

Scotland's Healthy Ageing Innovation Cluster

Wednesday 18th October 2023 1000-15:15



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

Time	Care Home Focus	Presenter(s)
10.00	Welcome and introductions	Joanne Boyle
10.10	My Health, My Care, My Home - healthcare framework for adults living in care homes - gov.scot (www.gov.scot)	Jan Beattie Scottish Gov
10.20	Care home data review - gov.scot (www.gov.scot) How do we put this into practice	David Cruikshank Ellen Lynch Scottish Gov- (pre record)
10.30	Scottish Care Technology and Digital Innovation Lead	Nicola Cooper
10.45	Maah/Ayrshire Care Home innovation	Alexandre Colle Heriot Watt
11.00	COMFORT BREAK	
11.15	CHAT Innovative Care Homes app for residents with suspected COVID-19. Digital Health & Care Innovation Centre (dhi-scotland.com)	Moira Mackenzie Depute Chief Executive DHI
11.30	Emergence & Robotic+Care Mashup	Dr Mauro Dragone Heriot Watt
12.00	Lunch/ Tours of Human Interaction Labs Funding update to be shared	Dr Mauro Dragone
1.00	Afternoon workshop: technology and innovation to address care home priorities Introduction – Innovation and research in care homes scene setter (<i>seeing innovation through research lens v health & care lens</i>) Attendees rotate between all workstations	Lucy Johnston (Napier University), Prof Susan Shenkin (University of Edinburgh),
1.30-2.00	Workshop station 1 – ENRICH Scotland NHS Research Scotland NHS Research Scotland and RICH Voices (research support and PPI in care homes)	Dr Maria Drummond Senior Clinical Officer ENRICH Anna Crawford RICH VOICES rep Cheryl Henderson Manager Elder homes CHIP rep
2.00-2.30	Workshop station 2 – Care home priorities	
2.30-3.00	(discussion of priority areas from care home perspectives, potential technology/innovation solutions) Workshop station 3 – Evaluation of innovation and technology in care homes (and wider social care) (discussion of existing evaluation frameworks and need for new framework)	Lucy Johnston & Prof Susan Shenkin
3.15	Summation/Next Steps/Close	Joanne Boyle

Welcome and introductions

Joanne Boyle, Digital Health & Care Innovation Centre

Healthy Ageing Innovation Cluster



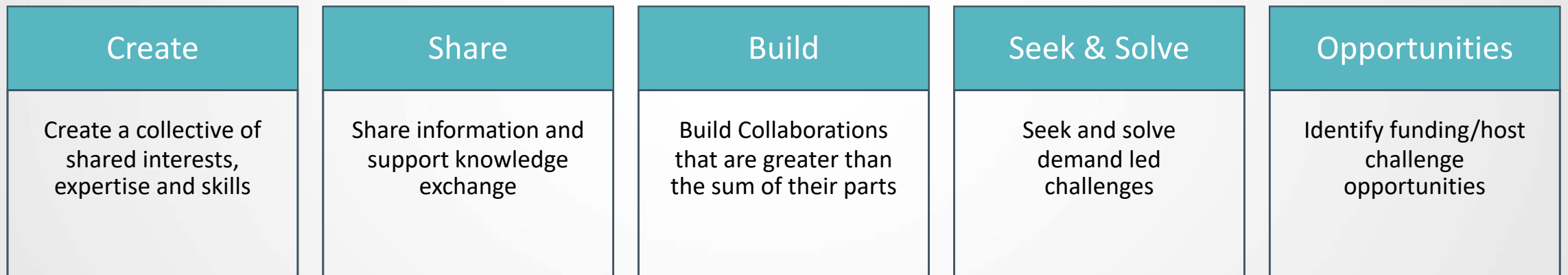
Healthy Ageing Innovation Cluster

A powerful collaboration of shared strategic interests and common endeavour to address the biggest challenges and opportunities in ageing.

Learn more [▶](#)



Aim: To accelerate digital innovation and Adoption in health and care



Scottish Government

Jan Beattie

'My Health, My Care, My Home'

Healthcare Framework for adults living in care homes

18/10/2023



context

- Care Homes are where people live.
- Changing demographic in care homes for older adults.
- Appreciation at times that healthcare is not as seamless and integrated as it could be.
- Holistic view that puts the person in the centre regardless of type of care home or who is delivering care/support.
- Much to celebrate/recognise in the care sector.

78
Recommendations



674
Stakeholders
Participated

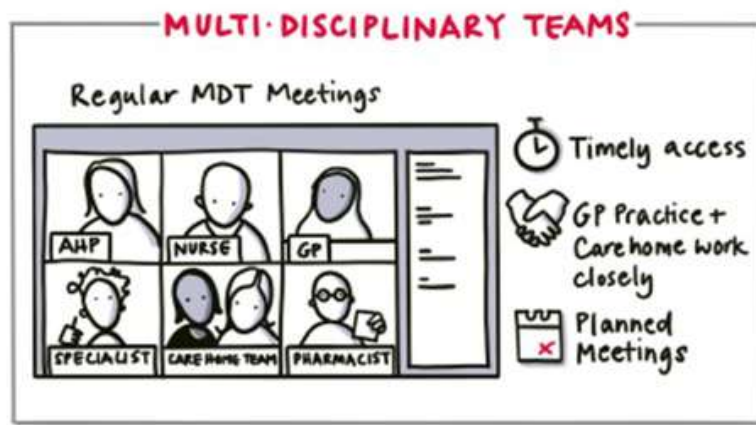
29
Engagement
Events

508
Survey
Responses

4
Focus Groups

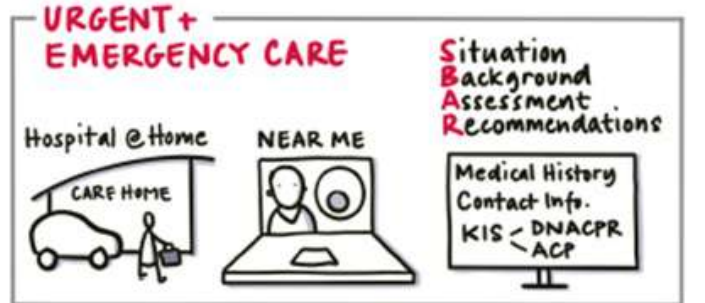
73
Good Practice
Returns

ANTICIPATORY CARE, SELF-MANAGEMENT + EARLY INTERVENTION



Healthcare framework for adults living in care homes

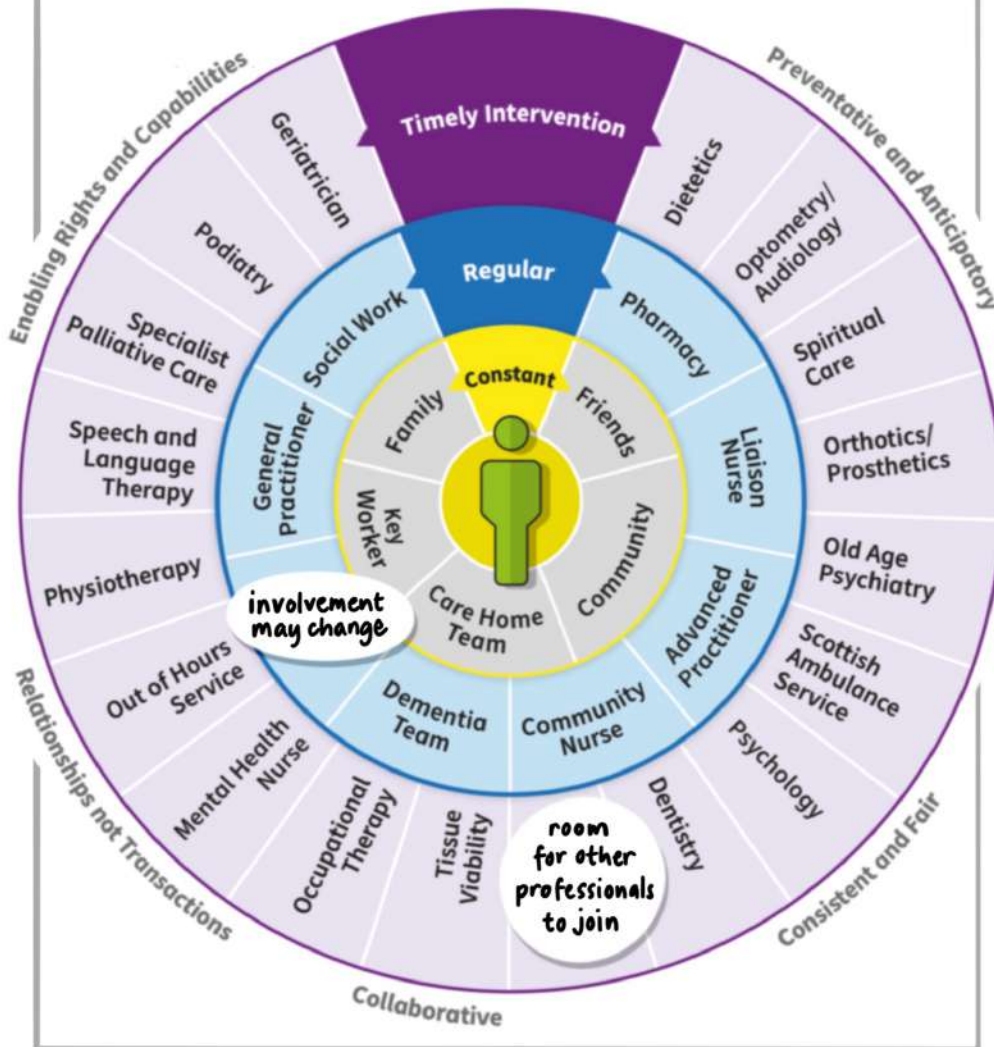
My Health · My Care · My Home



My Health · My Care · My Home Healthcare framework for adults living in care homes

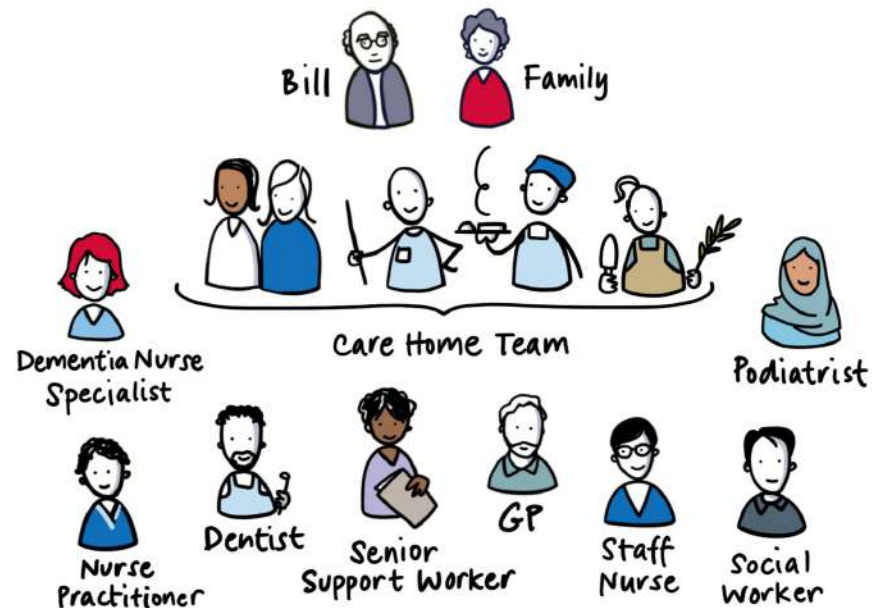
MULTI DISCIPLINARY TEAM WORKING

MANY PEOPLE SUPPORT THE WELLBEING OF SOMEONE LIVING IN A CARE HOME



THE TEAM WILL VARY DEPENDING ON A PERSON'S NEEDS

BILL'S MULTIDISCIPLINARY TEAM



- Everyone's input is valued
- Clear how to contact MDT
- Care Home + GP work closely
- Timely access
- Planned Meetings

Using digital solutions & services to transform care



Monitoring & Evaluation

Outcomes

People living in care homes have access to a nurturing and stimulating environment with the opportunity to do things that are meaningful and important to the individual

People living in a care home are supported by a multi-disciplinary team that will play a lead role in delivering care that meets their health, social, psychological and spiritual care needs

People living in care homes have timely and equitable access to care and support and have regularly reviewed and updated personal plans that support a preventative approach to their care by taking cognisance of their physical and mental wellbeing

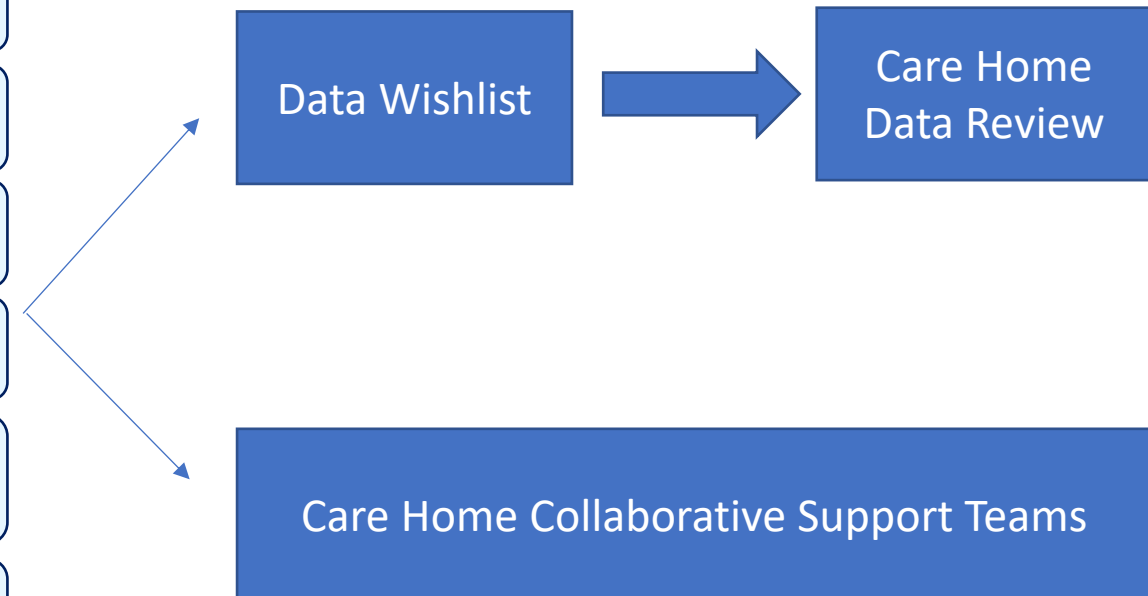
Care homes have regular and meaningful conversations with residents to discuss all aspects of their care and ensure outcomes are reviewed frequently and shared with everyone involved in delivering care

People living in care homes receive timely support and intervention from members of their MDT and should be given equitable access to medication & equipment to best meet and support their needs

People living in care homes are given timely access to specialist palliative care services, medication & equipment to best meet and support their needs and are provided with a person-centred and holistic approach to their health and care when length of remaining life is reducing

Health and social care professionals are supported and empowered to work collaboratively and are provided with time, tools and resources to undertake the necessary training to ensure residents receive the care and treatment they need

Digital access to an individual's health records, and clinical outcomes should be timely and accessible to all parts of the system and people living in care homes are able to attend appointments and connect to the outside world via video and digital technology



Scottish Care

Nicola Cooper

Nicola Cooper

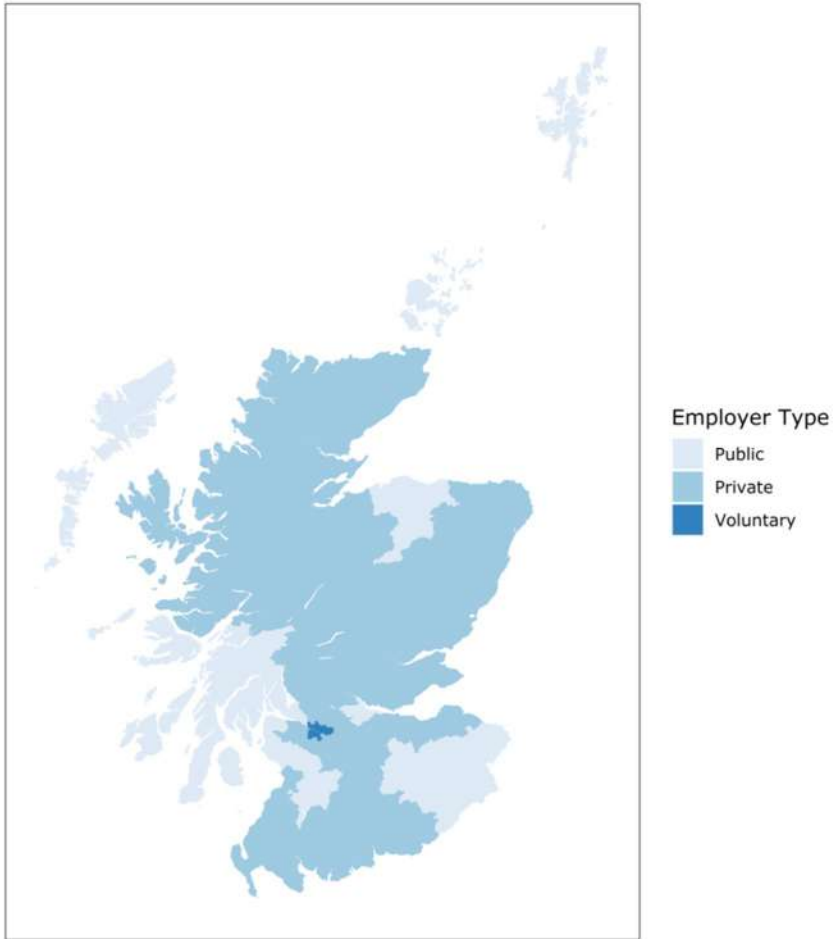
Technology and Digital Innovation Lead

Scottish Care is a membership organisation representing the independent social care sector in Scotland. We work with members and stakeholders in social care to create conditions for sustainable human rights-based care and support.



Social Care in Scotland

Figure 5: Map of Scotland with local authority areas coloured by largest employer type, 2021



210,000 people employed in social care

One in 13 jobs

85% female

> 41 years

“Private sector is the largest employer type for adults’ services at 43%”

88% of care home places are provided by the Independent/private Sector

>1000 Care Homes in Scotland

¾ of Care Homes are for Older Adults

51,000 employed in care homes

Source: Scottish Social Services Sector Report on 2021 Workforce Data. Published in August 2022.

care home life



ABBOTSFORD CARE PRESENTS ALZHEIMER SCOTLAND

CALLING ALL GRANDPARENTS & GRAND-KIDS

INTER-GENERATIONAL DANCE PARTY

• AT CISWO GLENROTHES •

SWING BAND, FOOD AND SHARING

SEPTEMBER 21ST FOR WORLD ALZHEIMER'S DAY

SPENDING TIME TOGETHER, WE ARE ENCOURAGING RESIDENTS FROM ABBOTSFORD CARE HOMES AND THEIR GRANDCHILDREN OR GREAT GRANDCHILDREN TO SPEND SOME TIME TOGETHER ENJOYING EACH OTHERS COMPANY, REMINISCING DAYS AND HAVING FUN.

JOIN US IN PERSON

4PM - 8PM



influencers



... Following

Just a care home girl

@Justacarehomeg1 Follows you

Small town girl with a big passion caring for older adults! Nursing in care homes since qualifying as a nurse in 2002! All OPINIONS ARE MY OWN.

Bishopston, Scotland Born July 18 Joined September 2019

310 Following 4,445 Followers



... Following

Ivan Cornford I predict a... petition

@IVANCORNFORD Follows you

No views my own always plagiarise. Still looking for that great jazz note. Optimism of the will etc etc

Joined February 2009

294 Following 337 Followers



... Following

Jenni Burton

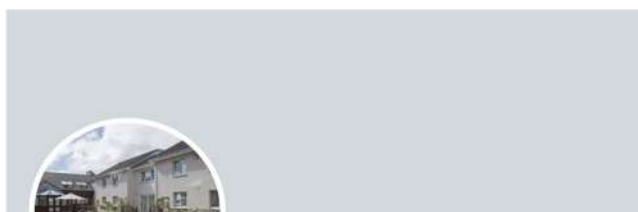
@JennikBurton Follows you

Clinical Lecturer @UofGSCMH Trainee Geriatrician. Passionate in researching care home pathways, using data to enable evidence-based care. Fondness for baking.

Glasgow, Scotland gla.ac.uk/schools/cardio...

Joined September 2013

3,955 Following 3,731 Followers



...

Rashielee Care Home

@rashielee

We are a 42 bed care home in the town of Erskine. We work hard Rashielee Care Home is a happy place to live and and work.

Joined April 2020

4 Following 602 Followers



... Following

Alyson Vale

@AlyMcKechnie Follows you

Business Director & Creative Care Producer of Abbotsford Care - Family-Run Care Home Organisation.

Fife abbotsford-care.co.uk Born September 19

Joined January 2012

2,133 Following 1,435 Followers



... Following

Arlene Bunton

@ArleneBunton Follows you

Independent Sector Lead @ Scottish Care
Doctorate in Applied Social Research (Dementia and Ageing) Student. PG Dip. Ba (Hons). Views are my own. #AgeWithRights

Researcher Scotland, United Kingdom Born July 25, 1985

Joined December 2018

1,022 Following 833 Followers

listening & learning

adaptation in uncertainty

inspections and audit implied criticism

lack of communication

recognition of the specialism

desire for wider professional and public respect

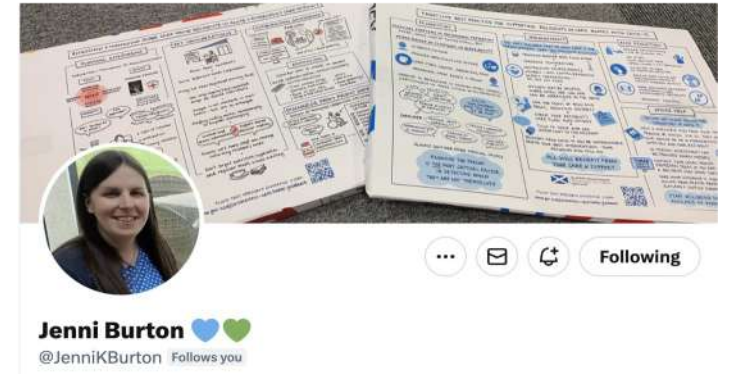
genuine representation and involvement in planning, policy-making and research

complexity and diversity of care home practice

respectful relationships across professional groups

additional workload and responsibilities

regulation and oversight



Conclusions

The lived experiences of care home staff during the COVID-19 pandemic provide valuable insights applicable beyond the pandemic context. This includes: recognition of the specialism, complexity and diversity of care home practice; the value afforded by embedding genuine representation and involvement in planning, policy-making and research; the need for individualising to people in their contexts and the value of fostering respectful relationships across professional groups to support residents. **and learning: a qualitative study of Scottish care home staff experiences of managing COVID-19 between March 2020-August 2022**

Jennifer Kirsty Burton , Maria Drummond, Katie I Gallacher & Terence J Quinn

[BMC Geriatrics](#) 23, Article number: 544 (2023) | [Cite this article](#)

care home data sharing_

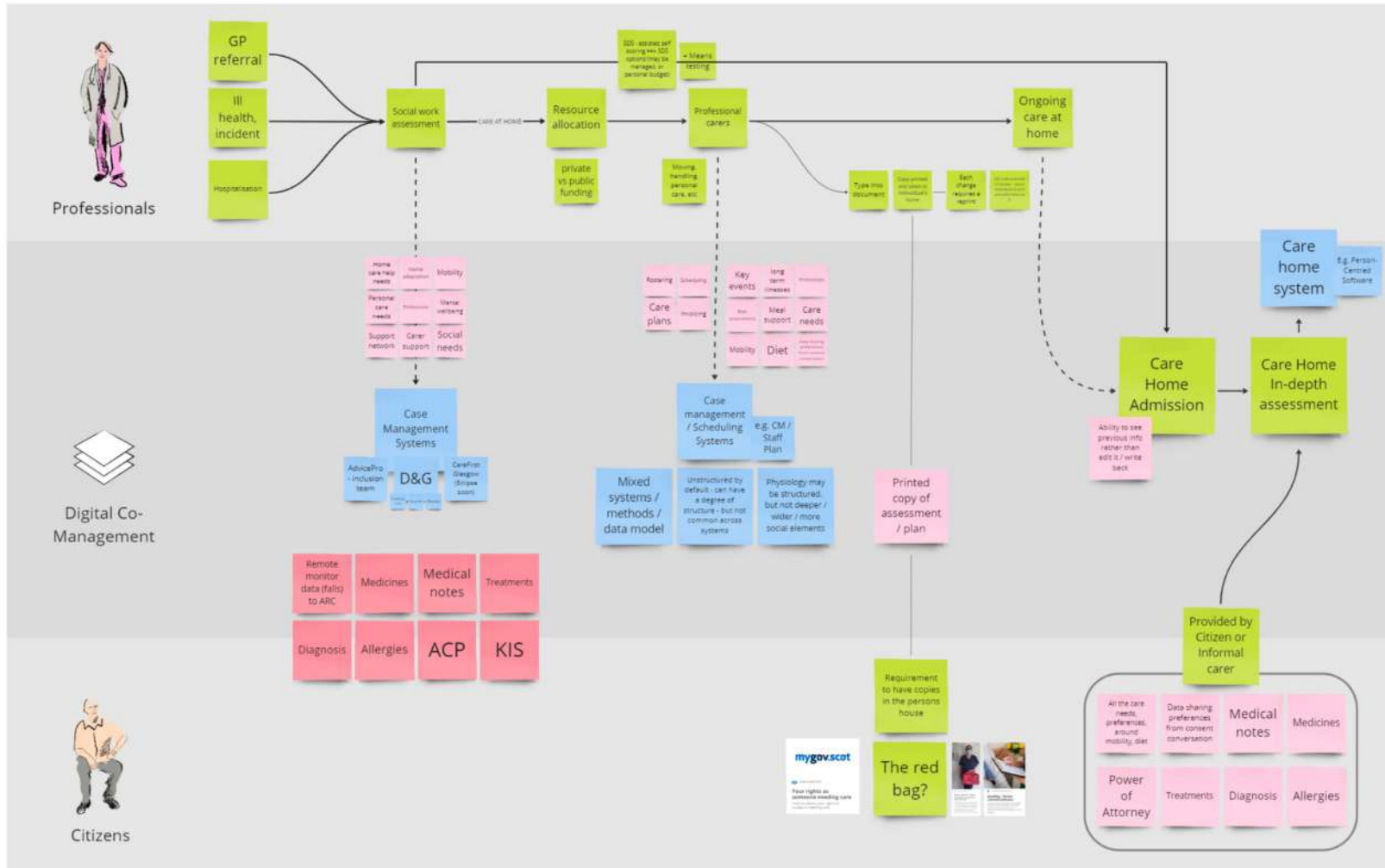
... it is recognised that the effective sharing of data presents significant opportunity to enhance roles and relationships across health and social care, partnership and multi-sector working, and ultimately impact on the experience of people with support.

The scope was to help move forward collective thinking on how data sharing in and around care homes could be more person-centered and support better, more integrated care.

.....need to “Identify needs and develop approaches for data gathering that supports better individual care planning, the provision of services, supports and activities, and reduces the reporting burden of care homes.

Care home data sharing

3.6. Workshop 5 – Exploring a Scenario: Care at Home to Care Home Transition



KEY

- Green: General steps / teams involved
- Pink: Relevant data not normally available
- Blue: Data shared / needs
- Light Blue: Key software systems



care home data sharing_

1) Capitalise on the richness of care home data and an increasing professional expertise – the care home ... was a rich source of data about someone's preferences, needs, medications adherence and in some cases clinical observations, vital signs etc. This degree of day to day living data is not routinely available for most populations – and could be used to significantly improve visiting or remote clinical care offered to care homes....

3) Develop a citizen held record / red bag / hospital pack digital pathfinder project - to capitalise on existing practice and regulatory requirements....The system isdependent on 'citizen held' records following them as they transition between services – but there is no infrastructure to make this more secure, consistent, and scalable. At worst case the records never appear, and they must start from the beginning with the citizen and call the 'switchboard' (GP Practice) to fill in the gaps. There is an opportunity to model the 'digital red bag' and give it to the citizen in their Personal Data Store to support the care transitions described above.

2) Understand the National Digital Platform roadmap and delivery timescales for their Clinical Data Repository - as this will be a resourced and consistent method for those looking to interact with primary care records in the next several years. Consider proposing a pathfinder project ... to show the potential for two-way sharing and better coordination between primary care and care homes in the future....align with the Scottish Government Care Home Data Review initiative.

4) Consider personal, experiential, and holistic data - from outside of statutory services could be gathered by a citizen or their informal circle of care as they go about their daily lives....help people stay independent and as a byproduct have the necessary story already held and shareable when they need additional support or transition into a care home. DHI's Digital Front Door Pathfinder projects in Moray and Midlothian are exploring how to manage this in a care at home context....extend into care home transitions.

workforce skills



CARE CONNECTOR

Specialising in facilitating meaningful relationships - both physical and digital - for people receiving care at home and supports clients to work towards their aspirations and goals.



CARE NAVIGATOR

Specialising in coordinating the multidisciplinary care team through gathering, making sense of and organising different flows of data in order to provide responsive, personalised and relationship-based care at home.



CARE TECHNOLOGIST

Specialising in facilitating the interactions between assistive technology, people receiving care, and the wider care team in order to provide meaningful and personalised support.

making sense of and organising different flows of data...to provide responsive, personalised and relationship-based care

activism_

TIME TO BE HEARD



**HIVE/MIND
MANIFESTO
LAUNCH**

Join us for the launch of our manifesto for change and collective action. We are re-envisioning the future considering the sustainability and growth of the Care Home Sector, *buzzing with provocation.*

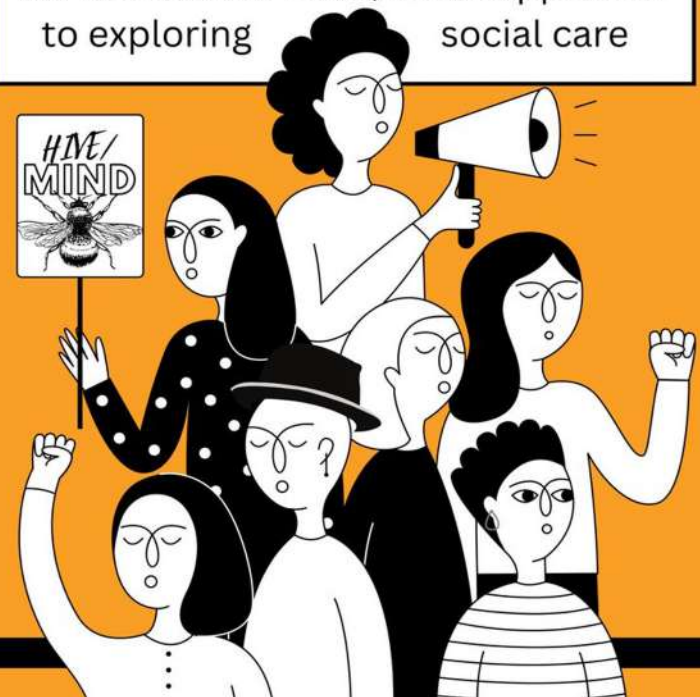
6TH SEPTEMBER 7PM

AT THEATRE NEMO STUDIO 130 BRIDGEGAIT GLASGOW

f t i #TIMETOBEHEARD #CAREABOUTCARE

SPEAKERS CORNER

Join us outside Holyrood, Edinburgh on 30th November from 11am. We will use our HIVE/MIND approach to exploring social care



Maah

Alexandre Colle

Moira Mackenzie

CHAT Lessons Learned



Digital Health & Care
Innovation Centre

Care Homes Assessment Tool (CHAT)

Findings from Stage 2 Proof of Concept

June 2022



What is CHAT?

- CHAT: A consistent and structured symptom checking and assessment tool, which provided guidance on Covid-19 and other common infection symptoms, to aid communication between the care home and external clinical support (GP)
- Stage 1 Test of Change undertaken (March – June 2020) – Positive Independent Evaluation Findings

Stage 2: Proof of Concept - Project Aim and Deliverables



Aim: To rapidly develop and test a **live implementation of the CHAT in at least two Health Board/HSCP areas to improve local operational decision-making in Care Homes, aid communication in situations where external clinical support is required and provide early notification of a potential viral outbreak within this sector.**

Deliverables:

- Develop an early stage production version of the digital tool for readiness by June 2021.
- Establish impact metrics for the project, and undertake an independent evaluation
- Develop a service model that can be scaled nationally
- Produce staff training materials for users of the tool
- Produce a Service Implementation Pack to support adoption and spread
- Implement a 'live' small scale service in Care Homes within at least two Health Board/HSCP test beds

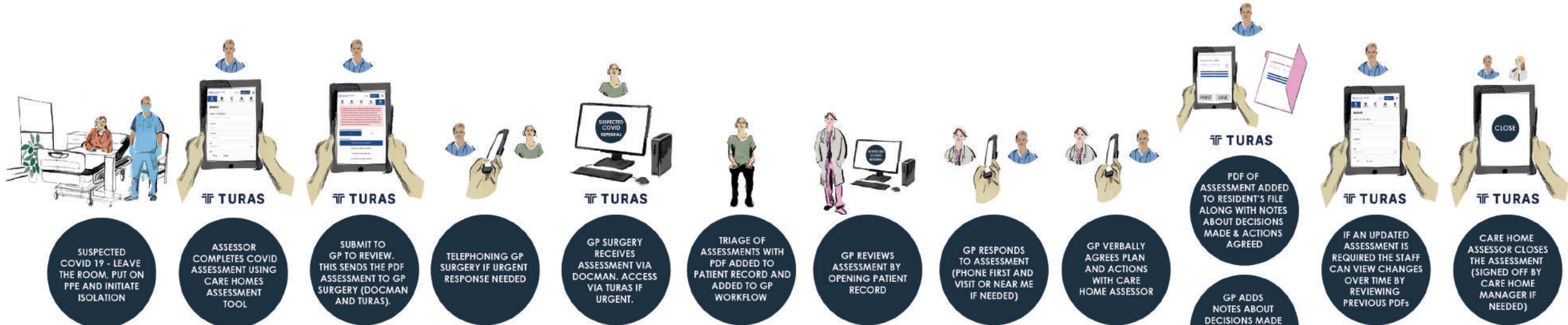


Project Workpackages





Work Package	Description	Organisation
1	Project Management	DHI
2	Service Model Review	DHI
3	Application Development	NES
4	Service & Infrastructure	NES
5	Dashboards	NES
6	Governance & Compliance	DHI
7	Training & Guidance	DHI
8	Evaluation	UoS
9	Dissemination	Scot Care/DHI

High Level Generic Service Model



Key

-  OBS TRAINED CARE HOME ASSESSOR
-  CARE HOME MANAGER
-  GP ADMINISTRATOR
-  GP

What did CHAT look like in practice?



nancy.nurse@int.ca.example New tab Turas | COVID-19 Clinic: x

https://nesturasclinicalassistcareint.azurewebsites.net/Security/Assessor

TURAS | Clinical Assessment Care Homes Dashboard Applications Nancy Nurse

Home Create Assessment My Assessments Help

Carer Homepage

Create Assessment

Create an assessment of a resident.

Create Assessment

My Assessments

View your current or previous assessments.

My Assessments

Accessibility Privacy Terms and Conditions

©2011 NHS Education for Scotland

1.0.0.0

TURAS is developed by NHS Education for Scotland

Create Assessment

Carer Homepage > Create Assessment

< Back Create Assessment

S Situation	B Background	A Assessment
-----------------------	------------------------	------------------------

Resident Details

Resident CHI Number *

First Name *

Last Name *

Date of Birth (dd/mm/yyyy) *

Age *

Create Assessment

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Create Assessment

S Situation	B Background	A Assessment
-----------------------	------------------------	------------------------

Resident's Background

Level Of Independence (Frailty Score)

End of Life Pathway? Yes No

Is there an ACP Available? Yes No Unknown

Is there a DNACPR in Place? Yes No Unknown

Create Assessment

Carer Homepage > Create Assessment

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Create Assessment

S Situation	B Background	A Assessment
-----------------------	------------------------	------------------------

B. Breathing

SpO2
(0 to 100%) %

Respiration Rate
(BPM 0 to 55) bpm

Oxygen (O2) Delivery

<input type="radio"/> Room Air	<input type="radio"/> Nasal Prongs	<input type="radio"/> Mask	<input type="radio"/> Nebuliser	<input type="radio"/> NIV
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C. Circulation



Evaluation

The findings from this small evaluation tentatively suggest that the use of CHAT should be further developed and evaluated within care home settings. Future developments may consider:

- Including a wider range of clinical applications to make the use of CHAT suitable for general use
- Incorporating validated risk assessment tools to support diagnosis and triage
- Supporting direct communication with external clinical support and integration with electronic health records
- Ensuring adequate resource (policy, organisational, workforce, finance) to support the successful use of CHAT in care home setting
- The timing of future implementations of CHAT and surrounding contextual factors to optimise uptake and use
- Future evaluations to further determine the feasibility and efficacy of CHAT to inform decisions re future national uptake



Challenges

- Implementation took place over 3 waves of the Covid-19 pandemic (Aug 20 – June 22) Timescales slipped
- Capacity challenges
- Accessing timely guidance and support with IG & CG
- Varied service models across care homes & GP practices.
Simplified 1:1 model
- In hours only – need for 2-way communication & Information flow



Lessons Learned

- Keep initial scope of innovative digital solutions simple to accelerate adoption within tight timescales and add on enhancements/functionality in an incremental way.
- Oversimplification of any service model will limit ability to scale. Undertake survey to map variation of service models operating across the country to inform specification for a national digital application.
- Collaborative co-design workshops involving all key stakeholders can be managed effectively on-line and should involve application developers sharing iterative versions to demonstrate progress and support adoption in an agile way.
- Information and Clinical Governance processes need to be clarified and simplified at a national level.
- Alternative solution to support timely and two-way transfer of information between care homes and NHS is required (in-hours and out of hours), as EDT does not provide a time sensitive approach.
- Need for a consistent approach to be in place nationally to support Care Homes staff training and digital upskilling.
- A future CHAT solution ought to be developed to an agreed solution architecture model to assure scalability and maintainability.



Conclusion

- CHAT was a **tactical response** to support deteriorating Care Home resident Covid-19 cases
- Lengthy implementation timescales due to Covid **capacity challenges**, and navigation of **complex clinical and information governance processes**
- Although practical usage and engagement low, **detailed insights** were generated
- General agreement that a **digital tool is valuable for integrated care** to support consistent and structured assessments & communication
- No **national Product Owner** in place to develop and manage such a tool but NCS may address in future
- CHAT is a **microcosm of larger system issues** around early intervention & integrated care



Recommendations – July 22

Short Term Recommendations

- Retain CHAT code and application backlog to inform future developments.
- Share the CHAT Stage 2 Report with key stakeholders to support knowledge exchange and gather views on next steps.
- Scottish Government commission a survey to map the variation of care home service models operating across the country to inform the functionality and standards required for care homes assessment tools.
- All to use the findings of this report to further promote the need for comprehensive digital skills and training programmes for staff working in care homes
- DHI and Scottish Care raise issue with Scottish Government around fundamental need to develop consistent and streamlined Clinical and Information Governance processes in support of innovation.

Has anything changed?

- Since 2020, wide ranging interest & commitment for digital within social care
- Healthcare Framework Adult Care Homes progressing e.g. DanceSing roll out
- TEC Tests of Change Portfolio – Early Stage
- Digital Skills, Leadership & Role Development
- No overall success criteria to take to Scale
- Limited Awareness of Wider Services/Apps
- Huge capacity challenges in system, lots of movement
- Inconsistent, opportunistic, short-term funding
- Continuing complex IG/CG issues with no national leadership (data collection, analytics, integration)
- Need for national programme approach

Scottish Government
Healthcare framework for adults living in care homes
My Health - My Care - My Home

Annual Progress Report
September 2023



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(image credit 'Care at Home Workforce of the Future' - Dr Tara French, Ute Schaubberger)

Scottish Care

Mash Up

Dr Mauro Dragone



Robotic + Care Mashup Oct 16th-20th 2023
UK National Robotarium
GRI in Health & Care Technologies
Heriot-Watt University



THE NATIONAL ROBOTARIUM

PEOPLE CENTRED :: INTELLIGENCE DRIVEN

EPSRC EMERGENCE & Robotic + Care Mashup - Oct 16-20 - 2023

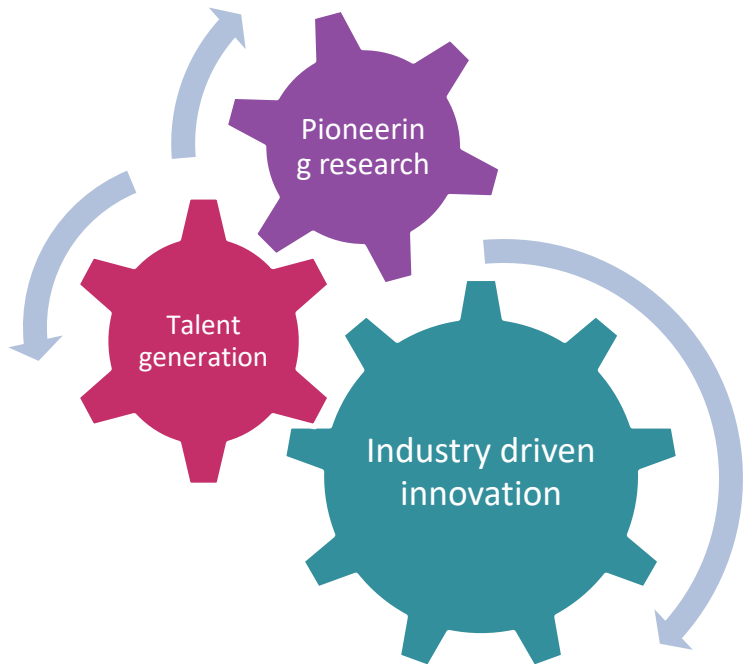
Dr. Mauro Dragone, Associate Professor
CARE Group (<http://care.hw.ac.uk>)
Institute Sensors, Signals and Systems, School of Engineering & Physical Science
Heriot-Watt University





EDINBURGH CENTRE FOR ROBOTICS

Innovation Ready



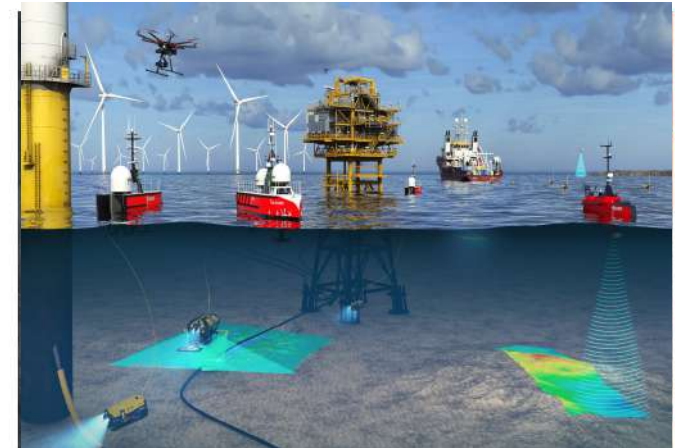
TRAINING
EDINBURGH CENTRE FOR
ROBOTICS



RESEARCH
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ROBOTICS



**NATIONAL
ROBOTARIUM**



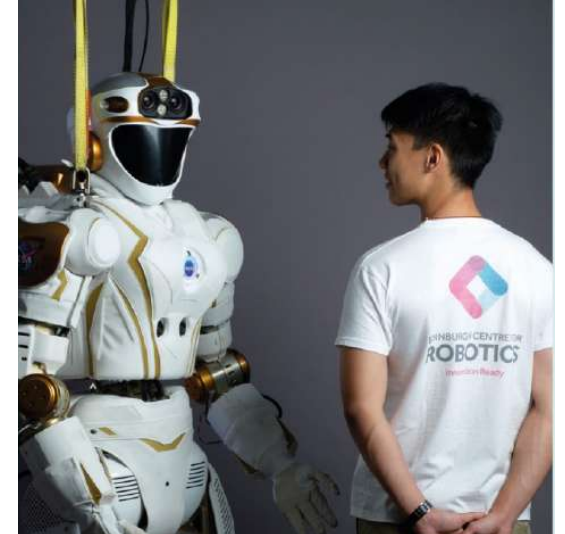
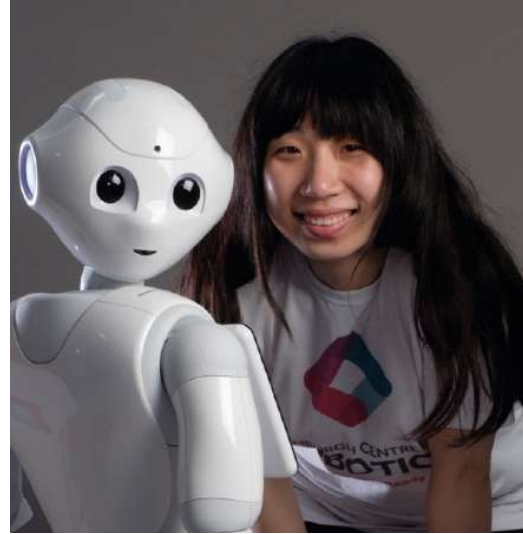
ORCA HUB
Offshore Robotics for Certification of Assets





TRAINING

EDINBURGH CENTRE FOR
ROBOTICS



edinburgh-robotics.org



TRAINING

EDINBURGH CENTRE FOR
ROBOTICS



MSc In Robotics

<https://www.hw.ac.uk/uk/study/postgraduate/robotics.htm>

CARE Group and Ambient Assisted Living @ Heriot Watt University



Internet & Robotics for Ambient Assisted Living



Research in IoT, Cloud and Robotics for Ambient Assisted Living (AAL)

- H2020 METRICS – Benchmarking Assistive Robotics
- EPSRC Healthcare Network Plus EMERGENCE (Robotics for Frailty)

New Assisted Living Laboratory, part of the UK National Robotarium, since September 2022.



EPSRC

Engineering and Physical Sciences
Research Council



EMERGENCE

Tackling Frailty - Facilitating the Emergence of
Healthcare Robots from Labs into Service

<https://www.emergencerobotics.net/>

Rebekah Moore



Nottingham 28th September
2022

Praminda Caleb-Solly



Mark Hawley



Mauro Dragone



Farshid Amirabdollahian Alessandro Di Nuovo



The
University
Of
Sheffield.



University of
Hertfordshire

Sheffield
Hallam
University

Bridging the gaps between:



- Realising the potential of Assistive Robotics
 - How to establish longitudinal functionality and effectiveness?
 - How to ensure appropriate deployment?
 - How to ensure future care integration and workforce skills development?





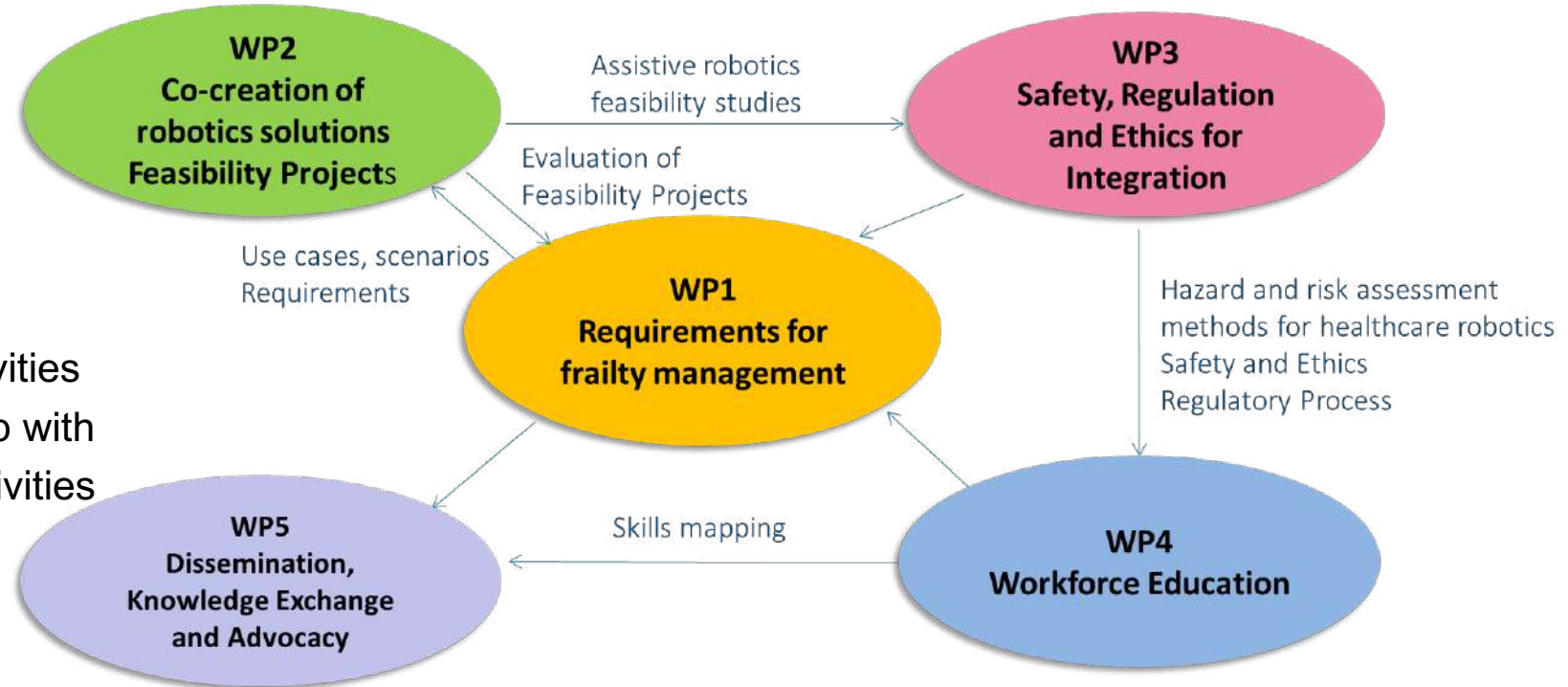
Tackling Frailty: Facilitating the Emergence of Healthcare Robots from Labs into Service

The EMERGENCE Mission

EMERGENCE seeks to foster the development of assistive robotics to improve the QoL and independence of people through:

- Self-management of frailty by supporting behaviour change and rehabilitation activities
- Mitigation of effects of frailty through help with activities of daily living and wellbeing activities
- Supporting healthcare professionals to monitor capabilities and make tailored interventions

Our focus is on addressing the practicalities of real-world adoption and deployment



Why Frailty?

- Frailty is a significant public health problem affecting up to 50% of over-85s (10% of over-65s)
- It has a significant effect on QoL & is associated with falls, delirium, disability, care home/nursing home/hospital admission and death
- It can be mitigated, managed, and even reversed, with the right support, self-management and intervention
- It is a variable condition prone to rapid changes (and thus needs to be tackled using adaptable, intelligent technology)
- Frailty is multi-faceted and therefore solutions could be generalisable to other conditions



Emergence

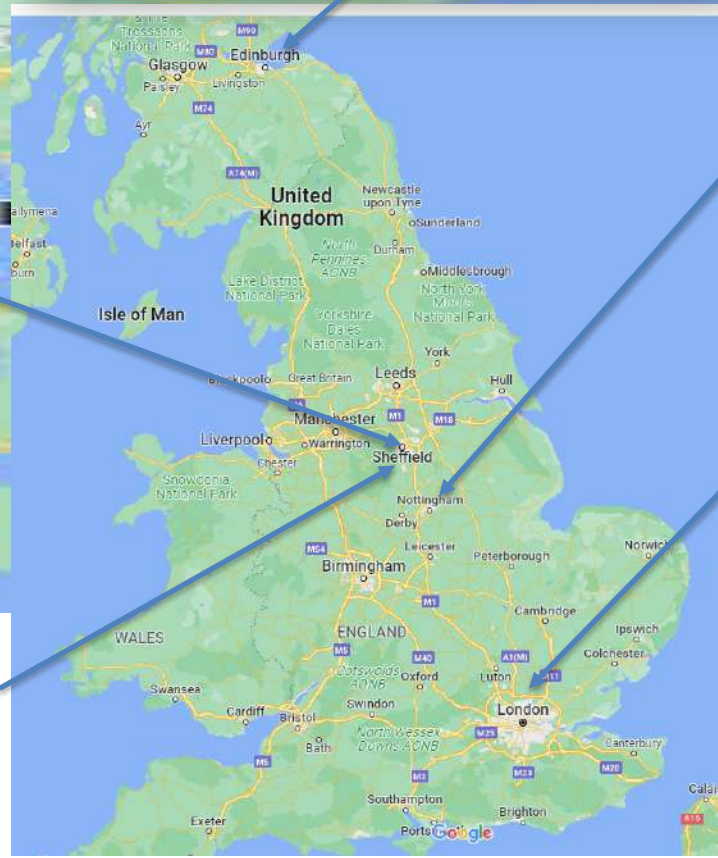
Bringing together five state of the art robotics testing facilities in the UK



Create.
Connect.
Collaborate.



living normally testing a range of technologies whilst being observed and evaluated by researchers.



Robot House 2.0
EPSRC infrastructure award

Develop robot house

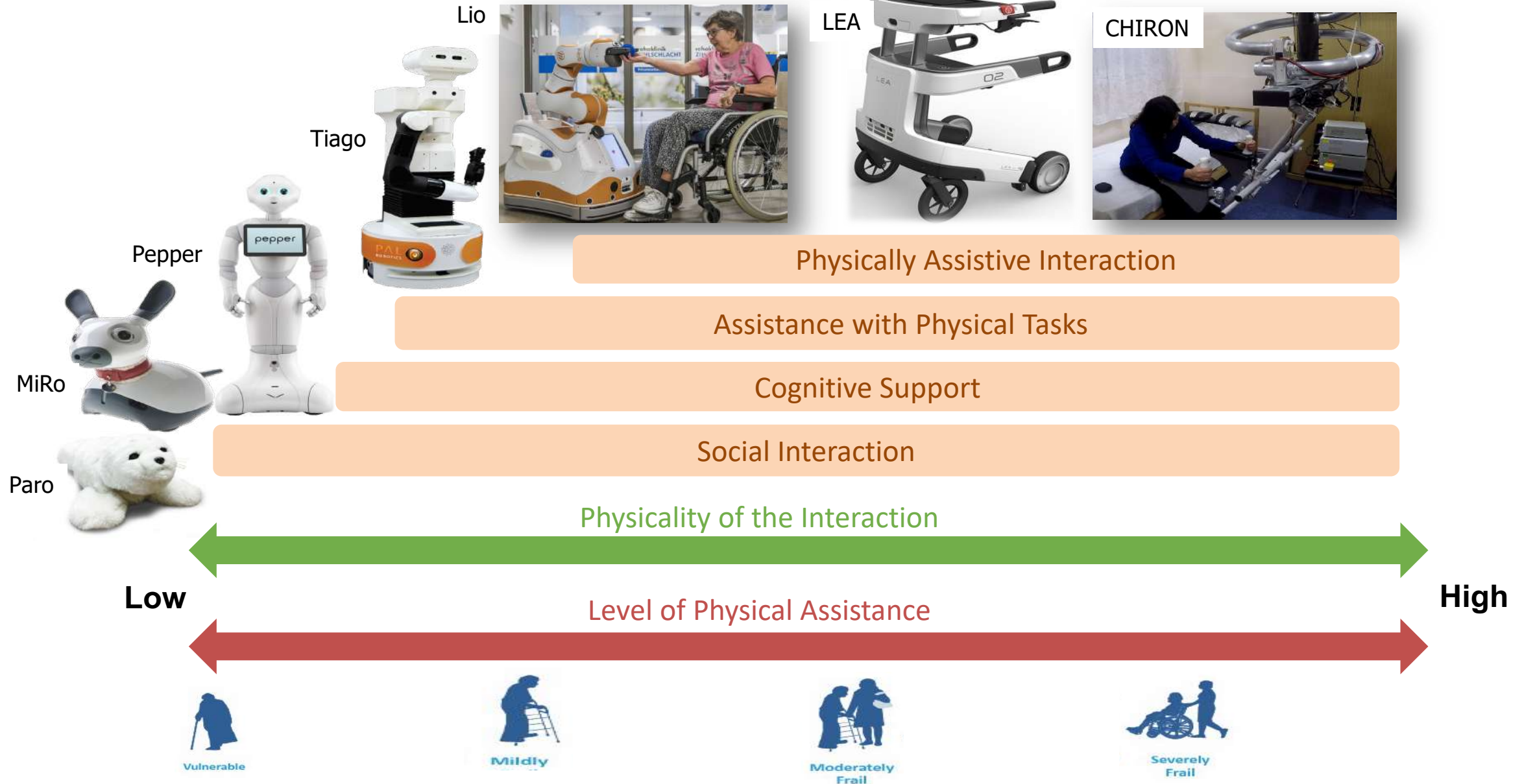
- New robots
- Advanced sensors

University of Hertfordshire **UH**

Advanced Wellbeing Research Centre



Robots for different levels of Assistance and Interaction





Co-production workshops

Aim:

- To understand requirements of service users and care providers to manage, assess, monitor and reduce frailty.
- Involve people living with or at risk of frailty, their carers, health and care practitioners and other stakeholders.

Target outcomes:

- Establish requirements, use cases and scenarios for assistive robotics applications.
- Inform feasibility studies and other EMERGENCE activities.
- Also make available to wider robotics community.



Emergence

Co-production Workshop Format

Envisaged as a series of paired workshops, with same participants (as far as possible):

- First (“**discovery**”) workshop to focus on identifying and understanding needs and aspirations
- Second (“**define**”) workshop to identify the challenges that subsequent work will try to address

Focus on gathering insights in relation to activities of daily living

Facilitated discussions

Participants’ contributions were summarised and recorded by facilitators (with professional illustrator at some workshops to sketch emerging themes in “real time”).

Getting up: waking, toileting, washing and bathing, dressing, medication

Mealtimes and snacks: planning meals, food preparation, ordering food, utensil operation, cooking, eating, drinking, washing up, remembering to eat or drink enough, maintaining a balanced diet, etc.

Household chores: cleaning the house, heating the house, laundry, everyday repairs and maintenance, looking after pets, household management (payment of bills, etc)

Out and about: getting around (walking, driving, public transport), going to the hairdressers, going to the supermarket, going to the bank or post office, going to the doctor’s, buying items, carrying things, outdoor exercise

Socialising and pastimes: home entertainment (TV, music, internet, puzzles), gardening, meeting friends and family, receiving guests, indoor exercise, outside entertainment (cinema, concerts, bingo, book groups, walking groups,...)

Bedtime: taking medicine, switching off and locking up, climbing stairs, getting to sleep, getting up in the night

Value Evidence Collection

Total of 7 workshops:

- ADL workshops hosted by Sheffield (x2) and Hertfordshire (x1).
- SM workshops hosted by Heriot-Watt (x2).
- HCP workshops hosted by Nottingham (x2).

Differences in focus and target groups led to different recruitment strategies and types of workshop location:

- e.g., Sheffield workshops took place in an independent living scheme with residents and staff as participants
- All involved small (4-6 participants) group activities



Activities of Daily Living: Nature of Issues

This led to wider discussion about the nature of getting older & particularly SOLITARY LIVING



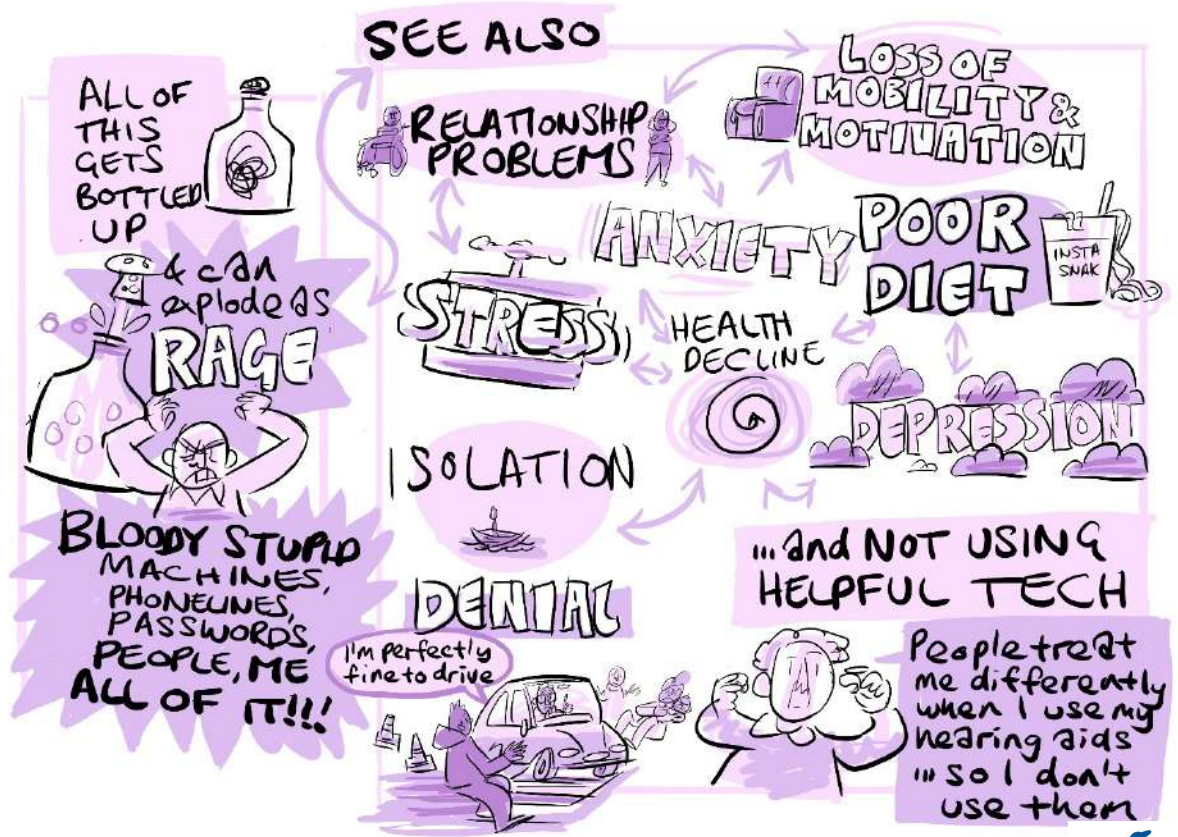
Take the KITCHEN. Cooking is an EFFORT.



I'm tired... I don't need to worry about washing up tonight

Looking at the state of the place it won't make much difference

This leads to HAZARDS, POOR DIET, LOW ENERGY, LOW SELF ESTEEM, POOR HEALTH...



Some Ideas for Assistance...

- ...with household cleaning...
- ...in the kitchen...
- ...with physical tasks and the lack of dining motivation/inspiration
- ...with motivation to 'get out of bed' and exercise (appropriately)
- ...by providing companionship and social interaction...
- ...to overcome loneliness and isolation
- ...by making toileting, showering and bathing less difficult
- ...with mobility around the house...
- ...getting up from beds and chairs, negotiating stairways
- ...by providing reminders about tablets, bills, activities, car keys and wallet

When thinking about applications for assistive robots it's easy to think in simplistic PHYSICAL TERMS...

So many tasks! We started by acknowledging robots can't do EVERYTHING

But it felt like attempts to whittle down to main areas of focus were going to be less easy than hoped

PROBLEM	FREQUENCY	PRIORITY
EVERYTHING that used to be easy	Increasing with age, time of year, mood...	Depends...

PROBLEM → SOLUTION

TIN → [Robot]

There WERE some easy wins & good suggestions...

Bath & toilet are obvious areas hazard & difficulty...

Waterproof Robo bath chair?

Automated shower?

Shampoo Please... Bit hotter

Maybe shower could identify parts that require an extra blast!

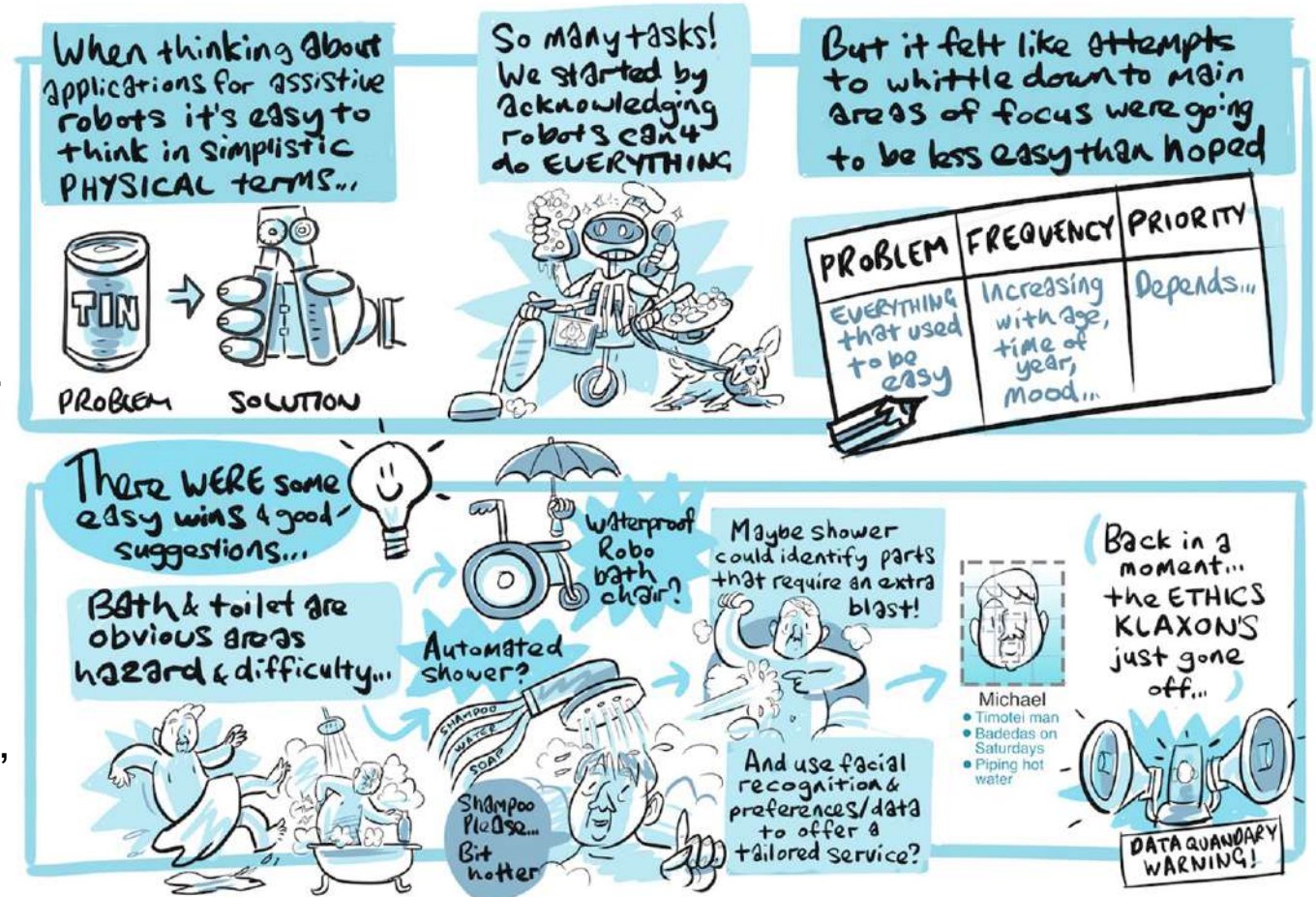
And use facial recognition & preferences/data to offer a tailored service?

Michael

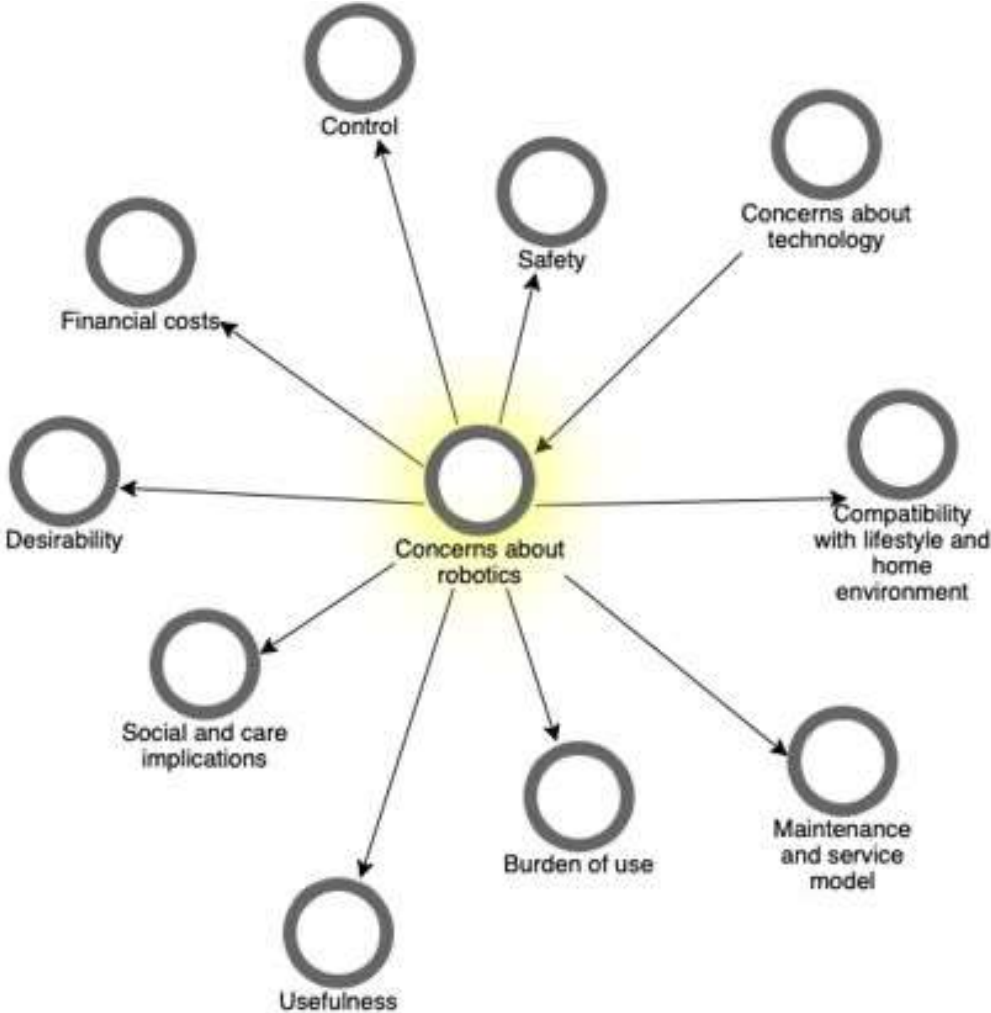
- Timotei man
- Badedas on Saturdays
- Piping hot water

Back in a moment... the ETHICS KLAXONS just gone off...

DATA QUANDARY WARNING!



Concerns about Robotics: Themes



Pets can help with loneliness..

...but come with their own problems

... and aren't allowed in most shared accommodation..

Similarly, motability scooters are a lifeline...

...but aren't allowed due to a battery FIRE RISK...

...but what about a ROBO-FRIEND who has your back, chivvies you on, connects you with others

Not a solution to all problems

...a bridge to more independence

What about COMMUNAL ROBOTS that come to you?

& knows when something's up... & acts on it?

PRIVATE OWNERSHIP of robots for all the tasks they'd be good for is PROBLEMATIC...

Final Commentary

We have collected a rich set of data about people's needs and concerns:

- Broadly align with findings from other studies and the known issues of living with frailty
- Provide some indication of relative “prominence” of needs/concerns

Gathered ideas from service users themselves about the sort of robots they would like (and those they would not like).

Alongside (uncertainty about) safety/operation, prominent concerns relate to:

- questions of compatibility with lifestyle and home;
- doubts over usefulness/desirability;
- concerns about added burden of use/maintenance overheads.

Not simply a question of whether the device (safely) addresses a real need/want, but whether it can be assimilated easily and effectively into the user's everyday life.



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Nottingham
UK | CHINA | MALAYSIA



University of
Sheffield

Sheffield
Hallam
University

University of
Hertfordshire **UH**

Emergence Funded Project 1

I need help but my robot can't get down the stairs: A Healthcare Architecture Focused Study

University College London (Lead), Cardiff University, Hobbs Rehabilitation, Gloucester City Homes

This project will identify the key barriers relating to the built environment and architecture that impact on effective integration and deployment of robotics technologies in the real-world.

The outcome will be a framework that can lead to better robot-environment integration and design for deployment of robotics technologies in real home settings.

Contact: Dr Evangelia Chrysikou e.chrysikou@ucl.ac.uk



Emergence

www.emergencerobotics.net



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Emergence Funded Project 2

CIREI - Challenges of Integrating Robots with Embodied Intelligence in the Homes of Older People Living with Frailty: Towards a Smart Middleware Architecture

Sheffield Hallam University (Lead), King's College London, University of Sheffield, University of Nottingham, Darnall Wellbeing, Astraline

The CIREI project will address one of the fundamental challenges of integrating different types of smart home and robotics technologies - the lack of an open middleware platform that works across a range of technologies.

Insights and guidance from this project will inform the development of a smart middleware framework and a simple prototype that showcases the potential benefits of integrating multiple smart platforms.

Contact: Dr Abdel-Karim Al-Tamimi a.al-tamimi@shu.ac.uk



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Emergence Funded Project 3

Robobrico: A Modular Assistive Robotics Platform Co-designed with Users

Heriot-Watt University (Lead), Konpanion, University of Edinburgh

This project addresses the key issues related to ensuring that the robotic platforms can be easily adapted so that they stay relevant to changing needs of the end-user. Also creating modular robots addresses the sustainability agenda which is a key part of responsible research and innovation. .

The project will develop a solution by using a co-design process and rapid manufacturing framework to create practical robotic modules that meet the changing needs of older individuals. We use advanced additive manufacturing techniques to produce tailored support for adults in later life and their carers

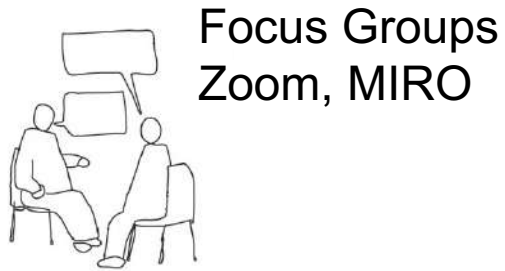
Contact: Dr Alistair McConnell, alistair.mccconnell@hw.ac.uk



Emergence

www.emergencerobotics.net

Robotic+Care Mashup 2021



Personas




Co-Design workshops
Zoom (including from lab with live demos), MiRO

Projects proposals



- Hackaton
 - Match-making
 - Mentoring
 - Talks



Robotics & Care Mashup

A hackathon and online summit for care professionals, technologists and designers. Join our community hub for free with just your email address to learn more, meet the other attendees and register a team!

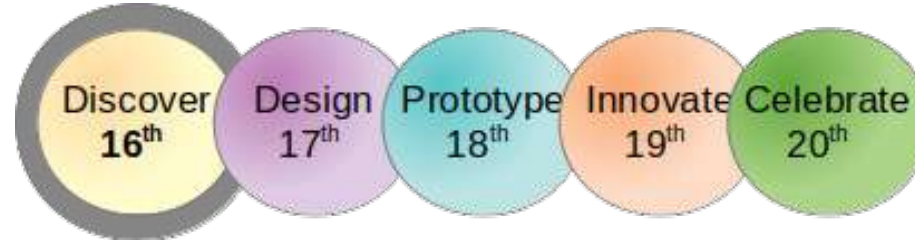
9AM 10 – 5PM 14 May 2021 BST



Mashup 2023 - Partners and Contributors



2023 - Event Schedule



- **Oct. 19th**
 - 9:30-12:30 – Team projects updates and mentoring
 - 13:30 – EarSwitch; accessibility is in your ear – D. Nick Gompertz, Ear Switch Ltd
 - 14:15 – Lowering the bar to innovation with robots – Dr. Daniel Camilleri, Bow Ltd
- **Oct. 20th**
 - 9:45 – 10:30 – Final project presentations – Prof. Roy Sandbach, OBE, Newcastle University

Lucy Johnston

Prof Susan Shenkin

Innovation and research in care homes

Prof Susan D Shenkin

Professor of Healthcare for Older People,
Ageing and Health, Usher Institute, University of Edinburgh
Advanced Care Research Centre, University of Edinburgh
Co-chair, ENRICH Scotland & CHIP

@SusanShenkin

Susan.Shenkin@ed.ac.uk

Seeing innovation through - a research lens - a health and care lens: and some useful resources

Susan Shenkin &

Lucy Johnston – Senior Research Fellow, Edinburgh Napier University

Cheryl Henderson – Education and Dementia Co-ordinator, Elder Homes; co-chair CHIP (Care Home Innovation Partnership), Lothian

Innovation

- “Innovation is the process of bringing together new science, ideas and improvements to benefit our patients and the quality of care that we provide... doing something different, better or safer”
- <https://hises.edinburghbioquarter.com/>

Research

- “To derive generalisable new knowledge that could lead to changes to health treatments, policies or care.
- <https://accord.scot/>

Health and care

- Health - primary care (GP), secondary care (hospital), tertiary care (specialist hospital)
- Care – own home, care home
- Integration

Collaboration is key

- Within disciplines/universities
- Between disciplines/universities
- Meaningful co-production
- Starting with ‘what matters to you’
- An example: ACRC – Advanced Care Research Centre
- “The ACRC is a multi-disciplinary research programme combining research across fields including medicine and other care professions, engineering, informatics, data and social sciences.
- Our vision is high-quality data-driven, personalised and affordable care that supports the independence, dignity and quality-of-life of people in later life living in their own homes and in supported care environments”



ENRICH Scotland



- A multi-disciplinary team of professionals from nursing, social care, sociology and medicine with a passion for improving access to research for care home residents, their families & the staff who care for them
- Funded by the Chief Scientist Office, Scotland, since 2021
- Supported by NRS (NHS Research Scotland) infrastructure
- Linked to NIHR-funded ENRICH (<https://enrich.nihr.ac.uk/>)



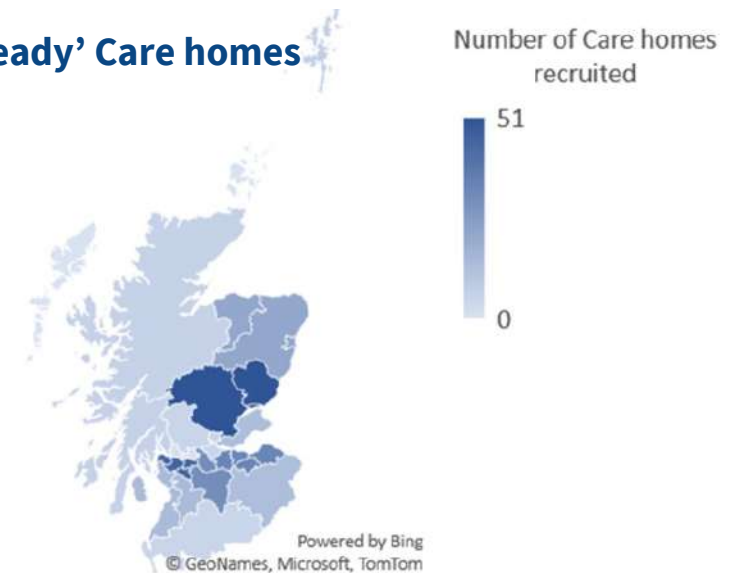


Brings together care home staff, residents and researchers to facilitate the design and delivery of research, to improve the quality of life, treatments and care for all residents.

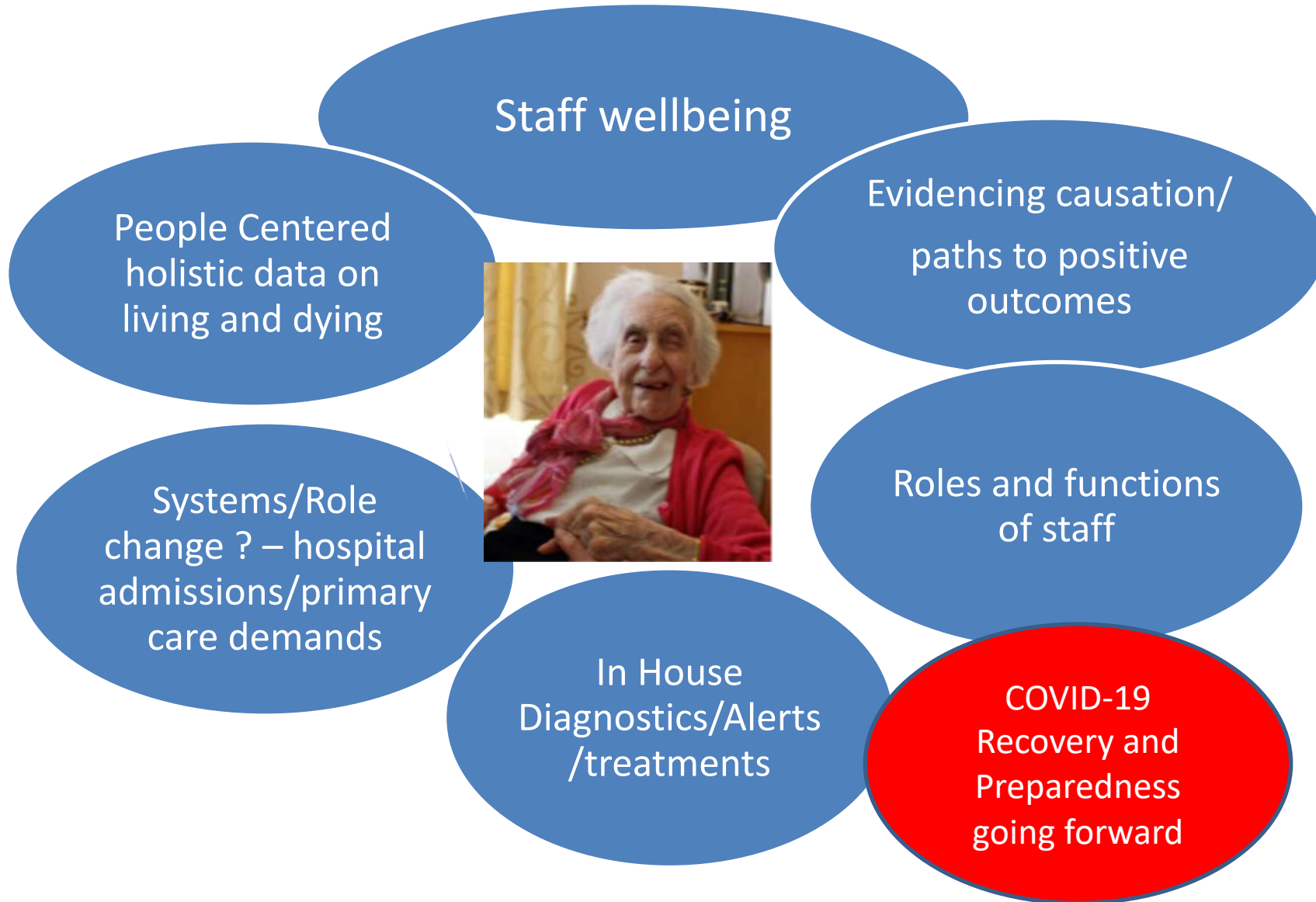
PPI group – RICH Voices

Care Home Innovation Partnerships in Lothian & GGC

261 ‘Research Ready’ Care homes



Care Home Challenge Areas



Care Home Managers Research Interests



Activities

Falls Prevention

Dementia

Medication

Nutrition

Wound Care

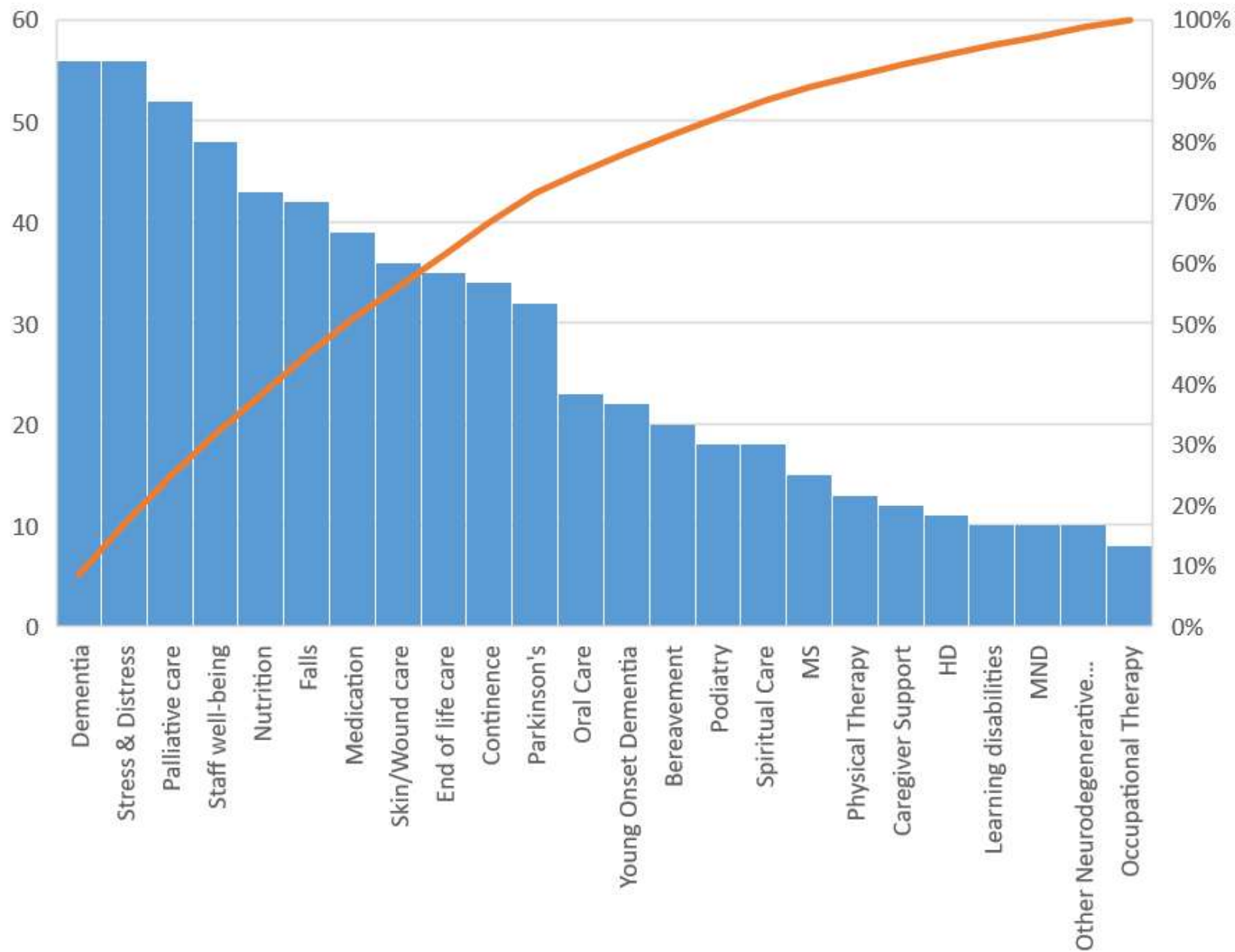
Stress and Distress

Staff Wellbeing

Parkinson's

Disease

Research Interest Survey Results

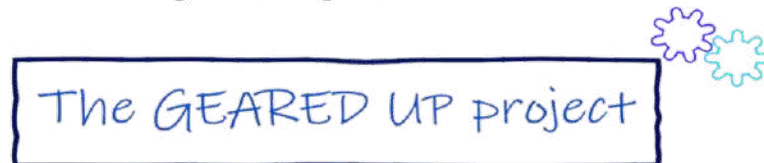


Previous and ongoing work

- **Avoiding Burnout** – supporting resilience and retention (ENU)
- Care Home Support projects (ENU/NHSL)
- **Online Supportive Conversations and Reflective Sessions (OSCaRS)** and family records of deterioration (ENU)
- Foundation **Care Home Data Challenge** – <https://hises.edinburghbioquarter.com>



Care Home Data: **G**overnance, **E**thics, **A**ccess and **R**eadiness through an **E**xemplar **D**emonstration



Social care data

“Social care supports people with daily living so they can be as independent as possible.

- It can also help people who look after a family member or loved one, like an unpaid carer” Scottish Government [Social care - gov.scot \(www.gov.scot\)](http://www.gov.scot)

“Social care data, including social services and safeguarding data, to produce data sets that are used to monitor spending and quality of care and plan and provide services” [Social care - NHS Digital](#)

Social care data collections cover:

- social services activity
- safeguarding adults
- the Mental Health Act
- the Mental Capacity Act
- surveys of those in receipt of care and their carers
- An adult social care finance return
- summaries of the registers of people who are blind and partially sighted
- a social care minimum data set

**** Mapping National Adult Social Care and Care Home Data Sources in Scotland:
Baseline understanding & future potential: September 2022 (www.gov.scot) ****

(Burton, Henderson, Lemmon)

- National data collections
 - Care Inspectorate Register; Datastore; annual return; complaints about care services
 - SOURCE social care data
 - Scottish Care home census
 - TURAS Care management tool 'safety huddle'
- Local care home dashboards in some NHS boards (NHSL, GGC)
- Flags in national data sources
 - CHI institution flag
- National Records of Scotland death registration data
- Scottish Ambulance Service (SAS) & Patient Transport Service (PTS) Data
- Delayed discharge data
- Public Health Scotland
- NHS24

Routinely collected social care data

-Care homes

- **Individual level data**
- 35% of data on Electronic Care Planning software (linkable)
- ECP software and minimum dataset to be mandated in England 2024
- 15 core data items used routinely (in different ways in different homes)
- Different from what's collected for 'Safety huddle/
SOURCE /SCHC

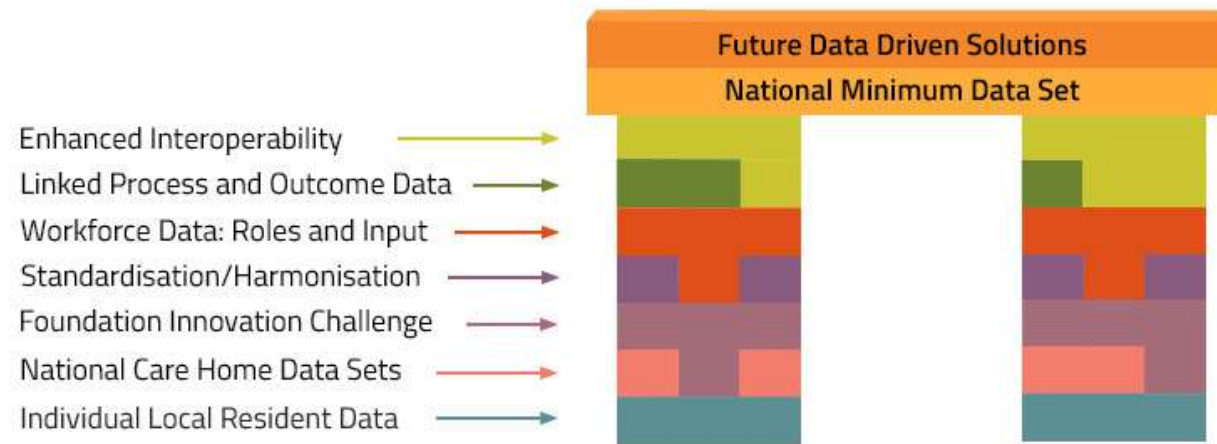
	Area assessed
1	Dependency/ indicator of need
2	Nutrition
3	Weight
4	Incidence and risk of falls
5	Incidence and risk of pressure sores
6	Infections
7	Wounds (new and ongoing)
8	Frailty
9	Bowel Movement(s)
10	Fluid intake
11(a)	Mood: Depression
11(b)	Mood: Delirium
12	Pain
13	Movement
14	Sleep
15	Observations/ Vital Signs

Routinely collected social care data

-Scottish Care Home Census

- **Aggregate level data**
- [Care home census for adults in Scotland - Statistics for 2012 – 2022 - Care home census for adults in Scotland - Publications - Public Health Scotland](#)
- Scottish [Care Homes Census - gov.scot \(www.gov.scot\)](#)
- e.g. 2022, 1,051 care homes for adults, 40,579 registered places – 20% and 5% fewer, respectively, compared with 31 March 2012.
- 33,352 residents aged 18 years and over in care homes – 11% fewer than 31 March 2012 (37,335).
- The estimated percentage occupancy on 31 March 2022 was 82%, compared with 87% on 31 March 2012.
- On 31 March 2022, residents in care homes for older people accounted for 92% of residents in all care homes for adults (30,552 out of 33,352)

Proposed care home data platform



Ongoing work: data

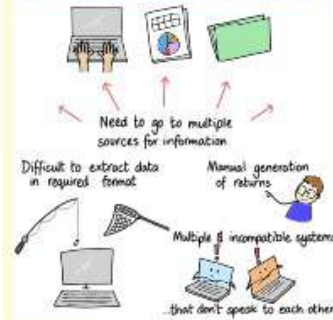
- Community
 - frailty challenge (and other work)
- Care Homes
 - Provision of individual level care home resident data to DataLoch
 - Feedback to care homes, link to Care Inspectorate etc
 - Qualitative work – does data reflect reality?
 - Care home resident flags in TRAK and GP address data (Huayu Zhang and LAS)
 - Monitor ED attendance
 - Link to Patient Level Information Costing System (PLICS) data for NHS Lothian: cost of in-patient treatment for care home residents
 - MDS, evaluation and implementation [DACHA Study](#)
- [Barriers and Solutions to Linking and Using Health and Social Care Data in Scotland | The British Journal of Social Work | Oxford Academic \(oup.com\)](#) Atherton et al 2015
- [Care home data review - gov.scot \(www.gov.scot\)](#)
- [National Care Service - Social care - gov.scot \(www.gov.scot\)](#)

CARE HOME DATA CHALLENGES

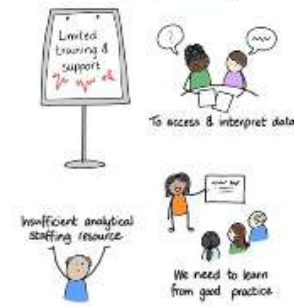
VOLUME OF REQUESTS



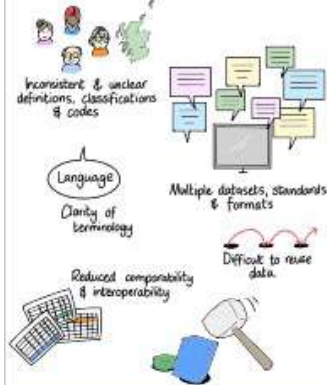
DATA INPUT PROCESS/SYSTEMS



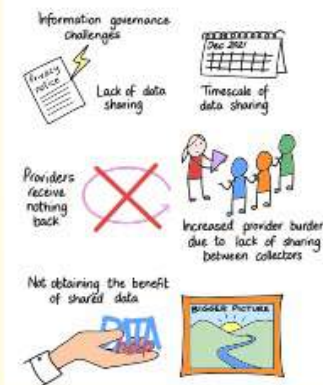
LIMITED SUPPORT



LACK OF STANDARDISATION



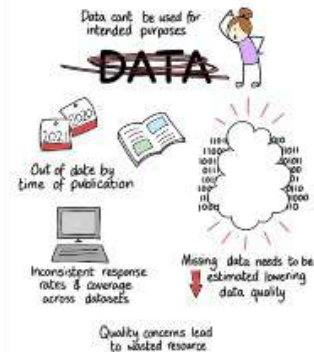
ISSUES WITH DATA SHARING



COMMUNICATION



QUALITY/COMPLETENESS OF EXISTING DATA



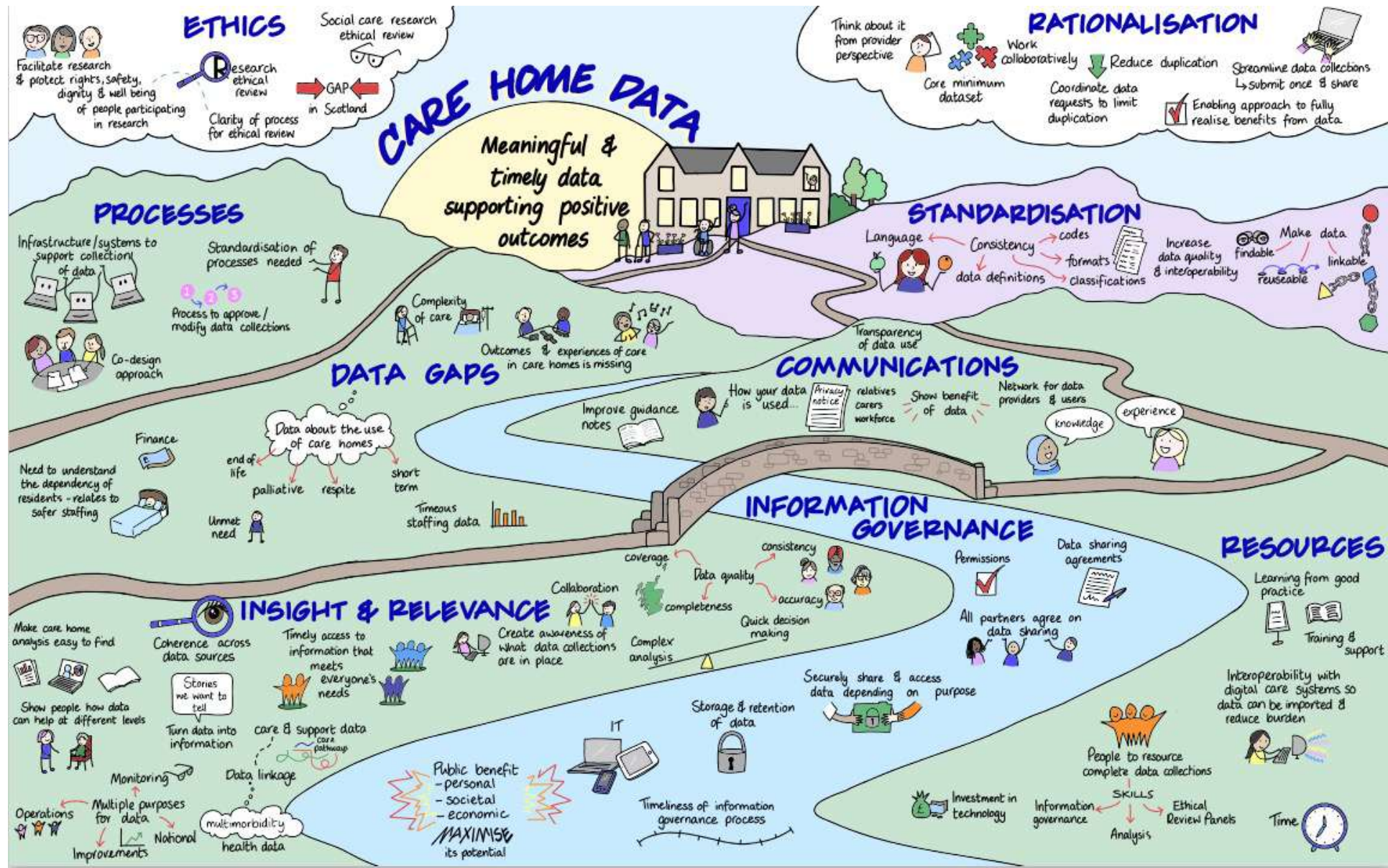
GAPS IN DATA



LACK OF INSIGHT



[Care home data review - gov.scot \(www.gov.scot\)](http://www.gov.scot)



Direction of travel/innovation

- ‘Social care data squad’ trying to improve quality of data collected in H&SCPs and submitted to PHS/SG
- But some concerns from social care about bringing NHS models to social care settings, and not ‘measuring what matters’
- Data driven innovation – allows inclusion of people who lack capacity to otherwise participate in research (ethics/governance issues); assess impact of technology
 - Frailty challenge
- Inter-disciplinary/multidisciplinary training
- National care service
- NIHR area of interest [23/90 Evaluating the organisation, delivery and quality of home care services - commissioning brief | NIHR](#) “Given the size, range and value of the home care services sector, and the importance of these services in supporting people to live in their own homes, this call is interested more broadly in increasing the evidence base and the research readiness of the sector. This may include research exploring the quality (completeness, validity and reliability) of existing data and exploring and testing the linkage of relevant data, the development and evaluation of taxonomies (for example, home care activities – types, intensity and delivery model), core outcomes, frameworks and innovative methods to support high-quality research and reporting, as well as research to develop capacity within the home care services provider and researcher communities.”

Technological innovation

- In house diagnostics
- Detecting deterioration (short/long term)
- Predicting falls
- Predicting/detecting infection
- Supporting rehabilitation
- Reducing loneliness
- Moving and handling
- Continence...etc etc

Take home messages: social care data

- Care at home, care homes
- Various sources – individual and aggregated level
- Huge potential esp if linked to healthcare data
- But – need caution, collaboration between technical and clinical/care expertise
- How does data reflect reality? ‘Measuring what’s important’
- Ethics/governance infrastructure

Take home messages – Care home research

- Need coordinated ‘asks’ of care homes
- Start with ‘what matters to you’
- Consider what they will get out of this
- Right method for right question
 - Research / innovation / QI (Quality Improvement)
- Care home infrastructure = social care NOT health (ethics, governance etc)
- Can use research/innovation/health & care lens



Think Care Home Research,
Think ENRICH



Contact Us / Sign up for newsletter



@ENRICHScotland



tay.enrichscotland@nhs.scot



<https://www.nhsresearchscotland.org.uk/enrich>



ENRICHScotland



Or me: Susan.Shenkin@ed.ac.uk

@SusanShenkin

Useful resources

- ACRC - [Advanced Care Research Centre | The University of Edinburgh](#)
- HISES - [NHS Health Innovation South East Scotland | Welcome \(edinburghbioquarter.com\)](#)
- Usher Institute, UoE [Usher Institute | The University of Edinburgh](#)
- Data driven innovation [Data-Driven Innovation | Innovation & Collaboration \(ddi.ac.uk\)](#)
- NRS Ageing [Ageing | NHS Research Scotland | NHS Research Scotland](#)
- BGS [British Geriatrics Society | Improving healthcare for older people \(bgs.org.uk\)](#)
- EuGMS [eugms.org](#)
- [The GEARED UP Project \(napier.ac.uk\)](#)
- [Most care homes in SE Scotland still use paper-based management systems \(napier.ac.uk\)](#)
- [Developing a care home data platform in Scotland: a mixed methods study of data routinely collected in care homes | Age and Ageing | Oxford Academic \(oup.com\)](#)

Useful resources – care home data

1. [** Mapping National Adult Social Care and Care Home Data Sources in Scotland: Baseline understanding & future potential: September 2022 \(www.gov.scot\) **](#) David Henderson, Jenni Burton, Elizabeth Lemmon
2. Care [home data review - gov.scot \(www.gov.scot\)](#)
3. Improvement [Service | Improvement Service](#) : “The 'go to' organisation for Local Government improvement in Scotland”
4. [The GEARED UP Project \(napier.ac.uk\)](#) : Care home data: Governance, Ethics, Access and Readiness through and Exemplar Demonstration; Lucy Johnston et al
5. Landscape Assessment of Data and Digital Readiness of Scottish Care Homes (LADDeR): [Most care homes in SE Scotland still use paper-based management systems \(napier.ac.uk\)](#)
6. [A plan for digital health and social care - GOV.UK \(www.gov.uk\)](#)
7. [Developing a minimum data set for older adult care homes in the UK: exploring the concept and defining early core principles - The Lancet Healthy Longevity](#) Jenni Burton et al
8. [Barriers and Solutions to Linking and Using Health and Social Care Data in Scotland | The British Journal of Social Work | Oxford Academic \(oup.com\)](#) Ian Atherton et al
9. [Developing a care home data platform in Scotland: a mixed methods study of data routinely collected in care homes | Age and Ageing | Oxford Academic \(oup.com\)](#) Susan Shenkin et al
10. [The DACHA Study: Developing resources And minimum data set for Care Homes' Adoption study | ARC East of England \(nih.ac.uk\); DACHA Study; Piloting of a minimum data set for older people living in care homes in England: protocol for a longitudinal, mixed-methods study | BMJ Open](#) Claire Goodman, Jenni Burton et al
11. [National Care Service - Social care - gov.scot \(www.gov.scot\)](#)
12. [23/90 Evaluating the organisation, delivery and quality of home care services - commissioning brief | NIHR](#)
13. [Revised Source Social Care Dataset \(isdscotland.org\)](#)

Thank you



Susan.Shenkin@ed.ac.uk

L.Johnston@napier.ac.uk

Cheryl.Henderson@elder-homes.co.uk

3 workshops

- 1. ENRICH, CHIP and RICH Voices
- 2. Care home priorities
- 3. Evaluation of innovation and technology in care homes (and wider social care)

ENRICH

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 \(dhi-scotland.com\)](https://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

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

Take our post event survey

- Scan the QR code →

Or

- Enter:

[https://www.surveymonkey.co.uk/r/Post HAIC Event Survey](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/

