

# TIHM for dementia

Using technology to improve the quality of life for people with dementia



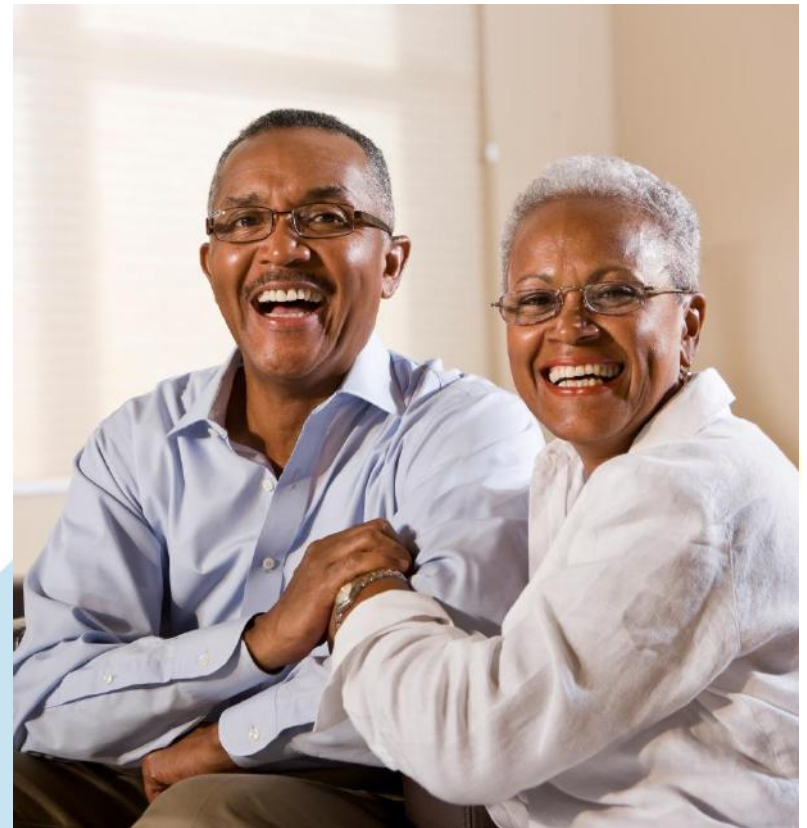
## TIHM for dementia: what is it?

- ▶ One of seven test beds funded by the Department of Health and one of two IoT test beds focusing on new ways of working to support people with long term and complex health conditions.
- ▶ TIHM is a randomised control trial that aims to support people with dementia who live at home and their carers.
- ▶ Uses new technologies allowing clinicians to remotely monitor people's health and safety round the clock and in real time
- ▶ Partners from the NHS, academia, industry and the voluntary sector



## TIHM for dementia: key aims

- ▶ Help people stay safe and well in their homes
- ▶ Identify health and safety problems early on to reduce people's need to go into hospital and care homes
- ▶ Reduce pressure on carers
- ▶ Improved targetting of NHS resources



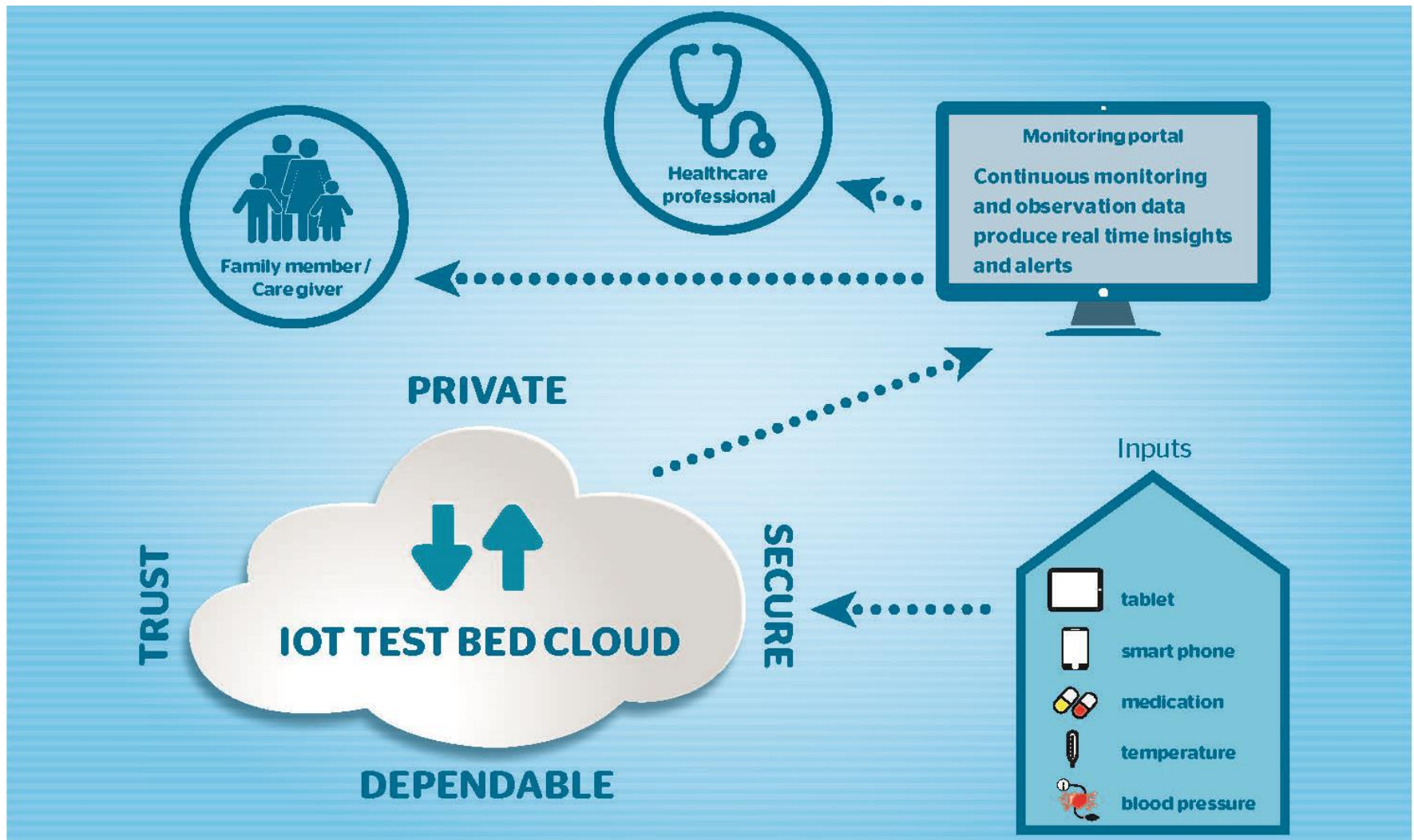
## How does the technology work?

- ▶ Devices installed in the home collect information about a person's health and safety using the Internet of Things
- ▶ Data is analysed using machine learning algorithms to identify deviations in behaviour
- ▶ Problems are flagged up to clinicians at SABP's Clinical Monitoring Unit who can step into offer support





















































# TIHM for dementia architecture



# TIHM Integrated View (iView)

 TIHM IntegratedView
 Overview
Overview(Follow Up)
 Watch List
 Manage ▼


<div style="background-color: #4a7ebb; color: white; padding: 2px;"><b>CRC Living Lab</b> <span style="float: right;">⋮</span></div> <div style="padding: 5px;"> <p> <b>Clinical</b> 17 High, 6 Low</p> <p> <b>Environmental</b> 0 High, 0 Low</p> <p> <b>Technical</b> 1 High, 0 Low</p> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 11</p> </div>	<div style="background-color: #4a7ebb; color: white; padding: 2px;"><b>5G Living Lab</b> <span style="float: right;">⋮</span></div> <div style="padding: 5px;"> <p> <b>Clinical</b> 11 High, 4 Low</p> <p> <b>Environmental</b> 1 High, 1 Low</p> <p> <b>Technical</b> 0 High, 0 Low</p> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 5</p> </div>	<div style="background-color: #4a7ebb; color: white; padding: 2px;"><b>Andreas Markides</b> <span style="float: right;">⋮</span></div> <div style="padding: 5px;"> <p> <b>Clinical</b> 5 High, 3 Low</p> <p> <b>Environmental</b> 0 High, 0 Low</p> <p> <b>Technical</b> 1 High, 0 Low</p> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 1</p> </div>	<div style="background-color: #4a7ebb; color: white; padding: 2px;"><b>David Brent</b> <span style="float: right;">⋮</span></div> <div style="padding: 5px;"> <p> <b>Clinical</b> 5 High, 1 Low</p> <p> <b>Environmental</b> 0 High, 0 Low</p> <p> <b>Technical</b> 1 High, 0 Low</p> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 1</p> </div>
<div style="background-color: #add8e6; padding: 2px;">ACU Monitoring Room <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 0</p>	<div style="background-color: #add8e6; padding: 2px;">Payam Barnaghi <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 3</p>	<div style="background-color: #add8e6; padding: 2px;">Mark Kenny <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 3</p>	<div style="background-color: #add8e6; padding: 2px;">Tom Acton <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 0</p>
<div style="background-color: #add8e6; padding: 2px;">Kieren Egan <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 0</p>	<div style="background-color: #add8e6; padding: 2px;">Benjamin Franklin <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 0</p>	<div style="background-color: #add8e6; padding: 2px;">Joseph Name <span style="float: right;">⋮</span></div> <div style="padding: 5px; text-align: center;">    </div> <p style="background-color: #e6e6fa; padding: 2px;"> Follow Ups: 0</p>	

# TIHM Integrated View (iView)

## Available Data

- ▶ Blood Pressure 3 hours ago ↻
- ▶ Pulse Oximetry 3 hours ago ↻
- ▶ Carbon Monoxide a month ago ↻
- ▶ Fall a month ago ↻
- ▶ Body Temperature 3 hours ago ↻
- ▶ Weight 18 days ago ↻
- ▶ Body Water 18 days ago ↻
- ▶ Motion 7 days ago ↻
- ▶ PIR Motion 19 minutes ago ↻
- ▶ Bed/Chair Occupancy a month ago ↻
- ▶ Door Sensor 2 hours ago ↻
- ▶ Left Home 3 days ago ↻
- ▶ Patient Location 16 minutes ago ↻
- ▶ Room Temperature 7 days ago ↻
- ▶ Room Humidity 7 days ago ↻
- ▶ Electricity 3 hours ago ↻
- ▶ Insights 19 days ago ↻
- ▶ Questionnaire Response 3 hours ago ↻

▼ Blood Pressure		3 hours ago ↻
132/70 mm[Hg]	67 beats/min	yecco 3h
137/75 mm[Hg]	90 beats/min	yecco 16h
130/75 mm[Hg]	67 beats/min	yecco 1d
150/75 mm[Hg]	78 beats/min	yecco 2d
135/74 mm[Hg]	75 beats/min	yecco 2d
145/108 mm[Hg]	63 beats/min	yecco 2d
144/100 mm[Hg]	63 beats/min	yecco 2d
129/73 mm[Hg]	79 beats/min	yecco 3d
120/71 mm[Hg]	71 beats/min	yecco 3d
126/71 mm[Hg]	78 beats/min	yecco 4d
133/81 mm[Hg]	74 beats/min	yecco 6d

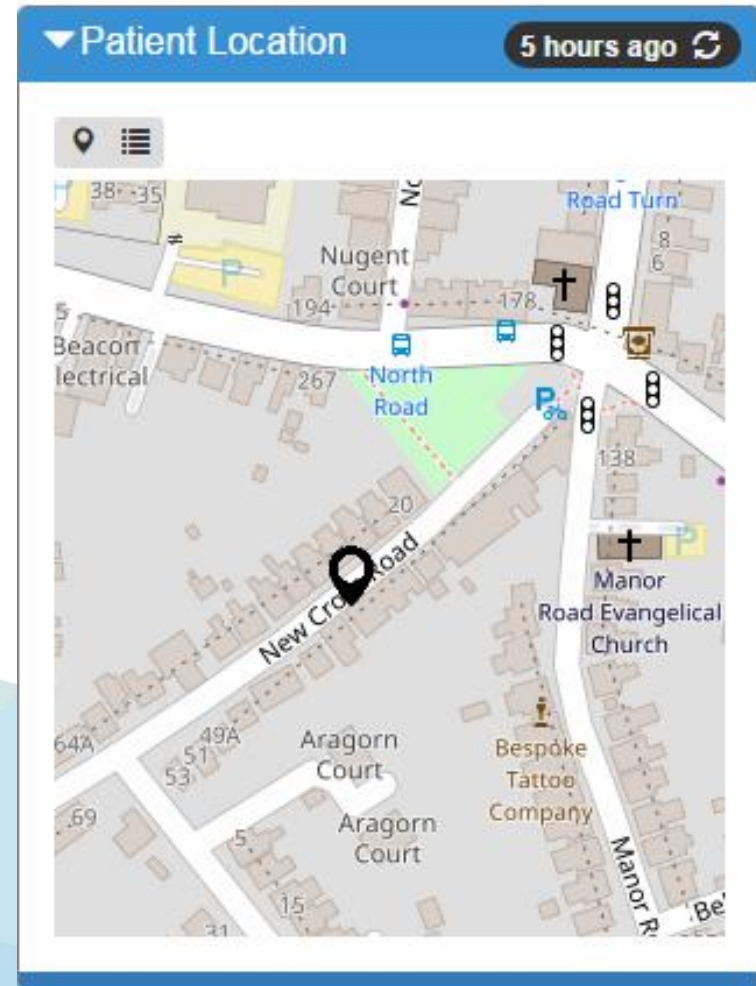


▼ Body Temperature		3 hours ago ↻
36.5Cel	yecco 3h	
36.7Cel	yecco 16h	
36.5Cel	yecco 1d	
36.6Cel	yecco 2d	
36.2Cel	yecco 2d	
36.6Cel	yecco 3d	
36.5Cel	yecco 3d	
36.2Cel	yecco 6d	
36.4Cel	yecco 6d	
36.7Cel	yecco 6d	
36.5Cel	yecco 6d	
36.8Cel	yecco 6d	
36.4Cel	yecco 6d	

## TIHM Integrated View (iView)

The technology being used in the TIHM study allows a person's location to be tracked

This information is available via the Integrated View and helps the clinical monitoring team to know if someone has wandered away from home and may need help





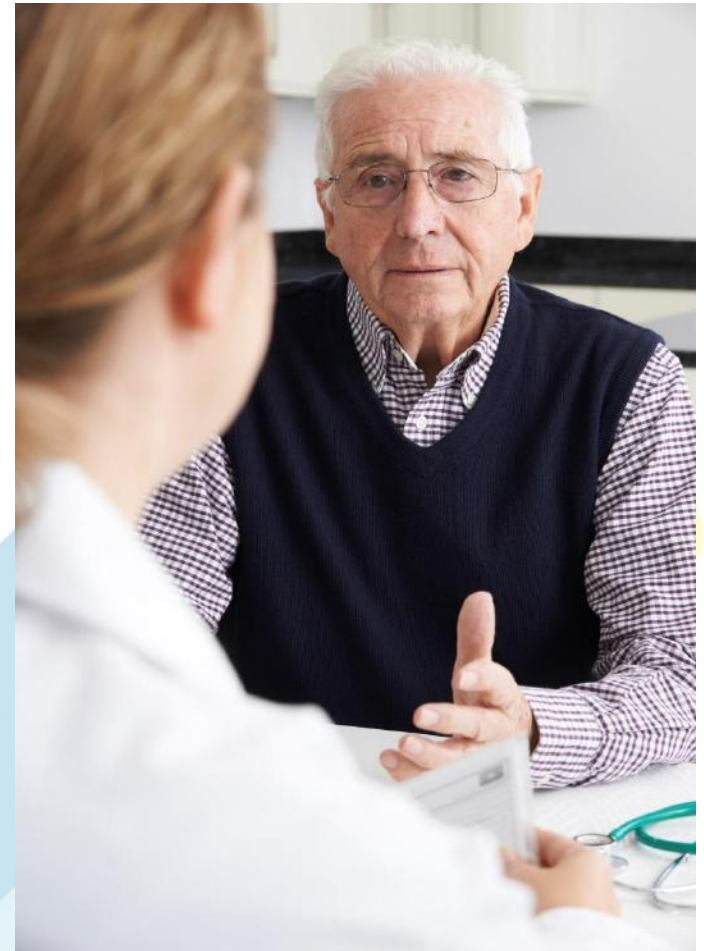
## Feedback from Trusted Users

- People feel safer/more supported
- Less likely to go to A&E and the GP, unless advised to do this
- Problems identified early on and treated, such as anxiety, high blood pressure and low pulse
- Carers more confident to leave the person with dementia alone
- Listen to the people trialling the technology. Go to:  
<https://youtu.be/jxyyoFa31E0>
- <https://youtu.be/fK8RtCiZpKs>



## TIHM for dementia: why should GPs get involved?

- ▶ Patients involved in the technology arm of the study receive extra support
- ▶ Supports GPs by removing some of the routine monitoring, such as blood pressure tests etc.
- ▶ Provides GPs with a historic and holistic account of someone's health and wellbeing to help provide informed care and treatment



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## Recruitment

- 400 people recruited onto the study so far
- More volunteers needed
- Recruitment will continue until end October
- To be eligible a person must:
  - have mild to moderate dementia
  - live in Surrey or NE Hampshire
  - be living independently in the community and have a carer who is willing to get involved. The carer can be a partner, relative, friend or a paid carer

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## Funding for GPs who identify possible recruits

- ▶ GP Practices can earn more than £350: So far 32 have written to their patients.
  - Identify people on their registers who have a diagnosis of dementia and who are not living in a care home
  - Print and sign approved TIHM for dementia letter, provided by Surrey and Borders Partnership, for people identified in the search
  - Send out the above letter with a TIHM for dementia leaflet to the identified people. Practices will already have been provided with the envelope containing the TIHM leaflet
- ▶ To get involved in this activity and apply for funding, email:Helen Woronowski [helen.woronowski@nhr.ac.uk](mailto:helen.woronowski@nhr.ac.uk)



## GP feedback

### ▶ GP from North East Hants and Farnham CCG:

*“Our practice signed up for this as it involved no GP time, only some admin support to send out the patient letters. It potentially benefits our patients with dementia and financially rewards us to the tune of just over £350. It seems a no brainer!”*

**So far 23 practices have written to hundreds of people on their registers about the study**

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## Find out more



tihm@sabp.nhs.uk



[www.sabp.nhs.uk/tihm](http://www.sabp.nhs.uk/tihm)



@TIHM\_dementia

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