Care services and technology is delivered according to the need, demand and capacity of the individual. The public sector has an important role as coordinator, and must be available and predictable. “

Choices, policies and/or instruments necessary for vision 1

1. Training the elderly so they can make informed decisions.
2. Health services must perform evaluations, in cooperation with the individual in question.
3. A strong public sector as the foundation, supplemented with more technology for those who wants it, and additional services provided by volunteers.

Vision B2: “There is a need for new thinking concerning organization of care tasks. Family, neighbours, friends and the elderly themselves can to a greater extent function as “frontline”, on the users premises. The local community should to a larger extent facilitate social and informal meeting places.”

Choices, policies and/or instruments necessary for vision B2

1. Municipal and public health care services must be the foundation, but also work to involve other groups to a greater degree.

Vision B3: "Health care education must include technology, but also focus on dignity and respect."

Choices, policies and/or instruments necessary for vision 3

1. The education must be able to meet the technological development that is happening, but at the same time focus on care and organization of the sector.

Vision C1: "We have a vision of a society for and with everyone, where everyone provide what they can and receive what they need. Everyone shall experience having control over their own lives (be the subject in one's life) independent of need, and, derived from the principal of user management, receive the help they need at the place where they are able to, and want to live."

Choices, policies and/or instruments necessary for vision 1

1. Barrier against the vision: Technology, which in daily life is not user friendly and/or is excluding. (For instance telephones, which are so advanced that one is not able to communicate through them, or web pages with too small fonts).
2. Politics: Politicians should put demands on universal design/universal standards for buyers and technology providers.
3. In addition: We are going to need "digital janitors" who "clean up" in the diversity of technologies, chooses the right technology for its purpose and makes sure it is maintained properly. It is also important to ensure functional facilitation.

Vision D1: "Technological solutions must be facilitated for the individual, so that the user gets the help he/she needs and so that health personnel can perform effective and proper services."

Choices, policies and/or instruments necessary for vision 1

1. The Government should make sure there is better interaction between the state and the municipal sector, when it comes to organization and technology.

Vision D2: "We wish that care for the elderly in the future should facilitate for the individuals participation and view seniors as a resource beyond being receivers of services."

Choices, policies and/or instruments necessary for vision 2

1. The Government should facilitate technology, which helps the individual to participate actively in society, well into old age. For instance through technology, which measures health parameters at home, or tools for interaction, such as videoconferences.
2. Is it possible to facilitate the training of health/care to those with an education in technology, and not just the other way around? Can this inspire educational institutions? Could possibly the minister of education do something about this?
3. Training of those in care networks

Vision E1: "We want an elderly care which empowers the elderly and give them opportunity and duty to make choices which impacts their own situation."

Vision E2: We want an elderly care, which brings people together, so that we avoid boredom, loneliness and helplessness, and makes sure that individuals can live in a way which is natural for them.
"

Vision E3: "We want an elderly care which makes individuals able to utilize their recourses maximally, and where the technology helps people live as independently as possible."

Choices, policies and/or instruments necessary for visions E1, E2 and E3

1. The elderly must be able to utilize their life potential. We must have respect for independence, and responsibility for vulnerability.
2. The concept “welfare technology” must be expanded to also include everyday technology, such as simple washing machines and a vacuum cleaner, which helps people better manage themselves.
3. The municipalities must follow-up regulations and other documents. There must be possibilities for sanctioning municipalities who do not perform according to the regulations.
4. Stronger incentives for preventative work, early efforts and arenas for social and physical activities must be developed.

Vision F1: “**Safety and coping:** Development and use of technology should be a means and not a goal in itself in order to enable elderly to understand and cope with their situation at home as long as possible.”

Choices, policies and/or instruments necessary for vision F1

1. Development of products and services according to users’ needs.
2. The state must create a framework and have foundational guidelines (think long term and demand open standards)
3. Arenas for cooperation (technology developers and user organizations)

Vision F2: “**Cross-professional cooperation:** We must organize the health- and care service so that it motivates qualified personnel to work and develop themselves.”

Choices, policies and/or instruments necessary for vision F2

1. Building competences that raises the awareness of care personnel and technologists, so that the result is a functional technology.
2. Technology coordinators.
3. Cost-benefit must be evaluated regularly.

Concluding remarks on phase 3

1. Coordination is important in all areas (technology, volunteering, and care/services)
2. Are we talking about elderly or those who need care services (including many young people)?
3. Not much focus on cold technology vs warm hands. Everyone takes for granted that technology is in place in some way, even though it is not specifically mentioned.
4. The scenarios did not discuss immigrants. It could have been interesting to include those.
5. What role do the elderly themselves play in the care? Many participants stressed that the elderly themselves must be able to participate in society, and that technology’s role is as a means that can help realize this goal. Training of elders, relatives and health workers was seen as important.
6. It must be considered that technology also can lead to several problems, related to for instance privacy, loneliness, isolation, lack of closeness and dignity.