

Sensors for Health and Wellbeing

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Aims of the *Sensors For Health & Wellbeing* Study

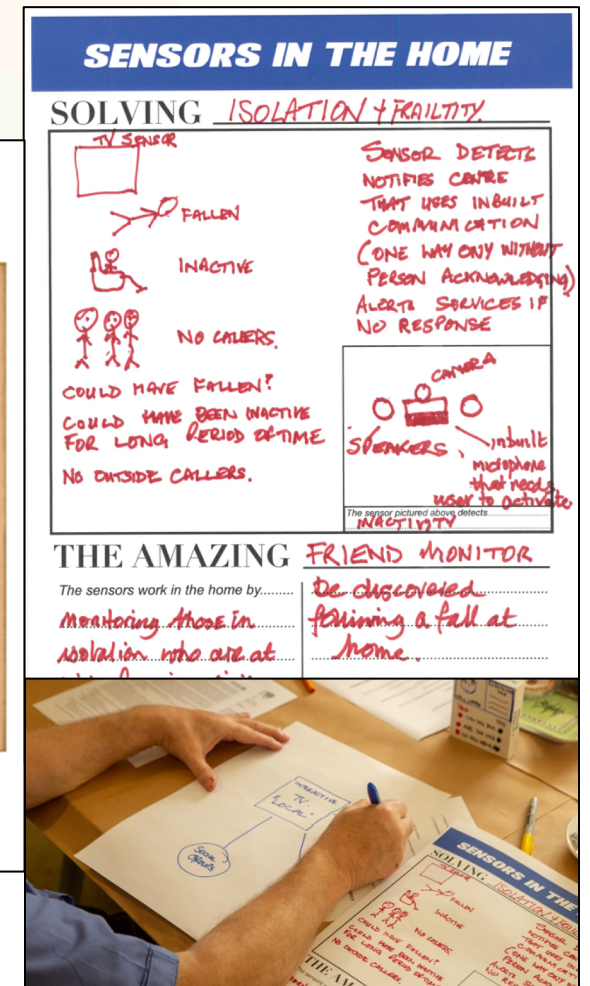
- To understand the potential impact of low-cost internet-connected sensor technologies in the home.
- To understand how clinicians / 3rd sector organisations might use the information to improve health care delivery.
- To understand how these devices might be reimaged to promote wellbeing for the people.

Engagements with participants

Who		Activity
Persons aged 50+ from Blackburn With Darwen	9 individuals <i>(5 male, 4 female; 65 – 83 years old, average age: 74)</i>	One-to-One Interview
		Group Workshop (3 workshops with 3 participants)
NHS Health Professionals from Blackburn With Darwen	7 individuals <i>(6: Rehabilitation Serv./Rapid Assessment, 1: physician)</i>	One-to-One Interview

Persons Aged 50+: Interview and Workshop

- Initial One-to-One Interview
- Co-Design Workshop
 - Newspaper of tomorrow
 - Prototyping the future
 - Combining ideation



Insights Of One-to-One Interviews And Workshops With Persons Aged 50+

Individuals put their subjective evaluations of health before formal evaluations

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Mobility outside v's Mobility inside

Health Professionals from Blackburn With Darwen: Interview

- One-to-One Interview
 - 6 Rehabilitation Services and Rapid Assessment Team Members
 - 1 Acute Physician



Insights Of One-to-One Interviews With Health Professionals

Snapshots of a story



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Snapshots of a story

Frailty is not just a physical state

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Frailty is not just a physical state

Qualitative aspects of patients histories are badly structured

Insights

Individuals aged 50+

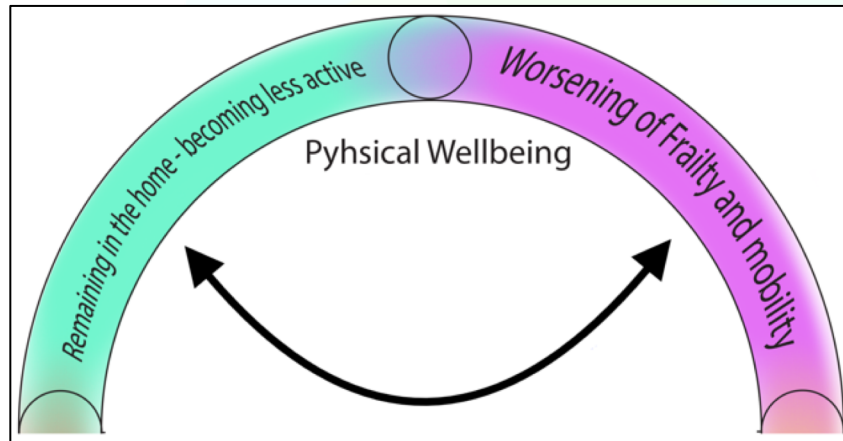
- *Subjective evaluations of health over formal evaluations*
- *Mental health (and support) was just as valuable as physical*
- *Mobility outside v's inside*

Healthcare professionals

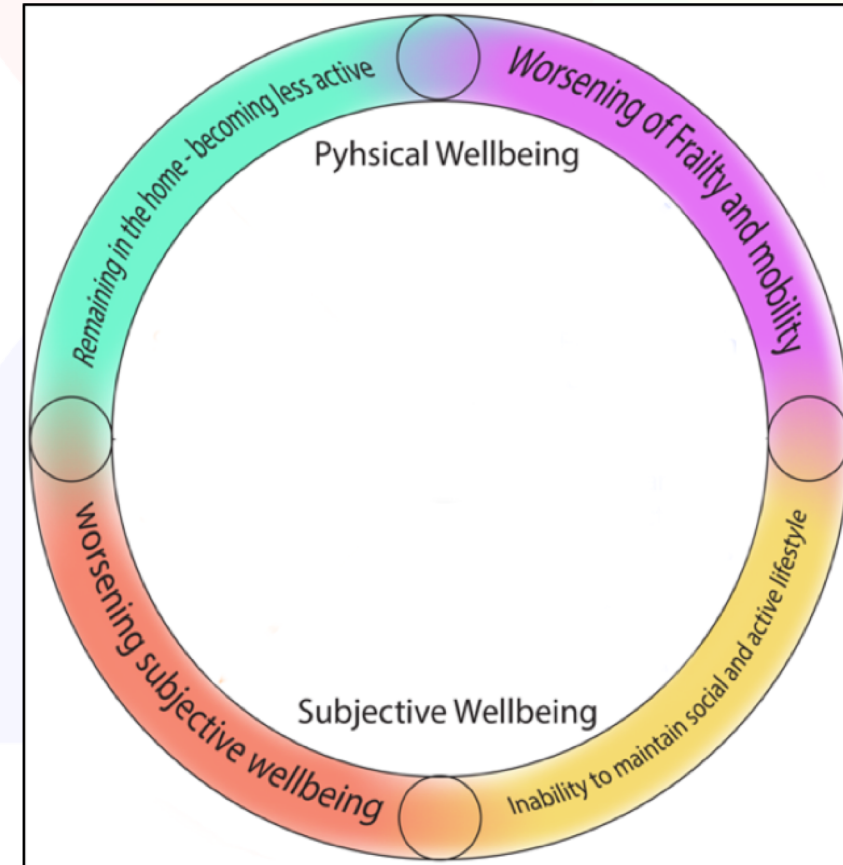
- Snapshots of a story
- *Qualitative aspects of patients histories are badly structured*
- Frailty is not just physical

How might future systems respond? – Breaking the “downward spiral” of ill-health

Current System:



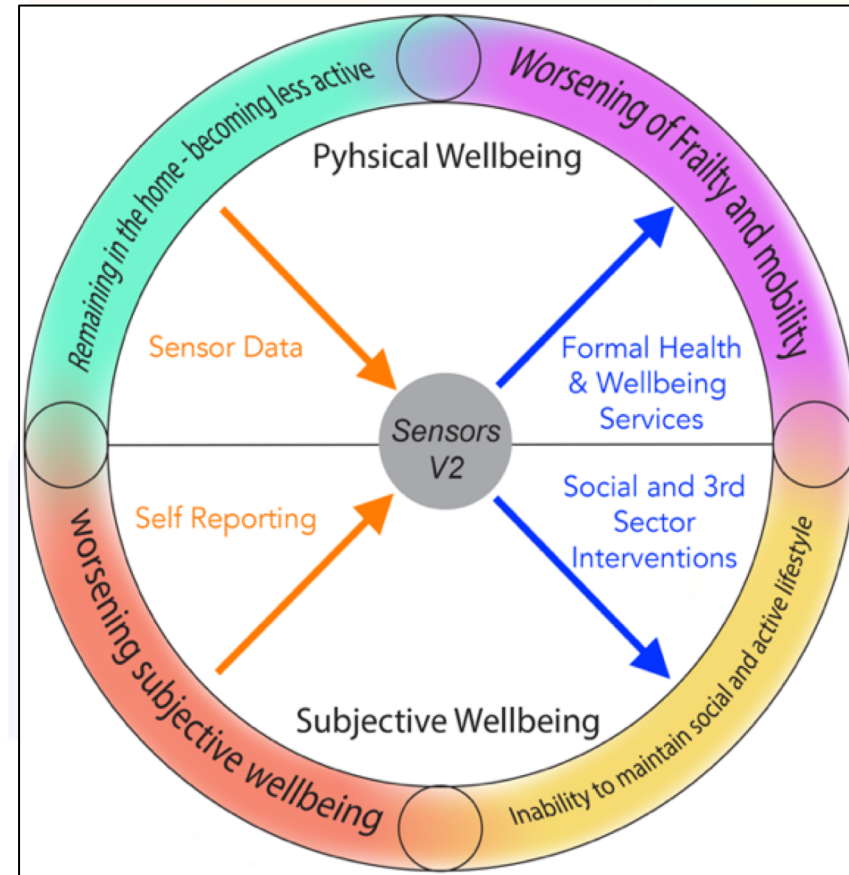
The system to be piloted observes activity in the home to infer worsening of frailty and mobility to suggest where interventions might be needed.



How might future systems support this at low cost?

The design considerations suggested would occur additional cost, though could be met through existing common place technologies such as SMS and automated calling systems.

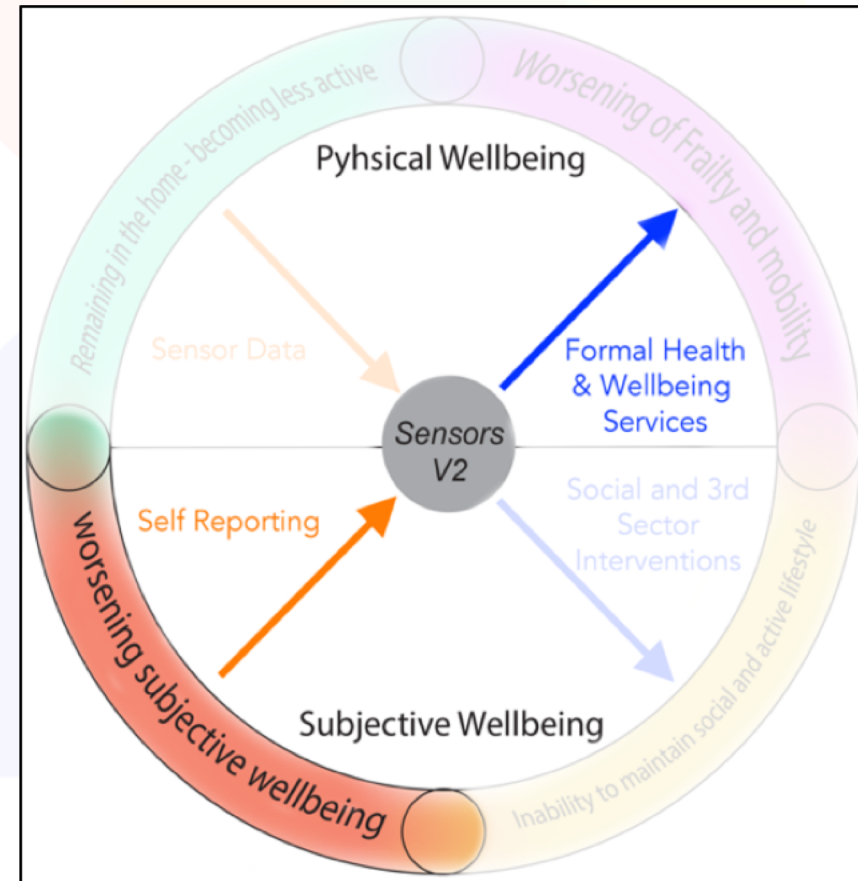
This cost might be recovered in prevention of unplanned medical needs.



Measuring the person

Subjective wellbeing and self-evaluation

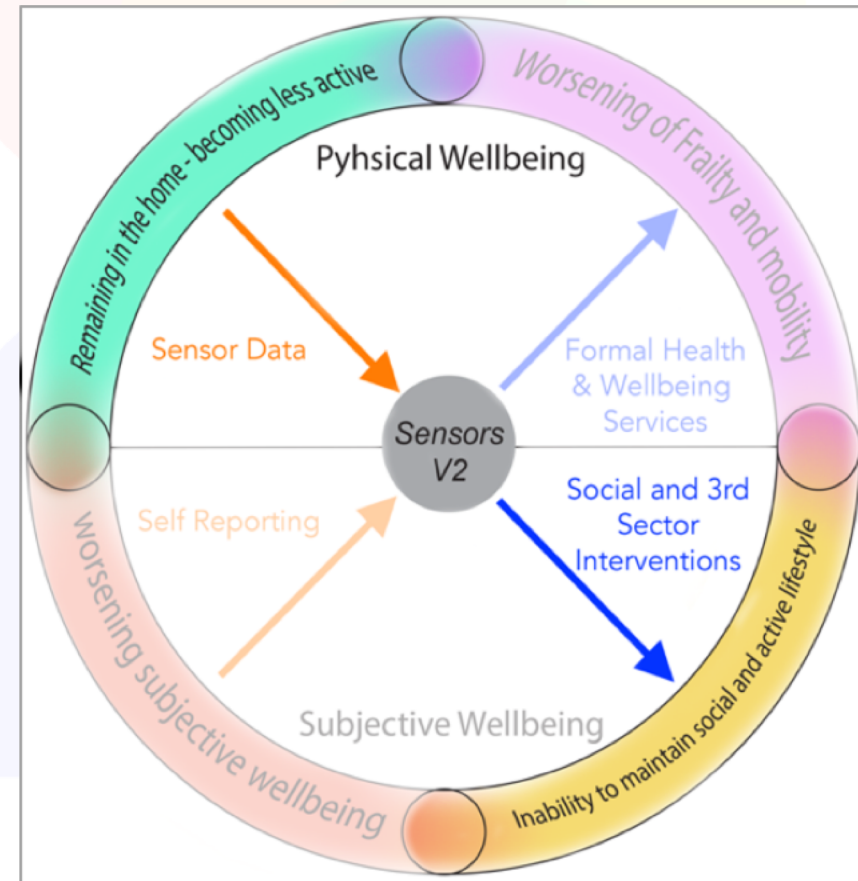
- Future systems might better evaluate individual's subjective wellbeing through prompting questions that facilitate self-reporting combined with metrics on their mobility in their own home



Measuring the person

Sensing and supporting individual's capacity

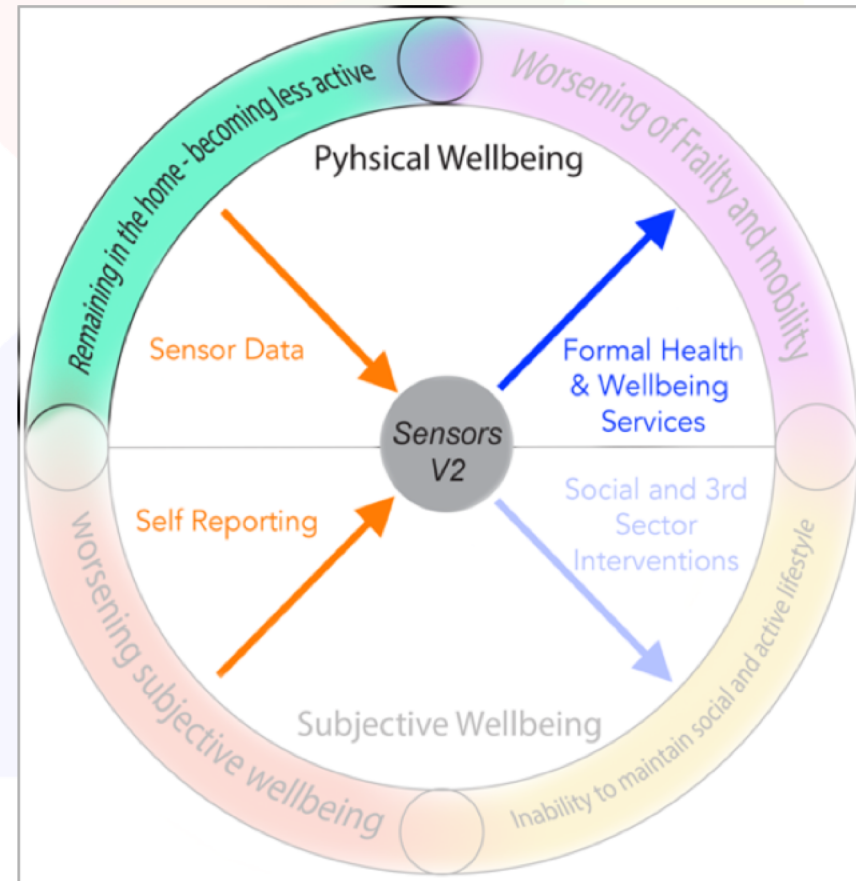
- Future systems might prompt activity of the individual such as 'move from room A to B' and allow for suggesting services such as walking groups based on ability.



Home Activity and Safety

Keeping active safely in the home

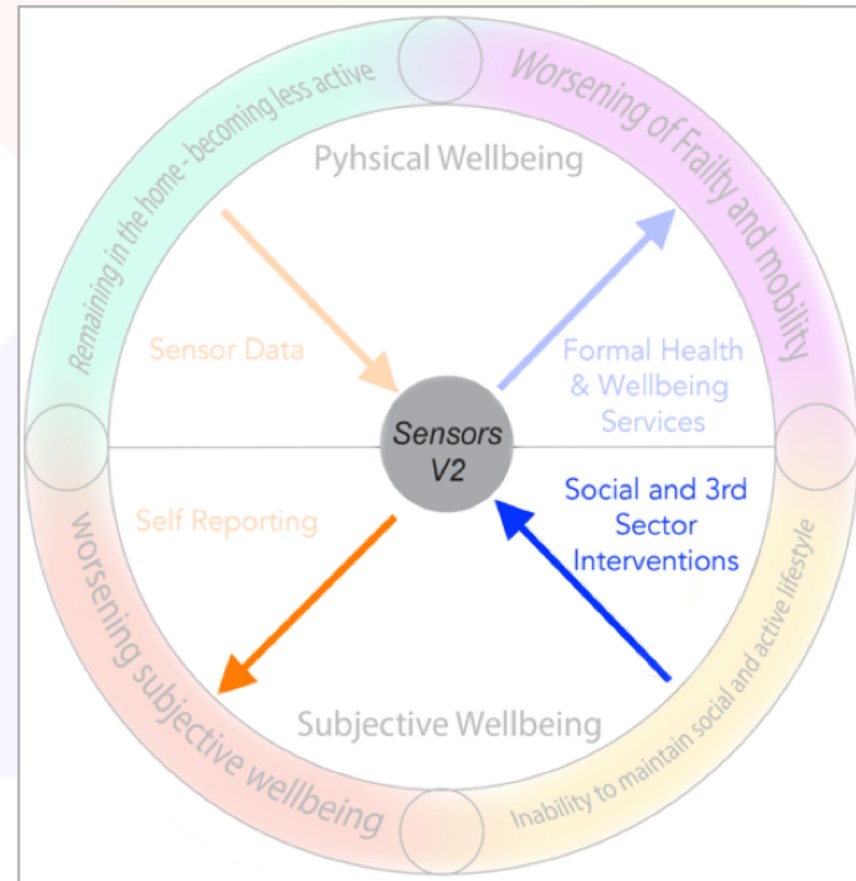
- Future systems might provide reporting of home accidents and indicate where formal evaluations and interventions are needed.
- Similarly, they might alert individuals to dangers they might not have previously considered and tailored to their capabilities.



Home Activity and Safety

Peer support for those without

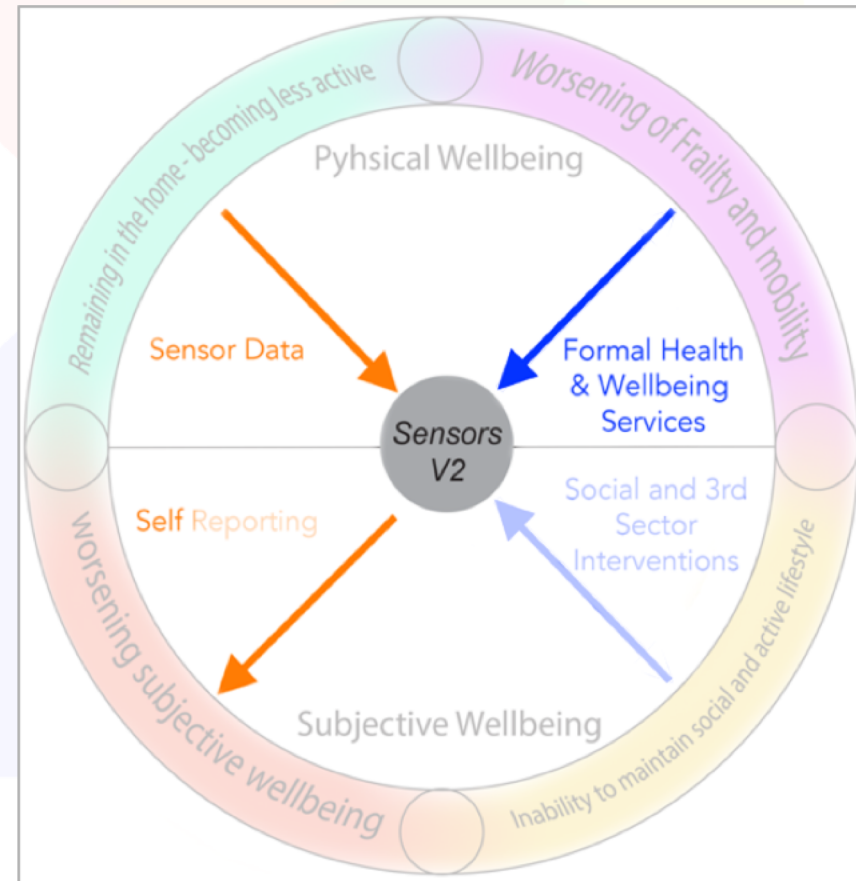
- Future systems might support peer or “buddy” systems.
- Individuals check and are checked up on by “buddies”. Knowing that “someone” will notice if a serious event occurs might offer peace of mind and sense of security.



Information Finding

Support Information Sharing

- Health records and diagnosis might be accessible through a simplified central hub in the home that could display individuals health records in common use language and describe the effects and potential ways in which these might be mitigated.



For Discussion

- Measuring the Person
- Home activity and Safety
- Information Finding/Sharing

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