Scotland's
Healthy Ageing Innovation Cluster

Wednesday 07 September 2022, 1000-1200

ON AIR

Attendees please note

1. We are **recording this event** and it will be hosted on our HAIC webpage resources so it can be watched on demand

2. If you **do not** wish to appear on the recording, you should turn off your camera and microphone for the duration of the event

3. As a courtesy to our speakers and guests, we ask all attendees to **turn off** microphones and cameras during presentations

4. Drop your **questions in the chat field** or wait until the Q and A session, where they can be answered

Today's event

Joanne Boyle, Digital Health & Care Innovation Centre

Agenda

- **Welcome and introductions** – Joanne Boyle, Head of Engagement, DHI

- **Partner update – Digital Approaches in Social Care Programme** – Rikke Iversholt, Scottish Government

- **Evaluation of the Digital Inclusion in Care Homes/ Connecting Scotland report** – Prof Louise McCabe & Dr Ismini Pavlopoulou, University of Stirling

- **Ethics in Age Tech Research** – Judith Sixsmith, University of Dundee

- **Refreshment break**

- **Move r hub** – Kia Nazarpour, University of Edinburgh

- **Discussion**

- **International knowledge exchange with Dutch colleagues around social care home space** – Sandra Suijkerbuijk, Programme Manager, Digital Innovation @ Surplus

- **Discussion**

- **Final comments** – Joanne Boyle, Head of Engagement, DHI

- **Event close**

Welcome and introductions

Joanne Boyle, Digital Health & Care Innovation Centre

Partner update: Digital Approaches in Social Care Programme

Rikke Iversholt, Scottish Government

Digital Citizen

Our aim for the next year is to empower citizens to better manage their health and wellbeing, support independent living, and gain access to services through digital means.

We know this is leading to a shift in the balance of care by using the tools and technologies that are already increasingly used for all other aspects of our lives.

Digital Health & Care Scotland

Strategic Aims

Aim 1: Citizens have access to, and greater control over, their own health and care data – as well as access to the digital information, tools and services they need to help maintain and improve their health and wellbeing.

Aim 2: Health and care services are built on people-centred, safe, secure and ethical digital foundations which allow staff to record, access and share relevant information across the health and care system, and feel confident in their use of digital technology, in order to improve the delivery of care.

Aim 3: Health and care planners, researchers and innovators have secure access to the data they need in order to increase the efficiency of our health and care systems, and develop new and improved ways of working.

Digital Citizen Portfolio

- **Creating conditions** to drive forward local deployment and growth through dedicated funding to facilitate scale up and transition to mainstream

- **Cross sector leadership/collaboration** and strategic co-ordination of delivery with national delivery partners and organisations

- **Once for Scotland**, driving efficiencies, national models, procurement, addressing cross sector national issues, knowledge exchange and evidence

- **Cross sector excellence /expertise** – building capability.

Enabling
Social Care

Social work   Social care   Health

                                   Housing

(digital inclusion / equity of access) (embedding digital with the person) (develop workforce skills) (trialing tech in context) (Knowledge exchange) (data and systems)

Disperse team to maximise sector engagement

TEC Technology Enabled Care

Digital Health & Care Scotland

Advancing

Telecare

Social care

Community support

Housing

- transition to digital by 2025
- shared ARC for Scotland
- standards and guidance
- reimagining telecare using SAtSD
- minimum dataset
- proactive telecare & other ToCs

TEC Technology Enabled Care

DIGITAL TELECARE
Scottish Local Government

Digital Health & Care Scotland
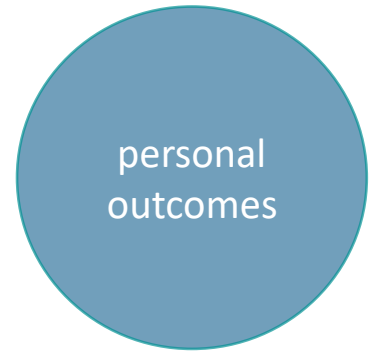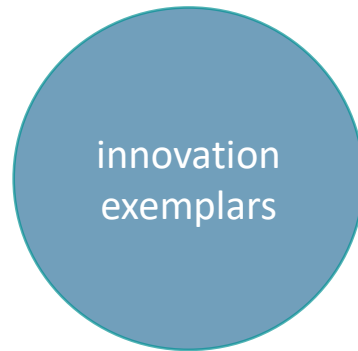
Evaluation of the Digital Inclusion in Care Homes/ Connecting Scotland report

Professor Louise McCabe & Dr Ismini Pavlopoulou, University of Stirling
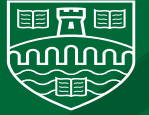
Overview

Process and findings from the CRSCH programme evaluation

Perspectives of multiple stakeholders

Progress towards objectives

Issues influencing effectiveness

Long-term potential

Objectives

1. **Identify how and to what degree the CRSCH programme has made a difference to the lives of residents and the practices of care homes.**

2. **Identify individual and organisational factors contributing to the successful (or not) introduction, adoption and continued use of digital solutions.**
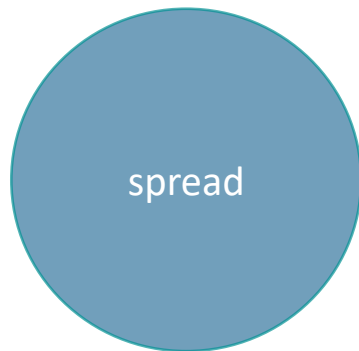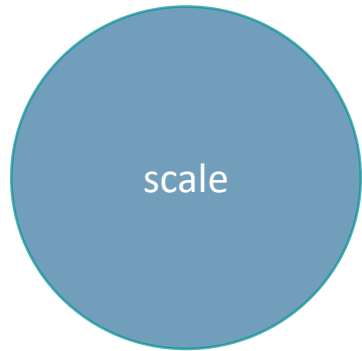
3. **Identify the inputs, processes, and outcomes which account for the success (or not) of the intervention.**

4. **Make the case for whether the CRSCH should continue, based on opportunities and barriers to its sustainability and adoption at scale.**

Methods

A rapid literature review examining the use of tablets, smartphones and other videoconferencing devices in care homes to reduce social isolation and loneliness.

A secondary analysis of data on care homes in Scotland and their engagement with the CRSCH.

Online individual and small group interviews with 26 staff members from 22 care homes across Scotland.

An online workshop with stakeholders within policy and practice in Scotland.

'Deep-dive' workshops in four care homes across Scotland.

Domain 1: Condition or illness

- **94.80% of care homes caring for older people**
- **Older people with dementia, older people with frailty**
- **Impact of the pandemic on wellbeing**
- **Low morale and mood**
- **Need to connect**
- **Growing need for solutions**
- **Relief when the programme was launched**

Domain 2: Technology

- Lack of technical infrastructure – fewer iPads
- CRSCH mostly utilised when Wi-Fi and devices were already present
- Different stages of technology adoption, unique needs for digital solutions
- Uses: videocalls, music, photographs, videos, reminiscence, puzzles, crosswords, sudoku, games, singing, fitness classes
- Staff used iPads for work
- Use case developed over time with increasing familiarity
- Staff: considered iPads an appropriate choice of technology
- Helpful connecting residents during the pandemic, familiar and intuitive devices
- However, residents were typically accompanied by staff

Domain 3: Value Proposition

- **iPads supported social connectedness**
- **Valued and positive impact for residents, family and friends, care home staff**
- **Videocalls replaced in-person visits**
- **Diverse activities offered enjoyment improved mood, physical and cognitive activity, often socialising within the care home**
- **Engagement with and access to health services**
- **Reassuring for family and friends**
- **Added options for staff to engage with residents, work became more satisfying**

Domain 4: Adopters

- Staff quickly incorporated iPads during lockdown
- Scheduling ensured well-timed calls
- Family and friends not directly involved
- Limited engagement with 'digital champion' role
- Wellbeing and Activities Coordinators played a protagonist role, along with carers
- Residents: initial hesitation and lack of confidence due to unfamiliarity
- Enthusiasm about meaningful activities
- Cognitive, mobility and sensory impairments: barrier to various degrees
- Relying heavily on staff support
- Deprived areas less likely to engage
- Training attendance linked to higher engagement

BE THE DIFFERENCE

Domain 5: Organisation(s)

- Organisations investing in training, 'champion' programmes, education for residents, quality WiFi, generally more likely to adopt technology successfully

- Participating care homes mainly privately owned with higher number of beds

- Care homes receiving excellent evaluations from Care Inspectorate less likely to request iPads

- Importance of workplace culture

- Enthusiastic managers play a key role in oversight, support and motivation

- Team work more sustainable that 1-2 staff members implementing the programme

- Risk that technology would be abandoned if staff member left employment

- Cultural shifts

- Staff became increasingly confident

Domain 6: Wider System

- **Higher engagement in the central belt and around Glasgow, Edinburgh, Dundee, Aberdeen and Inverness**

- **Lower engagement: Borders, West of Scotland, Highlands, Islands**

- **No access to WiFi – MiFi provided: Shetland, Isle of Skye, Highlands, rural areas and areas in the borders**

- **Care home managers found out about the programme via email**

- **Crucial time for care homes during the pandemic**

- **Little information about training and/or limited time to attend**

- **Key stakeholder objectives were met, with identified gaps in communication**

Domain 7: Embedding and adaptation over time

- Little evidence on long term implementation in previous studies
- Need for training beyond introduction: creative ideas and best practice
- iPads were provided at the right time
- Changes in circumstances – changes in use
- Less focus on videocalls

- Embedded into daily practices
- Staff predict continued use and learning
- Small number of care homes stopped the use, temporarily or permanently
- High turnover – need to reduce reliance on 1-2 members of staff, 'digital champions'

BE THE DIFFERENCE

Conclusions

- **CRSCH: significant and positive impact on the lives of care home residents, promoting social connectedness during the pandemic**

- **Opportunities for activity, socialising and entertainment'**

- **Benefits felt by staff: seeing positive impact for residents, gaining new knowledge and skills**

- **Impact is currently being sustained**

- **The way that iPads are being used is changing**

- **The programme has stimulated or become part of a wider adoption of digital technology**

Recommendations

- **Recognise wider use case**

- **Personalised, flexible, person-centered approach to technology**

- **Community of practice to support communication and knowledge exchange**

- **Identify, support and develop the role of Activity/Wellbeing Coordinators**

- **Staff training in person-centered adoption of technology**

- **Understand specific technology needs of care homes, particularly in deprived areas**
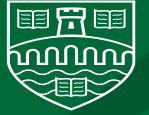
Thank you!

Dr Grant Gibson
Prof Louise McCabe
Dr Carolyn Wilson-Nash
Dr Ismini Pavlopoulou

grant.gibson@stir.ac.uk

@DrGrantGibson

@Dementiares

UNIVERSITY of STIRLING

Digital Health & Care Innovation Centre

TEC Technology Enabled Care

Digital Health & Care Scotland

BE THE DIFFERENCE

Ethics in AgeTech Research

Judith Sixsmith, University of Dundee

ETHICS IN AGETECH RESEARCH AND DEVELOPMENT

Prof Judith Sixsmith

School of health sciences

University of Dundee

I AM…

- Psychologist
- Professor
- Researcher

Normalisation

Increasing social participation. Healthier lives. But marginalized can be further marginalized.

Exclusion and Dignity

Shift towards online services and the left behind generation. Lacking value in society. Out of sight – out of mind
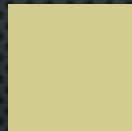
Cost and exclusion

Better quality care BUT technologies and sevices can be expensive increasing the digital divide

Disruption

Technology disrupts social behaviour and relationships and can increase loneliness and isolation.

WHAT IS AGETECH?

- Global rapid tech development, Rapid population ageing

- Emerging/advanced devices/products, services and policy/legislation to benefit older people

- 'Wicked' problems but also opportunities

- Innovation: psychology, social, cultural, Political and technological AgeTech is about people! – changing attitudes and expectations

- Consider social justice and older people's rights
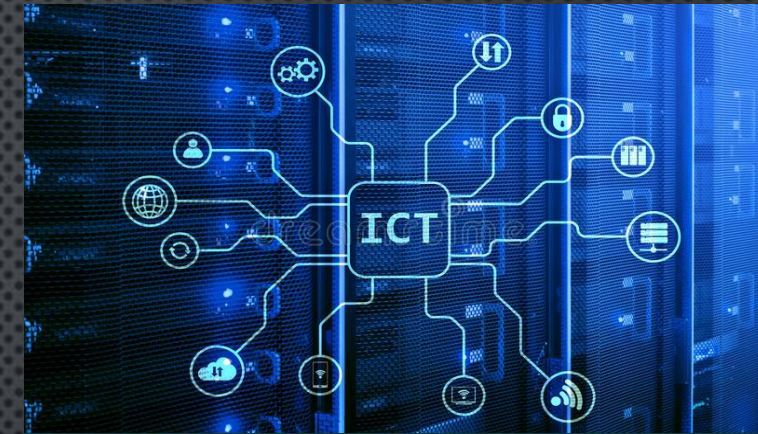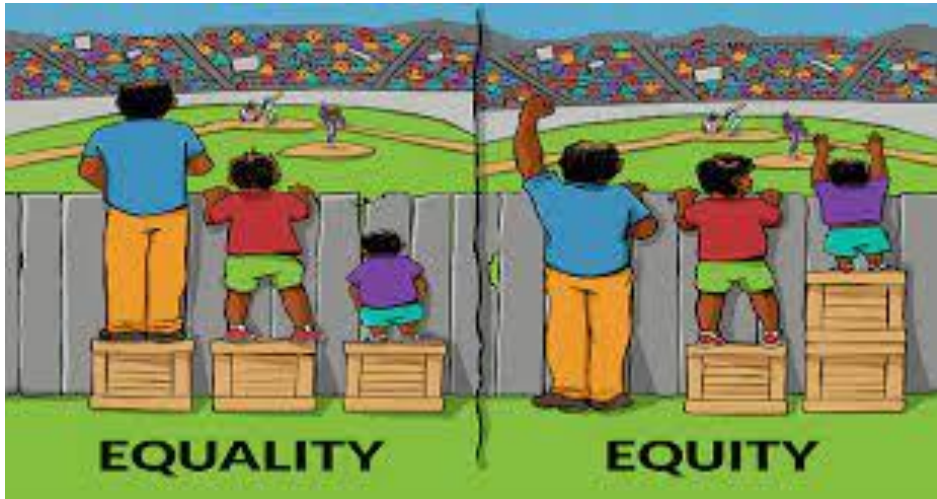
ETHICAL UNDERPINNINGS: EQUITY, DIVERSITY AND INCLUSION

EQUALITY   EQUITY

- Inequalities in accessing AgeTech exacerbate marginalization

- Social determinants of inequity & exclusion

- Culturally appropriate technologies

- Address the digital divide

  - Cost, infrastructure, skill, training, access, usability

  - Experience, Rural and remote communities

- Raise awareness: marginalized people

- avoid silo thinking and design

ETHICAL QUANDRIES: ARTIFICIAL INTELLIGENCE AND COMPLEXITY MANAGEMENT

- Artificial Intelligence detects patterns in large datasets, works out rules and algorithms to predict future events, control actions and learns from People using it and transforms to personalize responses and services

- BUT…inherent complexity and unpredictability of people and everyday life

- Need to manage complexity – simplified situations/person characteristics risks harming vulnerable older people through:

  - Key Bias

    - Biased training data: marginalized older people under-represented, historical inequalities perpetuated

  - Access /usability

    - non-intuitive operations, inappropriate environments, digital literacy, disability, forgetfulness. Internalised stigma can damage health and social outcomes

ROBOTICS & THE AUTONOMY-SAFETY PARADOX

- CROSSING INTO HOME AND EVERYDAY LIFE

- INTERACT WITH INEXPERIENCED OLDER PEOPLE, INBUILT BIASES

- THE SEDUCTION OF SOCIAL BONDING AND LOST HUMAN CONTACT

- MACHINE AUTONOMY GROWS

  - MONITOR SELF, LEARN FROM SITUATIONS, MAKE DECISIONS, CONTROL PROVISION –

- SAFETY ISSUES

  - ACCIDENT RISK - WHO IS RESPONSIBLE - RESEARCHERS, PRODUCERS, COMMERCIAL AGENTS, OLDER CONSUMERS?

DATA PROTECTION, PRIVACY, CONFIDENTIALITY

- Help make informed decisions

- Intrusion v empowerment

- Informational, physical, psychological, social privacy

  - Control in private & semi-private environments

  - Conscious & non-conscious behaviour change

  - Knowing & acting on knowledge once known

AGETECH AND ETHICS: KEY MESSAGES

- Towards an active, healthier later life

  - Equity lens: Asking the right questions

  - Being at the table in research and development

  - Person-centred design

  - Holistic perspectives: psychological, social cultural, experiential, political, Professional

  - Practical, Relevant, culturally appropriate, multilevel solutions

  - Don't forget

    - Supportive regulations and policy to avert harm

    - safeguard civil rights and avoid marginalization

THANK YOU FOR LISTENING!

For more information please contact prof Judith Sixsmith

Email: J.sixsmith@Dundee.ac.uk

Refreshment break

Move r hub

Kia Nazarpour, University of Edinburgh

Edinburgh Movement and Rehabilitation Digital Health and Care Hub (MoveR)

Kia Nazarpour, PhD
Professor of Digital Health

Edinburgh Movement and Rehabilitation Hub (MoveR)

Vision

to improve the nation's health and wellbeing by enhancing citizens' physical movement throughout their life course.

Mission

As a supportive and entrepreneurial hub, MoveR will facilitate skills and knowledge exchange and foster the development of people-centred, needs-led, innovative, and disruptive digital health and care solutions for movement and rehabilitation.

Edinburgh Movement and Rehabilitation Hub (MoveR)

MoveR Hub Research Themes

Physical Activity	Traumatic Brain Injury & Stroke	Musculoskeletal Systems	Movement Disorders
Data, Artificial Intelligence, Security and Design			
Robotics, Computing and Electronics			
Edinburgh Clinical Trials Unit			

Capabilities

60+ Partners

# Edinburgh Movement and Rehabilitation Hub (MoveR)

- Co-creating digital health solutions by focusing on pre-competitive research

- Building new partnerships

- Enabling accelerated translation and adoption of digital health solution

- Increasing skills and capacity in the development of digital health and care solutions

- Providing a mechanism for fostering leadership in digital health and care.
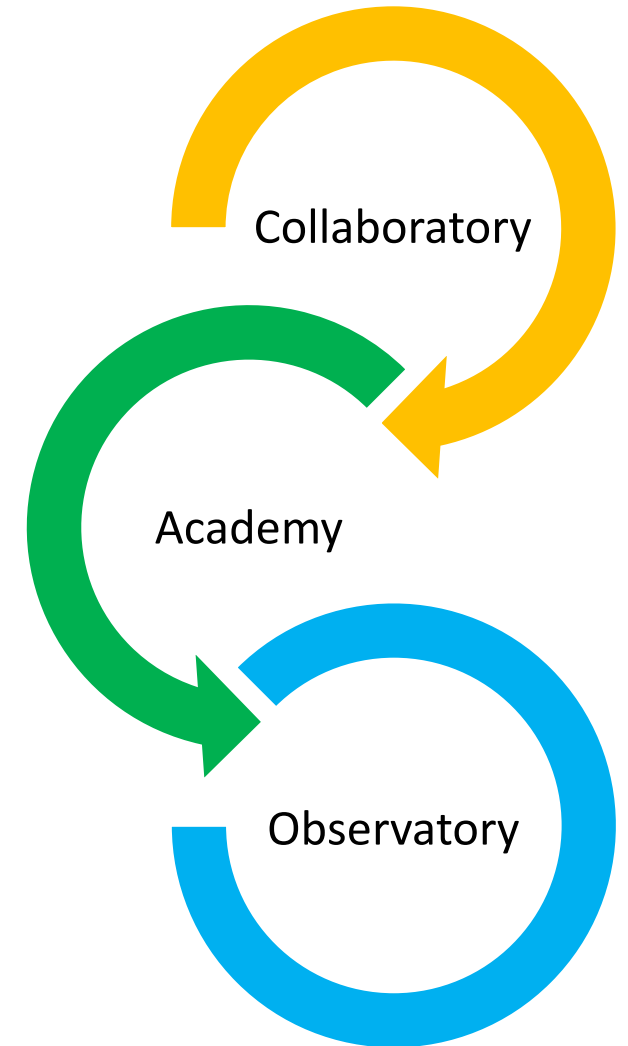
Academy

to promote training, reskilling, upskilling, and skill sharing to equip stakeholders with
the capacity to innovate or utilise digital products and services in movement and rehabilitation

Approach

facilitate building stakeholders' skills and capacity in digital health and care

- Identifying and cataloguing
- Signposting
- Developing new modules with industry

Specific Actions

Ensuring strategic alignment and avoiding duplication

- Competency and cohort-based approach
- Tailoring skills training to MoveR community
- Cross-cutting activities

Collaboratory

to enable disruptive, co-created fundamental and translational research in digital technologies in movement and rehabilitation

Explore

Assess

Enhance

Embedded Intelligence

a self-referential process in technology where a given system can analyse its own operations.

- Person-in-the-loop systems for Physical Activity and Rehabilitation
- Secure IoT and System of Systems
- Edge Computing, Wearables and Embedded AI
- Embedded Software Technologies

Predictive Analytics

a method to improve health and care outcomes for one person by considering data and outcomes of other people

- Diagnosis and Prognosis
- Secure Technologies for Remote Monitoring
- Improving Health and Care Pathways

Collaboratory

to enable disruptive, co-created fundamental and translational research in digital technologies in movement and rehabilitation

THE UNIVERSITY of EDINBURGH

Explore

Assess

Enhance

Funding

- Pilot high-risk and high-gain research
- Sandpits for driving translation
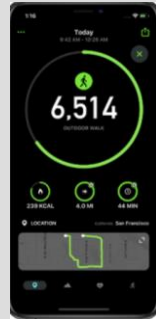- Keynote Series, Conference, and Industry Expo
- Innovator in Residence

Collaboratory

to enable disruptive, co-created fundamental and translational research in digital technologies in movement and rehabilitation

Context: Low Bone Density

Task: Augment one's smart watch to send personalised messages to encourage her to walk more.

Design: The system will access an AI model on their phone that relates bone density and step counts. It will be linked to their health data to receive bone density scores at set intervals to tune the recommendations, given mood, weight, age, and calendar

Context: Parkinson's disease

Task: Build a decision support system to assist them, and healthcare team in optimising their care plan.

Design: A wearable system to capture symptoms (e.g., tremor, slowness of gait, muscle stiffness, and mood). An accompanying app will allow the care team to keep a record of the person's wellbeing and any medication (side) effects.

Observatory

The University of Edinburgh

to facilitate the development of knowledge gained within the Academy and support the translation of ideas and funding from the Collaboratory

Approach

provide agile short-to-medium term support for timely digital innovation and long-term direction for developing disruptive visions in movement and rehabilitation

- Context Horizon
- Data Horizon
- Innovation Horizon

Specific Actions

- Knowledge Sharing platforms
- Data Implementation
- Collective outreach
- Regulations, Bias, Fairness, Transparency, and Accountability

One Scotland

- In line with Scottish Government's One Scotland approach, especially
  - Rehabilitation and Recovery: A Once for Scotland Person-Centred Approach to Rehabilitation in a Post-COVID Era

Current status

- Funding application was submitted to the Engineering and Physical Sciences Research Council

- Outcome announced in March, after interviews in February

Immediate actions

- A *Central Belt* EPSRC Centre for Doctoral Training in Movement and Rehabilitation (Edinburgh, Heriot Watt, Strathclyde, Glasgow)

- Use local funding and industry sponsorship to pump-prime case studies

- Engage with stakeholders and apply for joint research project

Edinburgh Movement and Rehabilitation Hub (MoveR)

If physical activity were a drug, we would refer to it as a miracle cure, due to the great many illnesses it can prevent and help treat.

UK Chief Medical Officers
September 2019

Thank you

Discussion

International knowledge exchange with Dutch colleagues around social care home space

Sandra Suijkerbuijk, Programme Manager, Digital Innovation @ Surplus

Digital Innovation

@ Surplus

HAIC, Online September 7th 2022
Sandra Suijkerbuijk - Programme manager Digital Innovation @ Surplus
- PhD Candidate Human-Technology Interaction @ TU/e

- The Netherlands

- Care and welfare services
  - 13 carehomes
  - 33 home care teams
  - Multiple meeting centers and ambulant welfare services across Brabant

- Expertise
  - Social and Digital innovations

Social and Digital Innovations

surplus

Thijs
Home care

Sandra

Sander
Programme manager
Social Innovation

Daniëlle
Welfare

Luuk
Care homes

Rosanne
Programme manager
Dementia
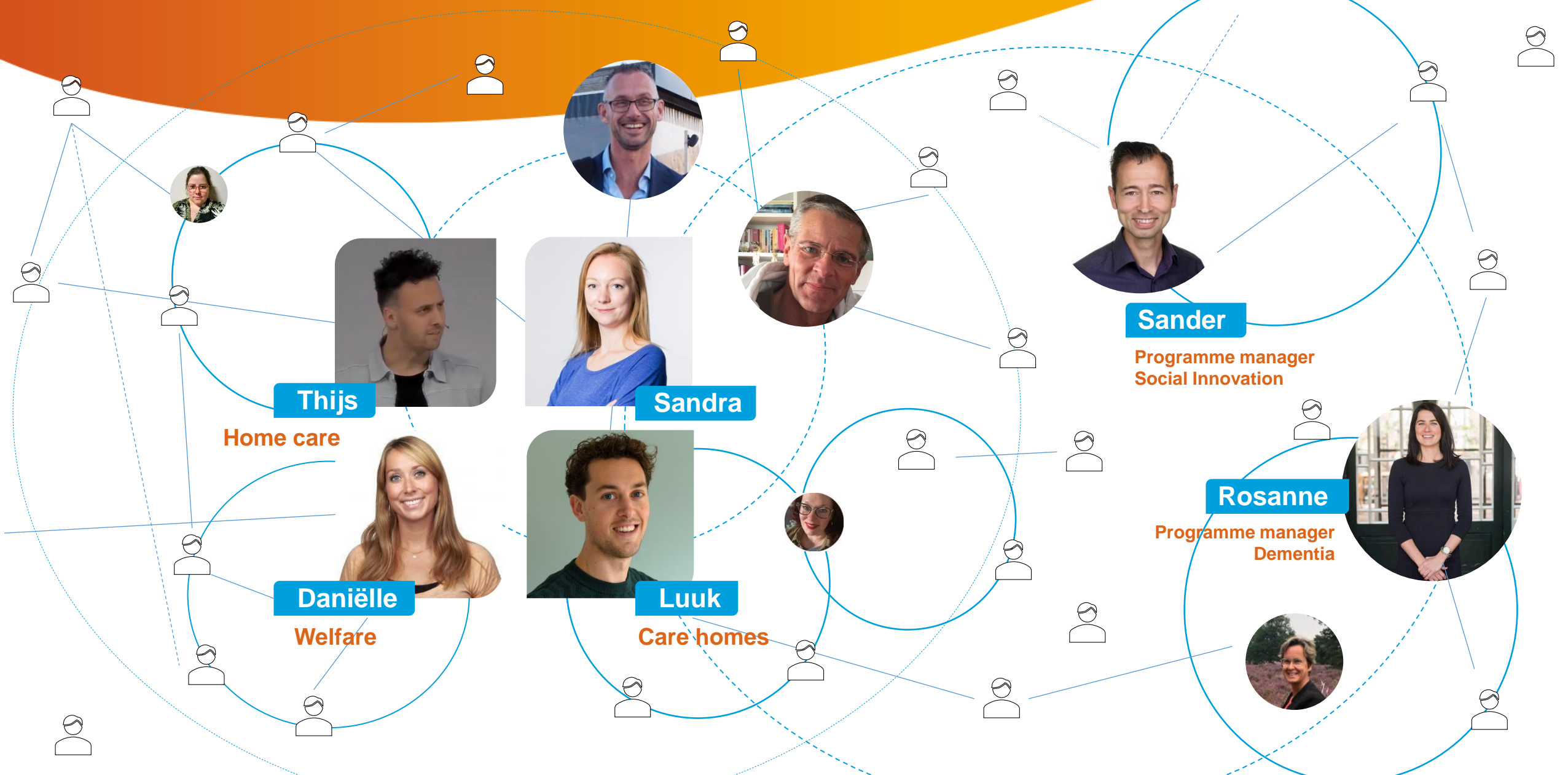
Personhood of people: 'See Me'

- Meet each other

- Value each other's expertise (e.g. experience, care, design, technology)

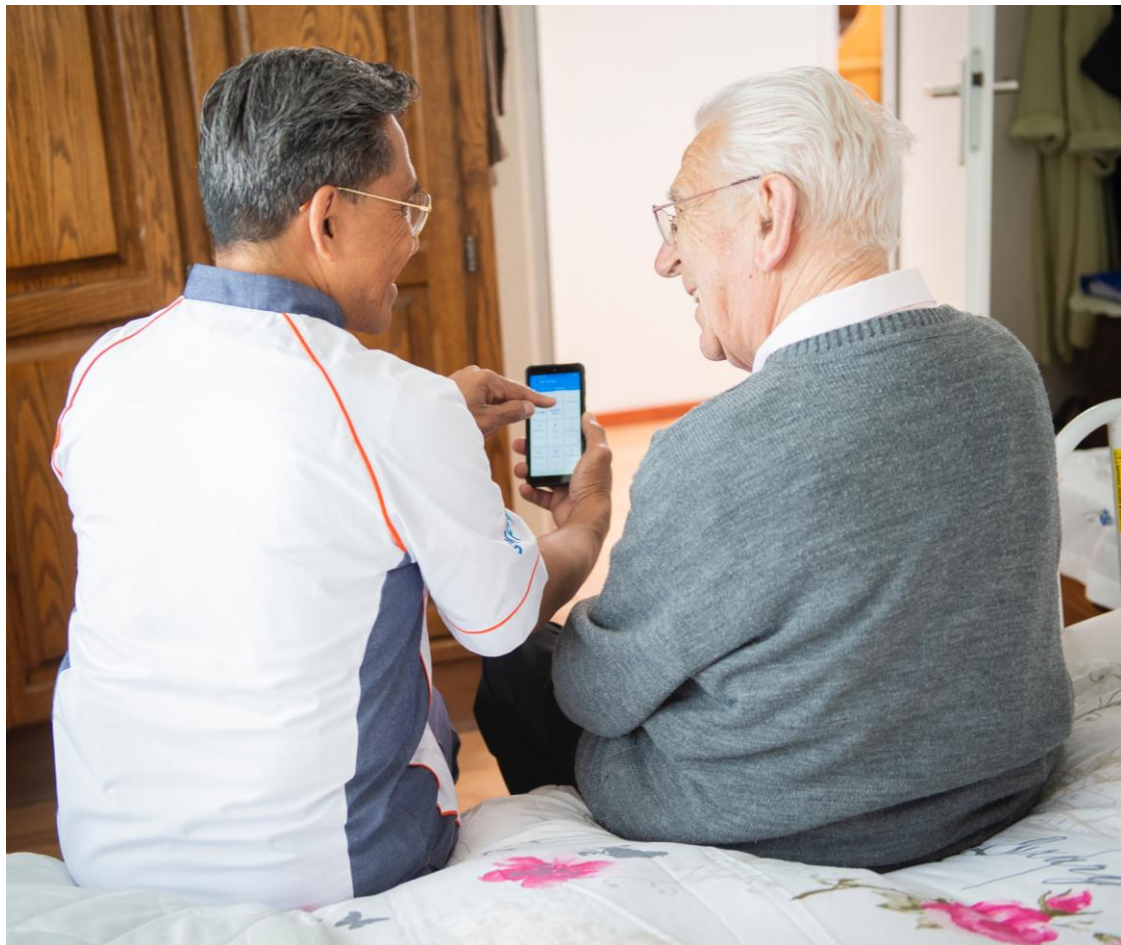- Enable a different perspective

- Contribute to our societal aims

surplus durft!

Try out different methods!

- Suijkerbuijk, S., Brankaert, R., de Kort, Y. A., Snaphaan, L. J.,&den Ouden, E. (2014). Seeing the first-person perspective in dementia: a qualitative personal evaluation game to evaluate assistive technology for people affected by dementia in the home context. *Interacting with Computers*, *27*(1), 47-59.

- Suijkerbuijk, S., Nap, H. H., Cornelisse, L., IJsselsteijn, W., De Kort, Y. A. W., & Minkman, M. M. N. (2019). Active involvement of people with dementia: A systematic review of studies developing supportive technologies. *Journal of Alzheimer's Disease*. https://doi.org/DOI 10.3233/JAD-190050
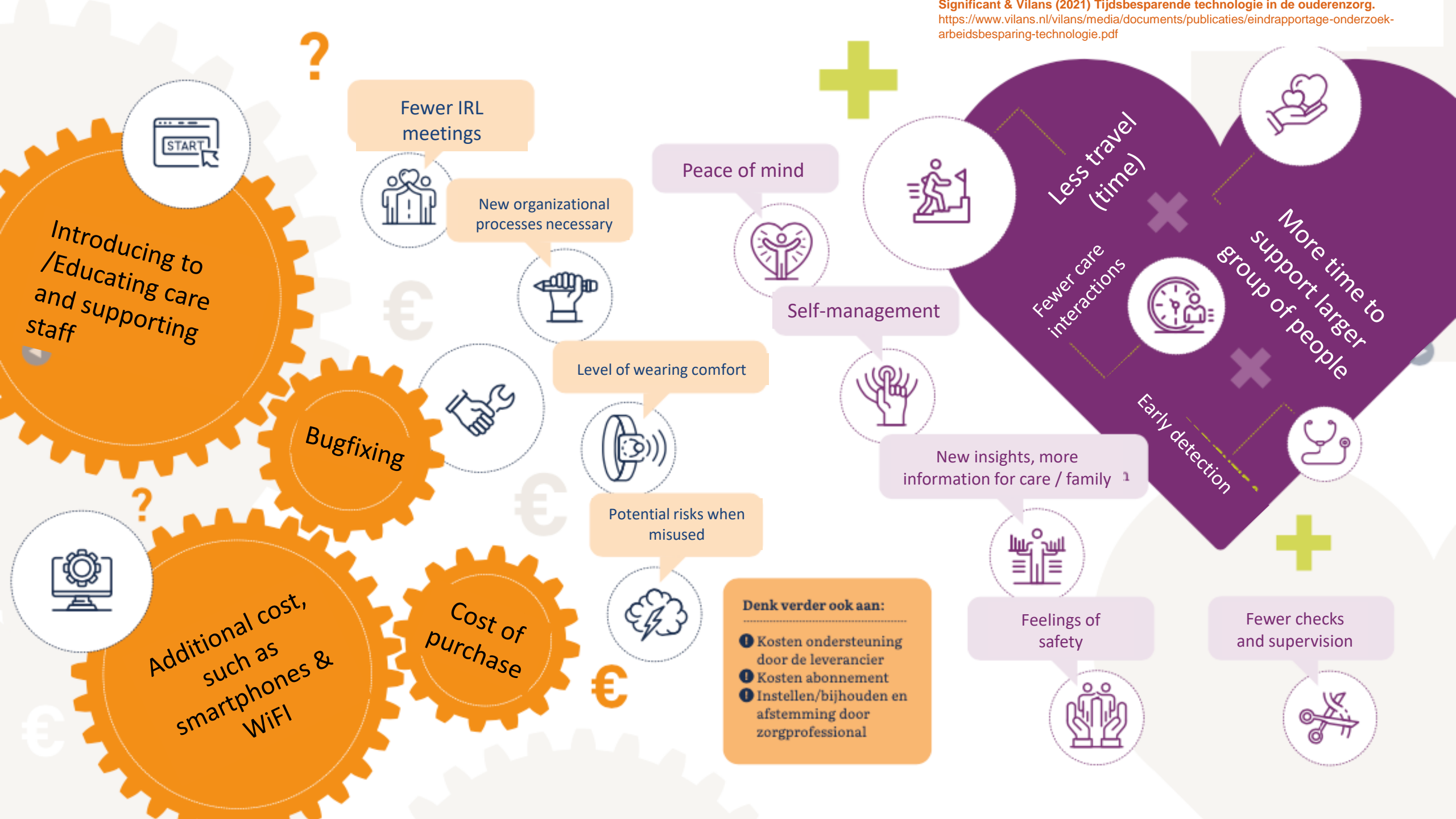
Digital Innovation

@ Nursing homes / Surplus

Digital Innovation

@ Home care / Surplus

Fewer IRL meetings

Peace of mind

Less travel (time)

New organizational processes necessary

Self-management

Fewer care interactions

Introducing to /Educating care and supporting staff

More time to support larger group of people

Level of wearing comfort

New insights, more information for care / family

Early detection

Bugfixing

Potential risks when misused

Additional cost, such as smartphones & WiFi

Cost of purchase

Denk verder ook aan:
----
❶ Kosten ondersteuning door de leverancier
❶ Kosten abonnement
❶ Instellen/bijhouden en afstemming door zorgprofessional

Feelings of safety

Fewer checks and supervision

Feel free to contact me!

sandra.suijkerbuijk@surplus.nl

www.surplus.nl
https://ecdt.nl/en/home-en/

Discussion

Final comments

Joanne Boyle, Digital Health & Care Innovation Centre

Final comments

- Thank you to all our speakers today

- So much information - all recorded and presentations will be made available for further reference on our website

[Healthy Ageing Innovation Cluster (HAIC) | Digital Health & Care Innovation Centre (dhi-scotland.com)](dhi-scotland.com)

- Feedback vital to develop future sessions

Funding Opportunities

- All our current funding opportunities are available on the HAIC webpage: https://www.dhi-scotland.com/innovation/innovation-clusters/healthy-ageing/

Next HAIC event

- Wednesday 07 December 2022, 1000-1200 (in-person)

- Focus: UKRI Design for Ageing Challenge Update

- Currently finalising the agenda which will be added to our Eventbrite booking platform and shared with you ASAP

Take our post event survey

- Scan the QR code →

Or

- Enter:

https://www.surveymonkey.co.uk/r/Post_HAIC_Event_Survey

Join our digital health and care network

- Scan the QR code →

Or

- Enter:

www.dhi-scotland.com/join-our-network

Visit our HAIC webpage

- Scan the QR code →

Or

- Enter:

www.dhi-scotland.com/innovation/innovation-clusters/healthy-ageing/

Join our private LinkedIn HAIC Group

- Scan the QR code →

Or

- Enter:

www.linkedin.com/groups/12496744/