Enacting urban citizenship: Harmonies and Dissonances in well-being, health and security The Hague case of technology driven civic participation of elderly residents:
The Izi project

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Session:

Urbanisation and ageing are identified as "two inexorable and intersecting demographic trends" in the 21st century (McGraw Hill Financial Global Institute 2016:2). In 2018, 55% of the global population resided in urban areas, this figure rising from 30 per cent in 1950 and predicted to increase to 68% by 2050 (United Nations 2018). Europe has the highest proportion with 25% of its population being 'aged' this figure predicted to 35% in 2050(United Nations 2017: 11; 13). The elderly increasingly contribute to the urban population; while the proportion of the elderly in the urban population in the OECD countries was 7.7% in 1950, and it rose to 7.8 % in 2010 and is predicted to increase 25.1% in 2050, while 43% of all the persons over 65 reside currently in cities (OECD 2015). While these trends reflect positive achievements in relation to human development they also pose challenges to local governments to provide the necessary support structures and services to sustain the wellbeing of its citizens, including the elderly. The OECD has also emphasised the need to increase public health expenditure on health and social care in the OECD, redesigning of infrastructure to suit the elderly, as well as improvements in social networks, access to services and affordability of housing (OECD 2015). Dealing with these challenges are directly in line with the 2030 Agenda for Sustainable Development, which emphasises no one should be left behind and all should be provided opportunities to fulfil their potential in dignity and equality.

The paper develops the concept of urban citizenship, including its rights to social justice, inclusion and democratic participation as valid and sustainable norms of 'age-friendly' cities that need to be introduced in all relevant projects and programmes of local government. It discusses an innovative pilot project in the City of The Hague dealing with the promotion of eHealth through technology-driven civic participation of elderly residents. The concept of eHealth is associated with the use technology, such as smart electronics and especially the Internet to promote health care and participation of the different stakeholders, including the patients in decisions and processes on health care. The Dutch government initiated the use of ehealth on the basis of a study undertaken and recommendations by De Raad voor de Volksgezondheid en Zorg (Council for Health and Care) in 2002). The study was relevant for the elderly on several scores including growing demand and costs for care

due to the increasing life expectancy, the reforms in hospital care and encouraging people to live independently at home for as long as possible, and taking responsibility for the decisions that affect their lives. Municipalities were stimulated to undertake ehealth initiatives, and the City of The Hague, pioneered one such experiment to support the elderly in the Moerwijk department. This paper identifies the main stakeholders, forms of technology and the processes involved, the potential and limitations of the innovations, and benchmarks the experiment with regard to key aspects of urban citizenship. While the ehealth programme was developed along three lines: healthy and long and independent living at home, e-youth care and big data, this paper deals with the healthy and long and independent living at home programme that has been developed and bears the name ' Izi'.

Urban Citizenship and Positive Health

Studies have shown that the elderly in the European Union experience social exclusion, albeit in different degrees, with regard to material and social rights, as well as social participation and normative integration (Gerda Jehoel-Gijsbers and Vrooman 2008). As a means of countering these problems, the World Bank has emphasised the need for an 'inclusive cities approach" to counter the multiple forms of exclusion generated through spatial, social and economic disparities in urban areas that could even assume discrimination on the basis of socio-economic status, as well as age, gender and other identities and the need for appropriate policies (Shah 2015). The World Health Organisation has also identified 10 priorities to promote 'healthy ageing', including establishing a platform for innovation and change and a regular Global Forum on Healthy Ageing' to share and "showcase innovative practice, successful pilots and scaled actions" (WHO 2017:4).

At the same time, new research suggests that an individual's wellbeing or happiness is not reflected just in the absence of physical illness, but also the ways in which they related to their environment and relationships in society. These factors call for more comprehensive and targeted approaches towards ensuring social inclusion and social justice for all residents, including the elderly in cities. An innovative approach was developed by Martin Seligman, who used pioneered the approach to actively promote positive health through targeted intervention that could, as, suggested by Martin Seligman, lead to "increased longevity, decreased health costs, better mental health, and better prognosis" (2008:4). From his perspective positive health was the enhancement of the "group of subjective, biological, and functional assets" that lead to positive health outcomes (Seligman 2012). The concept of positive health has stressed the significance of 'subjective, biological and functional assets that actually increase health and illness targets".

The World Health Organisation in its guide captures these different aspects on what it has termed as 'Age –friendly cities', urging the development of "active ageing by optimizing opportunities for health, participation and security in order to enhance quality of life as people age," (2007:1.). These include (2007:5):
- Recognizing the wide range of capacities and resources among older people;
- Anticipating and responding flexibly to ageing-related needs and preferences;

- Respecting their decisions and lifestyle choices;
- Protecting those who are most vulnerable;
- Promoting their inclusion in and contribution to all areas of community life

While the above concepts have focused on national and local welfare policies, it is necessary they are compatible and underscore the rights of the elderly to urban citizenship. Lefebvre's concept of the Right to the City has informed several discussions that suggest that the elderly, like other residents should have the human and development entitlements of urban citizenship. Purcell(2003) for example, focused on the Right of the City as reflected in the involvement of local residents in the decisions that affect their lives. Harvey (2008) suggested that the Right of the City was a human right which went beyond accessing the resources of the city. It was rather a political right, linked to freedom, democratic participation and the possibility of reshaping cities and the people living in it.

The term eHealth appeared for the first time in scientific literature in 1999 and was linked to the use technology, such as smart electronics and especially the Internet to promote health care and participation of the different stakeholders, including the patients in decisions and processes on health care. [1] An important implication is that unless people, and particularly the target group such as the elderly, have the necessary skills to use these technologies, there could remain gaps in terms of the effectiveness of such interventions. A useful definition was developed by Cameron and Skinner (2006) to ehealth literacy as "the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem." According to them, eHealth literacy " combines facets of different literacy skills and applies them to eHealth promotion and care". They identify six core skills that are necessary for it to be effective. These are traditional literacy, health literacy, information literacy, scientific literacy, media literacy, and computer literacy. According to Eysenbach et al (2011) eHealth constitutes electronic tools which can be used by patients, informal caregivers, healthy consumers, and health care providers to improve their health and treatments (2011). While the numbers in the population familiar with and using internet and other forms of ICT have increased remarkably over the last decades (Kummervold et al 2007), it is still not clear the extent to which the relatively older generations, who comprise the elderly have the relevant eliteracy skills, or have the motivation to develop these skills.

Many models have been developed to asses eHealth solutions. A more comprehensive framework has been presented by Eysenbach (2001). He describes "10 e's" that are characteristic for eHealth. These are listed below, with a brief explanation. These ten characteristics are not always proven, but are often goals that are tried to be achieved

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[1] . Mapping the term showed that there is no real consensus on what precisely it meant (Pagliari et al 2005), and several authors, as well as organisations such as the World Health Organisation have tried to develop and evaluate its usefulness for health care interventions.

through eHealth. To achieve these goals, it is important that certain groups work together to bring an eHealth application to a success.

1. **Efficiency** - one of the promises of e-health is to increase efficiency in health care, thereby decreasing costs. One possible way of decreasing costs would be by avoiding duplicative or unnecessary diagnostic or therapeutic interventions, through enhanced communication possibilities between health care establishments, and through patient involvement.

2. **Enhancing quality** of care - increasing efficiency involves not only reducing costs, but at the same time improving quality. E-health may enhance the quality of health care for example by allowing comparisons between different providers, involving consumers as additional power for quality assurance, and directing patient streams to the best quality providers.

3. **Evidence based** - e-health interventions should be evidence-based in a sense that their effectiveness and efficiency should not be assumed but proven by rigorous scientific evaluation. Much work still has to be done in this area.

4. **Empowerment** of consumers and patients - by making the knowledge bases of medicine and personal electronic records accessible to consumers over the Internet, e-health opens new avenues for patient-centered medicine, and enables evidence-based patient choice.

5. **Encouragement** of a new relationship between the patient and health professional, towards a true partnership, where decisions are made in a shared manner.

6. **Education** of physicians through online sources (continuing medical education) and consumers (health education, tailored preventive information for consumers)

7. **Enabling** information exchange and communication in a standardized way between health care establishments.

8. **Extending** the scope of health care beyond its conventional boundaries. This is meant in both a geographical sense as well as in a conceptual sense. e-health enables consumers to easily obtain health services online from global providers. These services can range from simple advice to more complex interventions or products such a pharmaceuticals.

9. **Ethics** - e-health involves new forms of patient-physician interaction and poses new challenges and threats to ethical issues such as online professional practice, informed consent, privacy and equity issues.

10. **Equity** - to make health care more equitable is one of the promises of e-health, but at the same time there is a considerable threat that e-health may deepen the gap between the "haves" and "have-nots". People, who do not have the money, skills, and access to computers and networks, cannot use computers effectively. As a result, these patient populations (which would actually benefit the most from health information) are those who are the least likely to benefit from advances in information technology, unless political measures ensure equitable access for all. The digital divide currently runs between rural vs. urban populations, rich vs. poor, young vs. old, male vs. female people, and between neglected/rare vs. common diseases.

Working together with stake holders   is a key indicator for a successful implementation of eHealth. Ganesh (2004) distinguishes three important groups of stakeholders who must work together to bring a technology/eHealth application to a success.
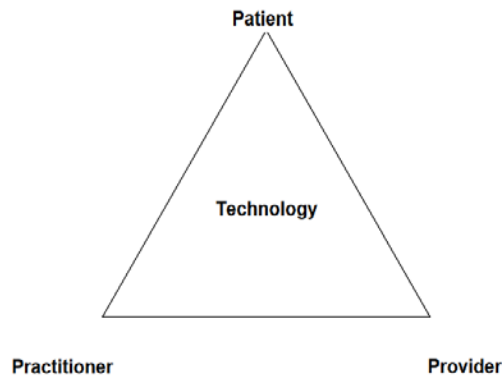

Fig 1: The Health Triangle

Figure 1. Source: Ganesh (2004)

The first stakeholder is the person who receives medical diagnosis, treatment, guidance or care from a healthcare provider. The contact between the patient and the health care organization initiates the care process. The patient is therefore also the most important party in the health care system. Patients should have knowledge of basic health care and access to specific information relevant to his/her conditions. In addition, he/she must be aware of the health care system and which possibilities are available within this health care system (Jai Ganesh, 2004: 43). The patient must have these conditions so that he/she knows whether he she is dealing with an ailment or condition that needs to be treated, and where he should go to have this treated.
The second stakeholder is the practitioner as the (professional) caregiver. The patient comes into contact with a doctor (general practitioner or specialist) for consultation, medical examination, treatment or for monitoring. In the world of (e-) Health, it is the practitioners who are engaged with clients or other professionals in providing care (services). A practitioner must have access to the best and most up-to-date medical knowledge regarding patients (Jai Ganesh, 2004: 43).
The third stakeholder can be classified in a group (providers) which includes different types of organizations that provide service: health care organizations, hospitals, medical and academic research institutions, medical (diagnostic) equipment providers, insurance companies, Ministry of Health and pharmaceutical companies (Ganesh 2004,:43). A provider must have the necessary expertise, so that he can promote and support a healthy life and social customs among her clientele.

Ehealth in the Netherlands

The Hague is home to approximately 530,00) residents. More than 73,000 people over 65 live in The Hague and this group will grow in the coming years. There were several

concerns that paved the stimulation of ehealth initiatives in The Netherlands. Key among these was

- The growing demand for care due to the increasing life expectancy, coupled with increasing co-morbidity starting at an increasingly younger age with dementia, loneliness, obesity, COPD, cancer, cardiovascular disease being the most common chronic diseases.
- Increasing expenditure in the care domain.
- Reduction of hospital care as a result of reforms in the care sector, with the policy aiming allowing people to live independently at home for as long as possible.
- Policy shift towards increasing self-management and own responsibility (participation society).
- Technology proves to make an important contribution to health, participation and quality of life: Fast and accurate diagnosis and care, self-management, self-measurement, telemedicine, safety, social contacts, good forecasting models can work towards preventive policies and cost saving practices.

It was recognised that, in spite of the advantages indicted about, it was necessary that following challenges were also taken into account and solutions found.

- Standardization and scaling up initiatives
- Data storage and data sharing
- Privacy, data security
- Tackling insufficient evidence-based effects
- Short turnover rate of smart technology products
- High development costs
- Inadequate collaboration
- Inadequate technical skills, knowledge and familiarity among healthcare professionals and low-literate population

In 2013 the first eHealth monitor was presented by Nictiz to give insight into the state of the art of eHealth. The monitor showed that we have good initiatives in the Netherlands, but there is still a long way to go. Municipalities were stimulated to make a start with eHealth. The city of The Hague came with a swift response. After an extensive analysis of the social and political context in 2014, an ICT and Care program was drawn up, in which the most urgent issues were linked up. It was in line with The Hague becoming an 'Age-friendly' city that the Izi project was initiated. The vision and objectives of the experiment, as given below, are to support the elderly to continue their lives with care and health, these goals being in line both positive health and urban citizenship

Your own home is the best place to live. It is familiar and often you have there already built up a whole history. If we could choose, we would like to stay in our own home for as long as possible. The municipality and professionals in the social domain recognize this and has therefore initiated an initiative that facilitates residents from The Hague to be able to continue living in their own homes in a pleasant, safe, healthy and independent manner. This project is

called 'IZI' (implementation of Smart Healthy Living, pilot Steenhouwersgaarde, The Hague).

The Izi project is experimenting on a small scale with (technological) solutions, to find out which solutions work and attract residents, so that they can then be rolled out wider in the city. This is done along three tracks: strengthening care and well-being, supporting participation and improving the home and living environment. These policy lines are fairly broad and therefore seven sub-goals have been distinguished that give direction to the solutions that are dealt with within Izi. Important examples include:

- Use of health technology: 'Hagenaars' get sensors-devices to monitor their health
- Strengthening care and well-being by setting up informal and formal support systems
- Sense of safety: giving residents the confidence that they can safely open the front door, or that if they fall someone gives support;
- Designing participation within the residential institutions: Doing fun things together with your neighbors and solving problems.
- Sustainability: means to limit water and energy consumption.

Leading principles

1. Working in a demand-driven manner
The activities within the project are guided by the wishes and the situation of the users. This 'Demand-driven working' is the most important principle of this. It provides a concrete interpretation of the project group's wish to 'focus on the resident'. The reason for this principle is the recent experiences with ICT projects (specifically in domostics/eHealth). Here limited influence of users led to the purchase and/or development of products that, for example, do not meet their needs or the situation of the user. The products are then not used and have no social added value.

By working demand-driven, the personal privacy of residents and data can be incorporated into the project. . If data is collected about the residents, each separate technology, pilot or solution explicitly asks for permission with an explanation of the type of data that is collected and the possible implications (Data Protection Act, AVG). In addition, residents can at all times request information that is traceable to them and/or generated by them. If they wish, these individual data will be destroyed by all parties involved. This does not apply to aggregated data, because these cannot be traced back to them.

2. Roll-out
The project is experimenting with (technological) solutions that should offer added value for residents and for society. An important risk is that such a solution ends up on the shelf as soon as the project funding stops, for example because it is too expensive to roll out more broadly. This occurs regularly in pilot projects. A guiding principle of IZI is to embed proven solutions in a city wide provision. This means that only products and concepts are selected that have a good chance of being effectively

picked up by (a collaboration of) parties after the project has ended. The result is solutions that can be rolled out widely and thus fulfill their promise of value. This could include:
• a (cooperation) protocol;
• instruments and organizational structure that fit in the living environment of the residents, such as user community, purchasing/maintenance cooperative;
• social innovation to bind residents.

3. Quadruple helix stakeholder
The project is carried out according to the citizen centered quadruple helix, which means that governments, market parties, research parties and residents' organizations work together in equality. Each party contributes and each party has influence. This means that not one organization is the 'boss' but that joint commitment is strived for and each of the parties is committed to the continuity of the project.

4. Iterative approach
'No attack plan survives contact with the enemy'. This means that the project cannot (and therefore does not) plan in detail. Instead, it is used in an iterative way, which means that new information and experiences can affect implementation in all aspects of the project. Also what has already been established. For example: if residents have little interest in technology, the plan must be adjusted accordingly. Even if something has been announced, even if decisions have been made about it. The alternative are project results that are 'formally' successful, but are not used in practice. An iterative approach fits well with the innovative nature of the project, where the 'what' and 'how' are not clear beforehand.This form of working is intensive and requires trust, alignment, excellent knowledge management and a clear decision framework. It requires those involved to pay attention, know and respect each other's interests and business objectives, correct each other and accept changes.

Social added value through use

The project focuses on solutions that can deliver the promise of social added value. This means that they actually meet a need of residents and are therefore also used. The choice and evaluation of measures is explicitly tested against (the expectation of) use. Gadgets that are fun because of their novelty (in the jargon: 'gimmicks') are avoided wherever possible.

Innovative
In addition to standard technology and services, the project also invites innovative solutions for the needs and wishes of residents for whom ready-made products are not yet available; or whose available products/services do not meet the criteria (demand-driven, roll-out, etc.). The innovative strength of knowledge parties and developers is used to develop new solutions for services or products together with residents. With this we organize a 'living lab' in which the selection of solutions must naturally meet the same criteria.

At the same time, we strive for social innovation in the way solutions can be found and secured, for example in the form of user communities, purchasing/maintenance cooperatives, collectivation, new financing models, etc.

Open standards and open source

ICT development is fast and decentralized. For this reason, it is a requirement that the technology uses open standards, so that it can be connected to other systems. The intention is to prevent vendor lock-in and to make the information in the systems (technically) easily accessible to others than the initial supplier. In the selection of technology, a strong preference is also given to the use of open source software.
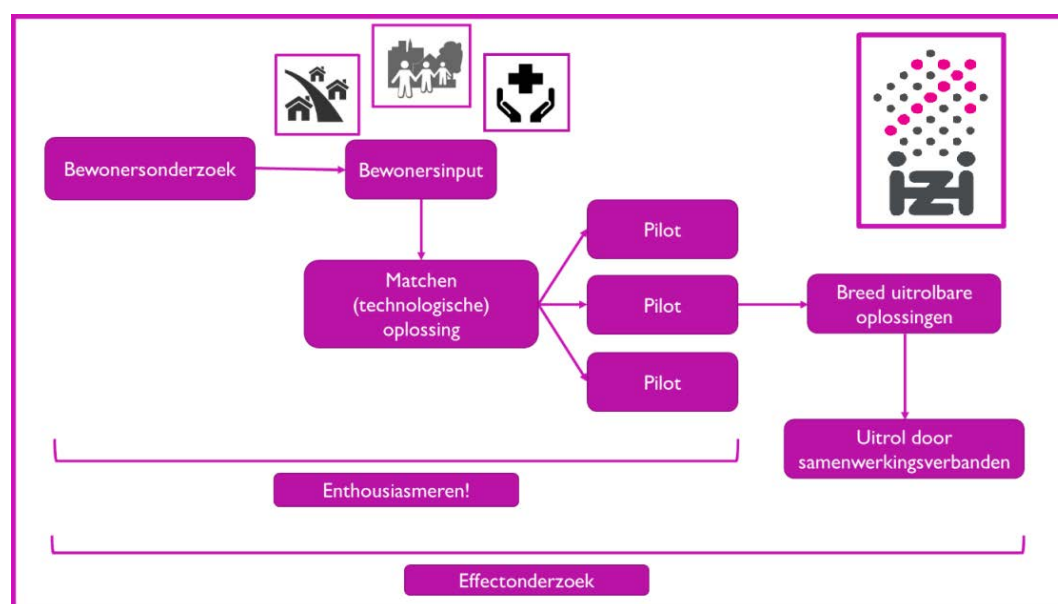
 No vendor-lock-in

A further requirement in the choice of technology is that the resident remains free of vendor lock-in. This goes beyond the use of open standards; matters such as the ease with which a resident can switch suppliers are also involved. For this reason we choose the following guiding principles in our cooperation with industry and suppliers:

- preventing vendor lock-in/preferred supplier status;
- providers (technology producers, suppliers, providers of care and welfare) who can provide extra innovative strength can, on certain components, be added to the (executive) project;
- preference for suppliers who want to invest or want to make their products available in kind;
- open standards and open source software.

Open communication

This project aims to provide social added value. The sharing of results with both the cooperation partners and with third parties is the starting point (see Chart 2 below) where discussion takes place on on what is and is not possible.

Chart 2

The Process and Implementation of the Pilot

The pilot project started in February 2016 with the intention of its completion in three years. At the start of the project in Autumn 2016 a resident- survey mapped the needs of residents with regard to living longer with specific attention and the possible use of technology but also for other forms of support. To this end, more than one hundred interviews with residents were held. With these residents, in-depth workshops were held in knowledge workshops aimed at the implementation of their needs. If desired, representatives of municipal services were involved if other forms of support are involved. At the same time, an inventory was made of potential suppliers and technology. Collaboration with other parties in the neighborhood that provide care and welfare to residents was sought and formalized.

Subsequently, group meetings (cooperative workshops and design tables) specifically looked at which technology or support can play a role in fulfilling the needs expressed by residents. The collective experiences and wishes of the residents were mapped out in three knowledge workshops (thinking power sessions) prioritised applications for (a) Mobility, tools and facilities (transport and accessibility inside and outside) (b) Home automation, home technology, comfort, security, independence (c) To be able to find, learn, learn skills (personally in combination with e-learning) (d) Health support and monitoring (aids for deafness, poor vision, diabetes monitoring, blood pressure measurement, etc.) and (e) Community, inside and outside SHG, personally in combination with digital, meaningful activities.

The use of appropriate technology, of both an active and passive (detection) nature was key in the 'Experience Home'. One of the preconditions was that the technology was discrete, ensured privacy, while being safe and fast. The choice of the technology was based on the identified needs of residents (interviews) and formulated solutions (workshops). Other criteria for selection of technology included that it be (a) Realistic (feasible, affordable) (2) Safe (including privacy) (3) Integral (4) Scalable/can be rolled out (5) Sustainable (6) with Social added value and (7) Innovative/original.

All these factors led to the establishement of the 'Experience home' or 'model smart home', the purpose of which was to show examples of technology in a regular home to residents, in order to give them the opportunity to try them out and as a means of communication for other interested parties in the project. The experience home is set up in one of the apartments of the complex (Steenhouwersgaarde 15E). Residents think along about the design, selection of technology (based on interviews and workshops) and use of the home (reception committee). The Experience House is an important tool for creating enthusiasm and information about the possibilities of technology. Residents, but also the (directors/aldermen) housing cooperation partners can 'stay ' for a day, to experience what it is like to live among all kinds of technical gadgets. They can share their experience with, for example, video blogs. An initial survey showed that the residents were enthusiastic about a model smarthome ('Experience House').

Subsequently, a number of pilots were set up with interested residents, for example to experiment with technology, to adapt it to the individual situation of residents and

to organize cooperation with other parties (care, welfare, sustainability, safety). It is useful not note that the starting point and prioritiy was given to having a home that met the needs of the residents, a space that was 'smart and warm' and not 'futuristic' in form. Attention was given to standard equipment that is available or can be adjusted via housing corporation. The aim was to enable residents to use the technology for a longer period of time by focusing on usability, satisfaction and integration. In addition, there is room to try out new, experimental, supply of technology or to come up with completely new solutions. Sometimes technological solutions are not necessary, for example, the connection between residents can be a useful way to live healthy at home. While details of the survey can be found in the Annex, the main outcomes demonstrate that there was enthusiastic support for the idea of providing ehealth support and care. It is significant under these circumstances that 98% already use technology, although new technology is widely defined, from elevated toilet, interactive TV to smartphone and video calling.

The project has brought together a unique hub that connects knowledge centres, governments, care and welfare organizations, entrepreneurs and residents in the field of health care innovation. In these ways, The Hague has stimulated and facilitated knowledge sharing and collaboration on the implementation of healthcare technology.. While the residents were happy with their material conditions (a score of 8.1) was given, there were also financial concerns, with nearly a half of them expecting life to become more expensive particularly with the reduction in pension, AOW less, higher healthcare costs, maintenance more expensive. They indicate however that they live sparingly and pay attention to the costs. They were particularly happy with the technological solutions for improving their well-being, particularly threshold aids, video intercom, remote control light switch, self-driving carOn the whole the residents who participated in this research for interventions were positive about this approach and indicated this in the survey. At the same time, they also feared significant changes in their health, mobility, social contacts and happiness. The active involvement of the elderly in these processes, and incorporating their ideas and experiences at an early stage reflects the commitment of the project (and the Municipality) to the principles of urban citizenship

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The residents were, on the whole, happy with their social contact a Social contacts:
1. Residents give the score of 7.7 for their social contacts. The most stable contacts are with children and grandchildren.
2. 53% expect changes in this domain. Especially that people from the area fall away.
3. Transport and mobility are important to maintain contacts.
3. Examples of solutions that are presented for social contacts are: transport services, social media, Skype, Facetime, Wordfeud. Face to face contact remains important.

Daytime activities:
1. Residents give the score of 7.7 for their daytime activities.
2. 45% expect changes in this domain. Due to less mobility they have to give up things (babysitting, volunteering, cycling, etc.), more care for partners (full day, heavy) and fear of loneliness.
3. Examples of daytime solutions are: more activities in the complex, delivery services, computer games, keeping in touch and making contact. For technological solutions one thinks of the robot vacuum cleaner, PC with possibilities for live chatting and video calling, electric bike.

Luck:
1. For residents, the residents rate the score of 7.8.
2. 30% expect change in this domain. Especially because of illness of himself or partner and reduction of mobility. It is difficult to deal with this; loss of partner weighs the heaviest.
3. Examples of solutions for quality of life and mobility are: electric bicycle, tricycle, mobility scooter, rollator.
4. The computer appears to be nice to maintain contact and is an extra, but certainly not a replacement for face to face contact.

Terms and conditions of modern technology:
Residents who are open to modern technology set the following requirements:
1. Ease of use.
2. Equipment must explain itself (= voice-controlled, sensor-controlled).
3. One should not delve into how it works (manual).
4. It may not be too expensive.
5. Privacy and security (plays in the background).

How creative is the resident for modern technology:
When price does not play a role, the technological possibilities that one can think of suddenly become a lot more varied:
• Cameras for indoors and outdoors
• Robot swimmer
• Arm supporter to get more power
• Lowered trams
• Tone (digital thermostat)
• Personal alarm.

Results Atelier Health
Important:
• Move, continue as long as possible, stay fit
• Good nutrition, more environmentally conscious
• Can alert if necessary
• Preventive health research
• Good (and personal) contact with the doctor
• To be able to see and understand patient files, self-determination.
Solutions:

- Sports and exercise (apps, exercise bike with functions), yoga, walking club
- Self-monitoring (blood pressure, heart rate, sugar), pain monitoring
- Medication alarm
- Personal alarm
- Patient file via computer
- Image contact with care providers, in combination with personal contact.

Results Atelier Material situation:
Important:
- Safety, knowing who comes in
- Accessibility, on the balcony can
- Being able to get off the ground
- Clean neighborhood, monitoring who is leaving a mess
- Use bath and toilet
- Sustainably deal with our world.
Solution:
- Video intercom with screen on your phone or tablet, remote control
- Smart solution for a balcony exit
- Camera surveillance
- Brackets, raised toilet, seat in the shower, jib cranes
- Solar panels, energy saving via thermostat, LED lighting
- Boiler, gas stopper, induction hob
- Fire escape
- Higher countertop, electrically adjustable countertop
- Smart scooter, charging points
- Extra row of tiles on the other side of the street
- Environmentally friendly applications
- IronHand.

Results Atelier Social relations:
Important:
- Good interaction with the neighbors
- Visit and get a visit
- Better to help than to be helped
- Good condition and sport
- Contact with the children and grandchildren
- Maintain mental health, keep expanding the mind
- Combating loneliness.
Solutions:
- Electric and self-driving means of transport, IoT
- Community apps, like-minded people can find something to do together
- Sports and exercise applications
- Share mobile phone, iPad, smartphone, photos and videos, Skype
- Tools to maintain / support memory and day structure
- eReader, offer to broaden mind, digital games, quizzes
- Exchange credit system for mutual chores (Care Miles).

Results Atelier Daytime activities:

Important:
- Daily things, cleaning, cooking food, grocery shopping, odd jobs
- Volunteer work
- Keeping busy, reading news, staying with us
- Meet each other, 'pub' within walking distance '
- Celebrate life.

Solutions:
- Grocery service
- Making household easier, robotic applications
- Mutual task group on computer
- Games with competition
- News online
- Computing
- Theater visit, in real and virtual
- Looking at documentaries
- Lessons in technique, computing
- Indoor activities, when working outdoors is difficult, virtual applications.

Collective wishes / ideas:
- Video intercom, tailor-made solution
- On / off balcony, municipal advice (accessibility)
- Making window openers / turning mechanism, electric
- Threshold bathroom, make flexible
- Doormat is lower than corridor, place plate underneath
- Door spy at height, digital doorbell
- Making ventilation grilles difficult to make electric
- Maintenance floor covering gallery, do it yourself?
- Elevated toilet, standard
- Boiler is old, renew
- Window above the front door is closed, open (in connection with light)
- Ventilation, fine adjustment
- Batteries fire detectors, replaced by?
- Meter box: what can it do? When new group? At whose expense?
- Tone (digital thermostat): is this possible in every home? Is there a single energy supplier?

eHealth applications, called by residents:
- Question helpers
- Online marketplace
- Domotics in and around the house
- View patient file and care plan yourself
- Medical apps
- Medication help
- Image calling
- Make an appointment with a doctor via computer.

Future Directions

The long-term effects on the living conditions of residents will be evaluated by the Municipality in collaboration with an external research party (Leiden University Medical Centre/LUMC). These outcomes will also examine how the positively evaluated technology can be rolled out over in The Hague and/or can be used structurally (safeguarding) within the existing or new structures. All relevant parties will be included in exploring how the selected technology can be secured (after the project has ended) and rolled out over other parts of the city. These include Residents, housing corporations, care and welfare providers, technology suppliers, municipality (WMO), health insurers, knowledge institutions. All possible scenarios will be explored including new innovative forms such as inclusion in (basic) health care package, inclusion in (performance) agreements with housing corporations, collectivisation via WMO (Care Support Act) and processing in basic quality of housing by housing corporations.

With long-term use, the effects on the living conditions of residents will also be investigated by external researchers (Haagse Hogeschool, Universiteit Tilburg, LUMC). This involves measuring the effects of the use of technology and other solutions in the longer term on the needs of the users and the formulated goals in the project. Attention will be given to the how the elderly can stay healthier at home, enjoy a better quality of live, improve their savings and costs of care, and be involved through democratic participation in the decisions that effect their lives. In collaboration with knowledge parties (LUMC), a research method will be developed to measure these effects. In this connection, Staedion's control location is involved where after the end of the investigation the solutions found to be effective can be applied first and can also be rolled out. In return, a pre-and post-test is taken from these residents which is compared with the participants in the Izi complex.
An important objective is to consolidate and improve the good scores, preferably improve them and prevent any relapse. The residents are well aware of the available modern technology to perpetuate their quality of life or live events during their life course. The need for citizens' needs makes it clear that different parties are committed, putting the human dimension first and with maximum support from technology. The city of The Hague thinks to be on the right track with our approach. The pilot will be completed in 2018 with a model approach that can be applied to the

entire city, with tailor-made solutions for the resident. The installed ICT and Care Stakeholders network (now called The Hague Table) looks at the opportunities and limitations of eHealth for healthy living at home for a longer period of time.

Conclusions

It is clear that

References:

Eysenbach, G., & CONSORT-EHEALTH Group. (2011). CONSORT-EHEALTH: Improving and Standardizing Evaluation Reports of Web-based and Mobile Health Interventions. Journal of Medical Internet Research, 13(4), e126. http://doi.org/10.2196/jmir.1923

Kummervold, P. E., Chronaki, C. E., Lausen, B., Prokosch, H.-U., Rasmussen, J., Santana, S., … Wangberg, S. C. (2008). eHealth Trends in Europe 2005-2007: A Population-Based Survey. Journal of Medical Internet Research, 10(4), e42. http://doi.org/10.2196/jmir.1023

Norman, C. D., & Skinner, H. A. (2006). eHealth Literacy: Essential Skills for Consumer Health in a Networked World. Journal of Medical Internet Research, 8(2), e9. http://doi.org/10.2196/jmir.8.2.e9

OECD (2015), Ageing in Cities: Policy Highlights Paris, OECD Publishing, available at https://www.oecd.org/cfe/regional-policy/Policy-Brief-Ageing-in-Cities.pdf (downloaded on 12 October 2018).

Pagliari, C., Sloan, D., Gregor, P., Sullivan, F., Detmer, D., Kahan, J. P., … MacGillivray, S. (2005). What Is eHealth (4): A Scoping Exercise to Map the Field. Journal of Medical Internet Research, 7(1), e9. http://doi.org/10.2196/jmir.7.1.e9

References

Seligman, Martin E.P. Positive Health, Applied Psychology: An International Review, 2008, 57, 3–18

Shah, Phoram; Hamilton, Ellen; Armendaris, Fernando; Lee, Heejoo. 2015. *World - Inclusive cities approach paper (English)*. Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/402451468169453117/World-Inclusive-cities-approach-paper

United Nations, Department of Economic and Social Affairs Population Division (2017) *World Population Prospects The 2017 Revision Key Findings and Advance Tables* United Nations New York, 2017

United Nations, Department of Economic and Social Affairs, (2018). *World Urbanization Prospects: The2018 Revision: Key Facts)* New York, United Nations