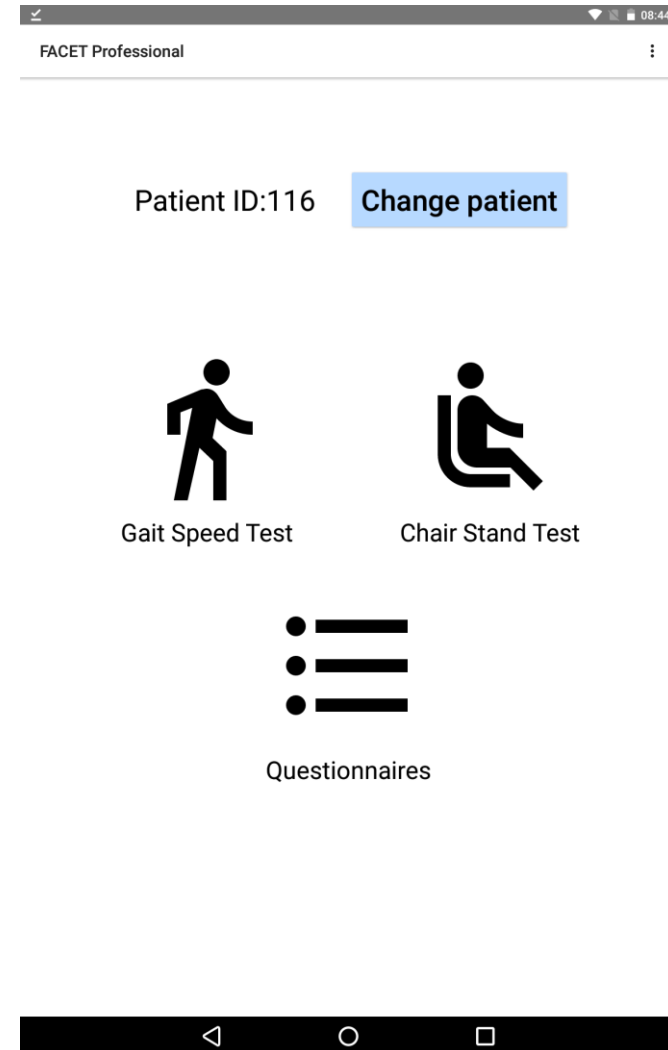
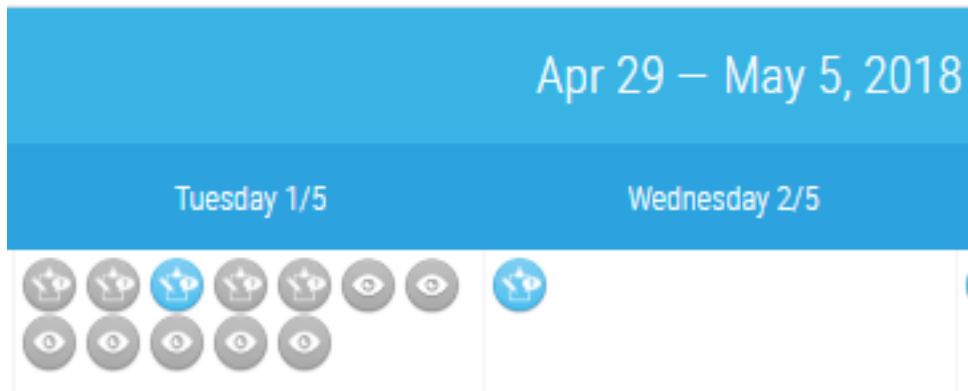


Community based monitoring of frailty

Dr Marco Arkesteijn
Aberystwyth University
United Kingdom





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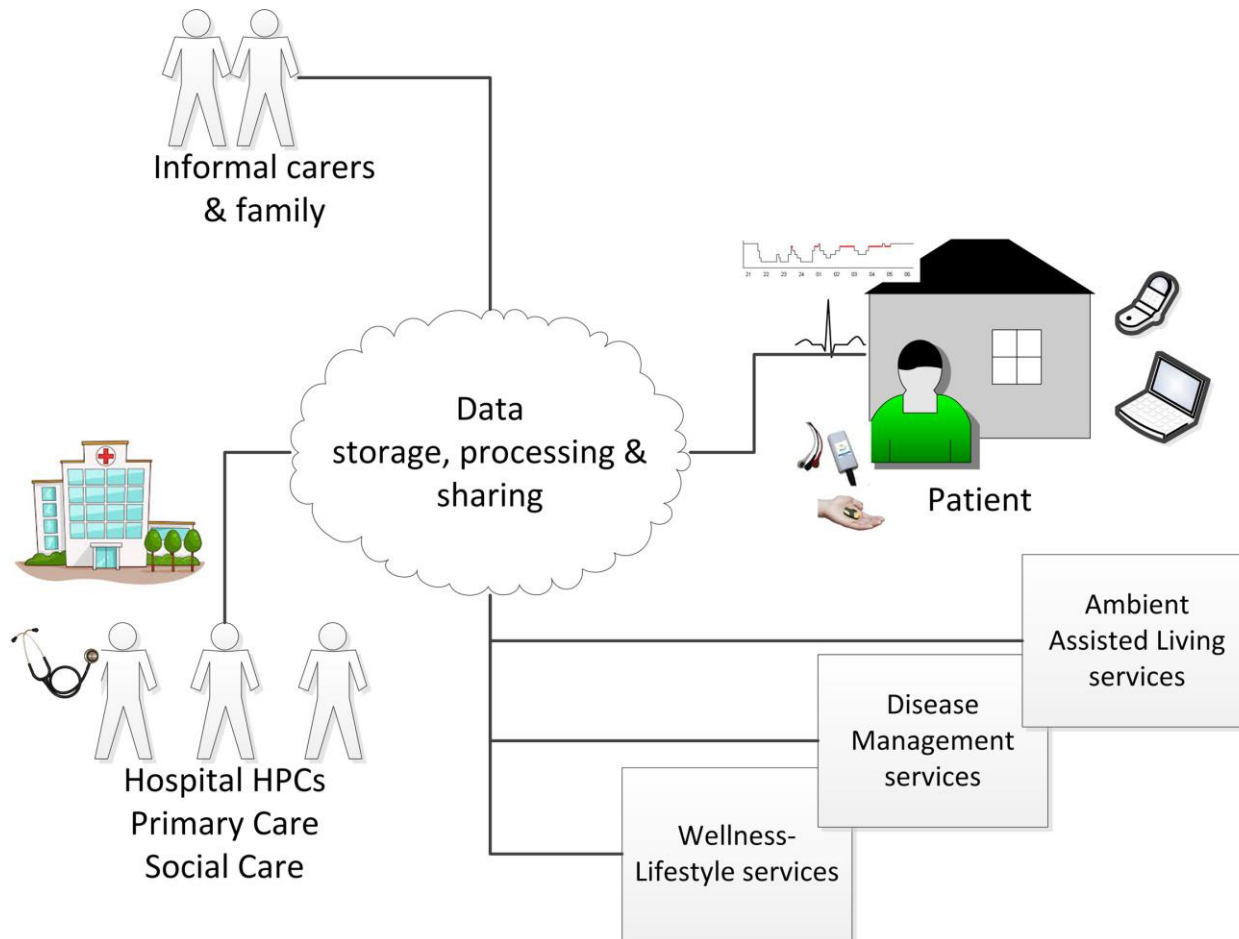


If you look at this image:
Who has frailty? Who has dementia?



How can you (best) support them?

Connected Health



Smart meter tracks when the kettle's on to check grandpa's OK



Whereever you are, our wearable keeps an eye on you, without the need for a smart phone!

Fall detection, personal alarm and being able to 'forewarn' you when your wellbeing deteriorates

Meet a new class of technology; we provide our own wearables which are connected to our 'open' platform - a platform that connects other devices which can provide other data; which allows better monitoring & diagnosis and thus better care. Our platform is a state-of-the-art solution aimed at [medical] specialists looking to create better diagnosis. A platform that caters for > 95% need of IT professionals - without the need for developers!

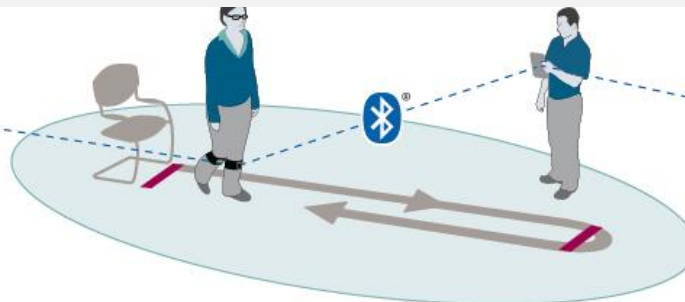
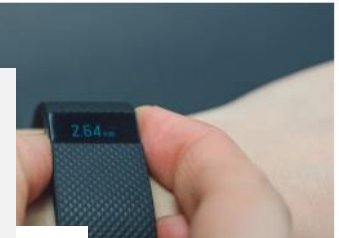
Irish researchers looking to develop wearable device for dementia patients who wander

Dementia is on the rise, with approximately 55,000 sufferers in Ireland.

Jan 23rd 2018, 6:06 AM 9,229 Views 12 Comments

Share 226 Tweet Email 7

AN IRISH TEAM has led a landmark dementia project that



body worn inertial sensors

streaming wirelessly via Bluetooth

patient's mobility assessment



Daily Aid Apps

Dementia Digital Diary
Dementia Clock
MediSafe Meds & Pills Reminder
Family Locator GPS Tracker
MyTherapy

Memory Training Apps

Elevate Brain Training
BrainyApp
Fit Brains Trainer
Lumosity Brain Training
Memory Games Brain Training

Relaxation Apps

Colorfy
Relaxing Sounds
Headspace
Soothing Sleep Sounds
Relax Radio

Games Apps

Word Search Puzzles
Mahjong Deluxe
Jigsaw Puzzles
Candy Crush Saga
Tetris

Caregiver and Information Apps

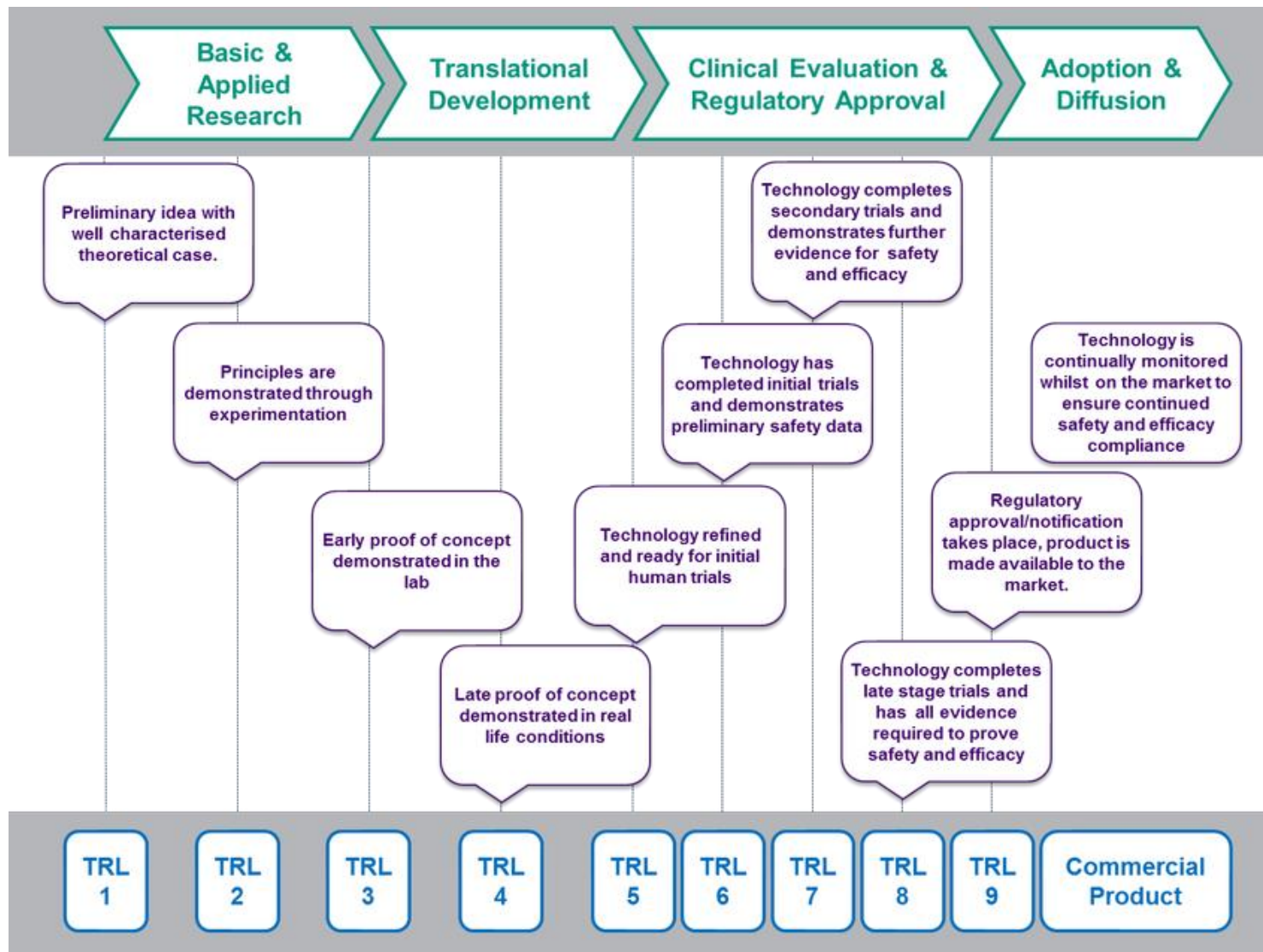
Memory Box
Dementia Emergency
MindMate
Alzheimer's Society Talking Point Forum
A Walk Through Dementia

There already are 'lots' of apps available providing support, but a lot of apps do only specific components

The endpoint of 'any project'



Your developed product being used!





**Integrated supportive
services/products to
promote FrAilty Care
and wElI funcTion**



clinicofacet@gmail.com

Exit



Apr 29 – May 5, 2018

Sunday 29/4

Monday 30/4

Tuesday 1/5

Wednesday 2/5



Type 2 Diabetes Mellitus

Type 2 Diabetes Mellitus With Kidney Complications



Nutritional recommendation



Monitoring frailty



Assessing frailty



Monitoring what you eat

- More difficult with dementia
 - Even healthy people struggle to report it accurately!



= X?



= X?

- Protein matters



= X?



= X?



= X?

Monitoring of dietary intake

Collect and store (4° C)



Label and record



Pack and post



First read instructions* on enclosed leaflet to familiarise yourself number of urine samples, duration of sampling period and sample storage

- 1** Pop up cup and fill with 1st urine of morning

Rinse after use*
- 2** Unpack a set
DO NOT UNSCREW TOPS
- 3** Immerse straw
- 4** Press each tube firmly down on needle to fill

Novel sampling system does not require special storage conditions

Before the randomized trial phase....

POTENTIAL FOR COMMERCIALISATION AND SCALABILITY

Market analysis

CANVAS analysis

SWOT

Risks and mitigation

Final aims and revenue

CANVAS

Partnerships

Activities

Value Proposition

Customer relationships

Customer segments

Resources (available and needed)

Channels

Cost structure

Revenue Stream

Table 1. SWOT Example for Dementia Program

SWOT	Examples
Strengths	<ul style="list-style-type: none"> • Organization is well known in the community. • Experienced staff with credentials. • Active volunteers (more than 100). • Strong Board of Directors. • Strong collaborative relationships with local providers and service organizations. • Low-rent space with good visibility. • Stable core programs. • Dementia programs tie to existing core programs in caregiver education and support, wellness, meaningful engagement, information and referral. • Infrastructure—database, financial management, policies and procedures, other operations—is solid.
Weaknesses	<ul style="list-style-type: none"> • Small size. • Do not have evening/weekend hours, except for first Saturday of the month. • Limited marketing/outreach budget or capacity. • Grants have been harder to get and almost all focus on new programs.



Medical device or not?

Tricky decision!



Very time consuming to complete process,
but rewards can make it very worth doing
(reimbursement, uptake rate, sales)

For dementia, it might be a 'must'.....

FrAilty Care and wEll-function elevator pitch

FACET focuses on the quality of the years lived. Early detection of impending disease/disability will permit intervention to prevent or delay the onset of frailty. **FACET** will impact on the quality of life of 13.05 million people with a potential of prevention in near half a million citizens annually.

Engaging your audience: recruitment

Aim for a **variable and representative** sample of the population

Offer something in return for their engagement, for example the 'best practice' scenario, even for a control group.

Link with local groups, charities and health care professionals

Explore 'living labs' to support you: <https://enoll.org/>

Consider how to engage and involve people close to dementia



• WARU: Data collection in non-clinical settings

WARU = Care, Watch, Observation, & Coaching.....

in a community setting to keep people out of hospital and reduce the burden of chronic health conditions on the NHS




Uned Ymchwil Asesu Lles ac Iechyd
Well-being and Health Assessment Research Unit



Newsletter Issue 1
October 2017

90% We have limited spaces left on the **MWH@Home** research project. This study aims to develop new methods to monitor 'wellness' and eating habits over a year using 'smart' devices in the home. Please contact us if you are interested.



Stress Coping Strategies

Juggling the varied responsibilities of being a university student can, at times, make it seem like one's goals are threatened. This is stressful; effective coping strategies are essential for one's university 'career' to be satisfying and productive. Here in WARU, Drs Simon Payne and Dave Whitworth are qualitatively investigating the experiences of stress and coping of university students - from both student and staff perspectives - and their data will inform institutional policy, student support provision, and the effectiveness of personal tutors as the 'first line of defence' against the harm that stress often causes.

Promoting healthy lifestyles for older people.



Preparations are underway for several projects, in 2018 specifically aimed at the older population in Ceredigion. Activities focus on assessments around daily functioning (balance, strength, walking, dexterity, memory, vision, etc.) and how to improve your functional ability. In 2017, we are recruiting participants to evaluate these type of assessments (you'll get a report of your results), to then be used in the 2018 project as the basis of a personalised intervention. Another project will be done jointly with Age Cymru Ceredigion on how to promote healthy lifestyles and raise awareness of the importance of being active, at any stage of your life.

If you're interested in taking part, please contact Dr Marco Arkesteijn (maa36@aber.ac.uk or 01970 628559).

Targeting Pre-diabetes Through Primary Care

Pre-diabetes is defined as a higher than normal blood glucose concentration and is associated with an increased risk of developing diabetes.

It is estimated that over half a million people in Wales could have pre-diabetes and that within 12 months 5 - 10% will develop diabetes while a similar percentage will return to normal blood glucose levels. In 2015, the North Ceredigion GP Cluster initiated a pre-diabetes intervention that targeted patient education and lifestyle modification.

Research student Nicholas Gregory and his supervisor Dr Rhys Thatcher have been working with the GP Cluster to evaluate the effectiveness of the intervention. One year after the intervention started 44 of the 130 patients who had pre-diabetes had regained normal glucose control. The study is still ongoing but the data are extremely supportive of early identification of, and, educational intervention for delaying the development of type II diabetes.



Contact WARU
Tel: 01970 622299
email: waru@aber.ac.uk








Testing

BODY COMPOSITION & MORPHOLOGY
TESTING.



Analysis

ANALYSIS OF FUNCTIONAL PHYSICAL
ABILITIES.



Evaluation

EVALUATION OF DIGITAL TECHNOLOGY FOR
HEALTH COACHING & SELF MONITORING.



Diet

DIET AND NUTRITIONAL ASSESSMENT
THROUGH THE ANALYSIS OF URINE SAMPLES.

facebook

Email or Phone

Password

Log in

[Forgotten account?](#)



Well-being & Health
Assessment
Research Unit -



Uned Ymchwil Asesu
Lles ac Iechyd

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Implementing and testing your device

What does the user want to get out of it, and how do they want to use it?

At all phases, be open to improvement and amend based on feedback from all users.

This enables to make the product more user friendly.

Cost effectiveness

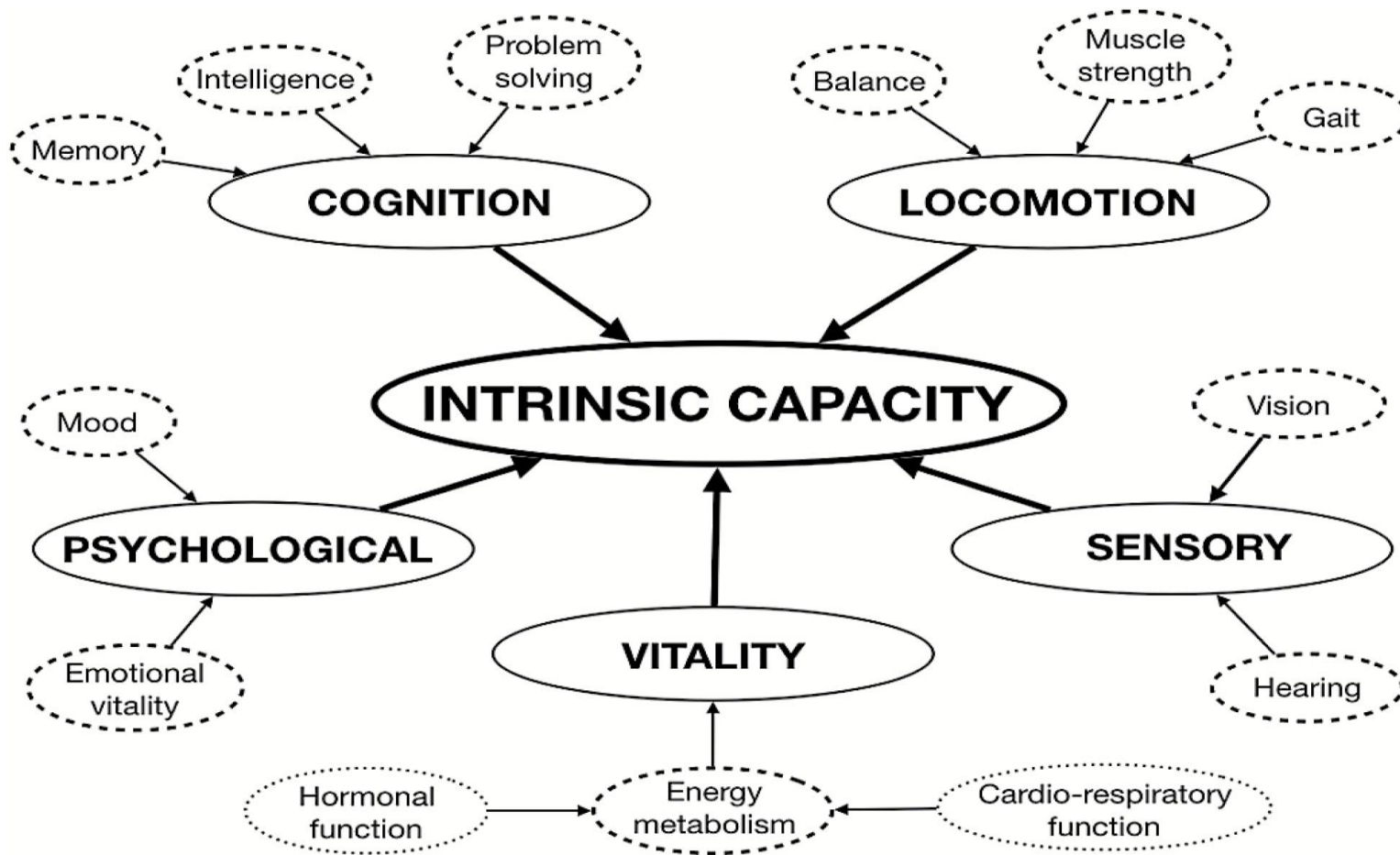
Might be 'last' to consider, but if your product has any (medical) ambitions, it will be crucial:

- Equipment costs, services costs, running costs, training costs, user costs....

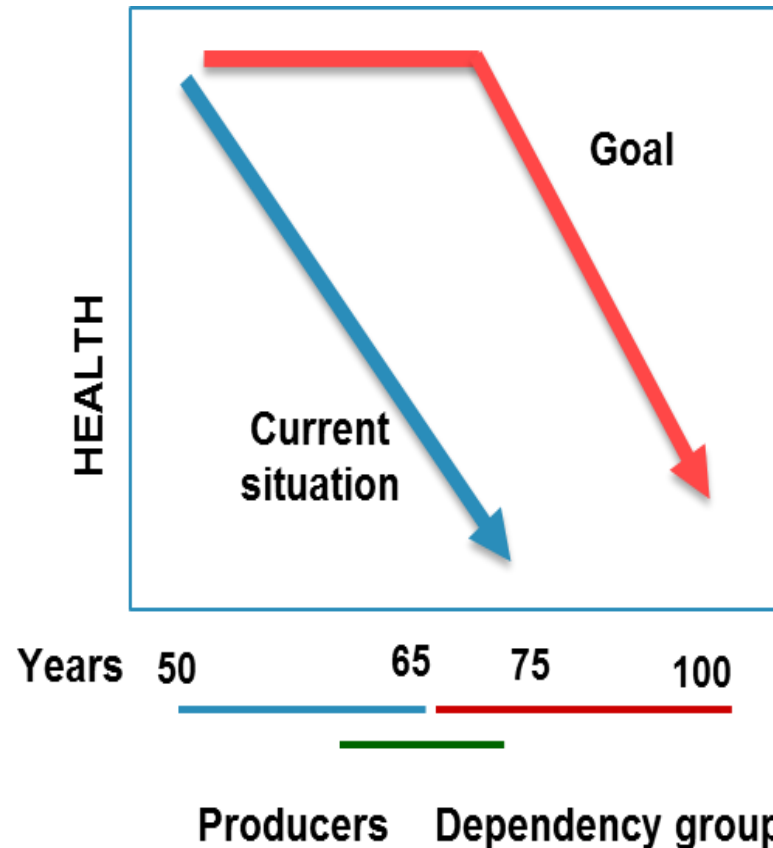
Versus:

- Benefits (improve/maintain Quality of Life, independence, reduce frailty/falls, cost savings)

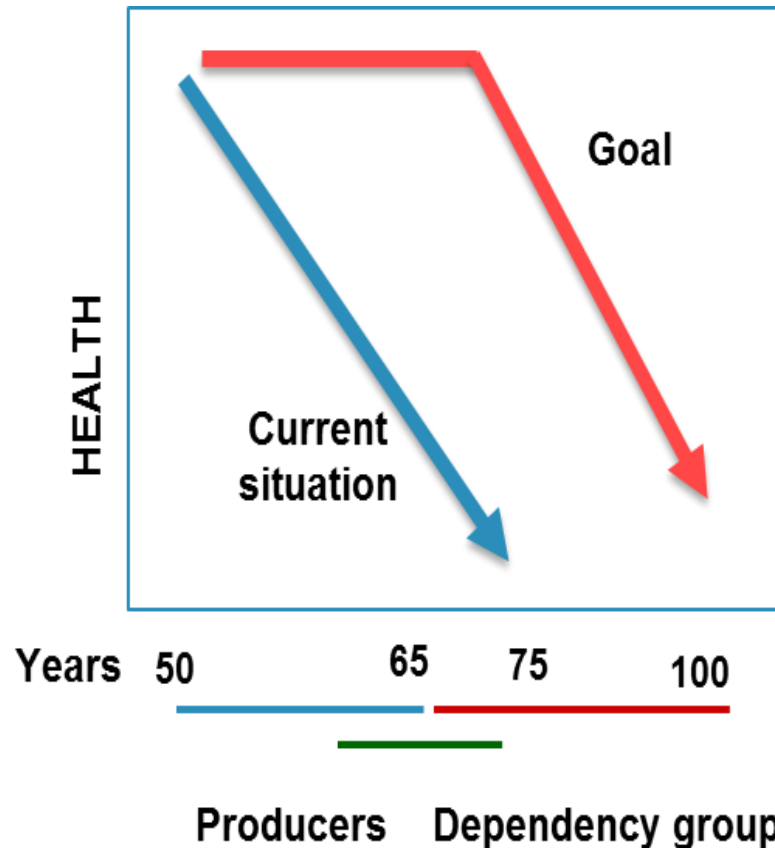
Connected Health and integrated care



Adding years to life



Adding life to years





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If you look at this image:
Who has frailty? Who has dementia?

Prevention

What can be done to prevent frailty/dementia?
What can be done to promote functional ability?





Mobile health enables (unobtrusive) assessment,
motivation and reinforcement
of healthy behaviours



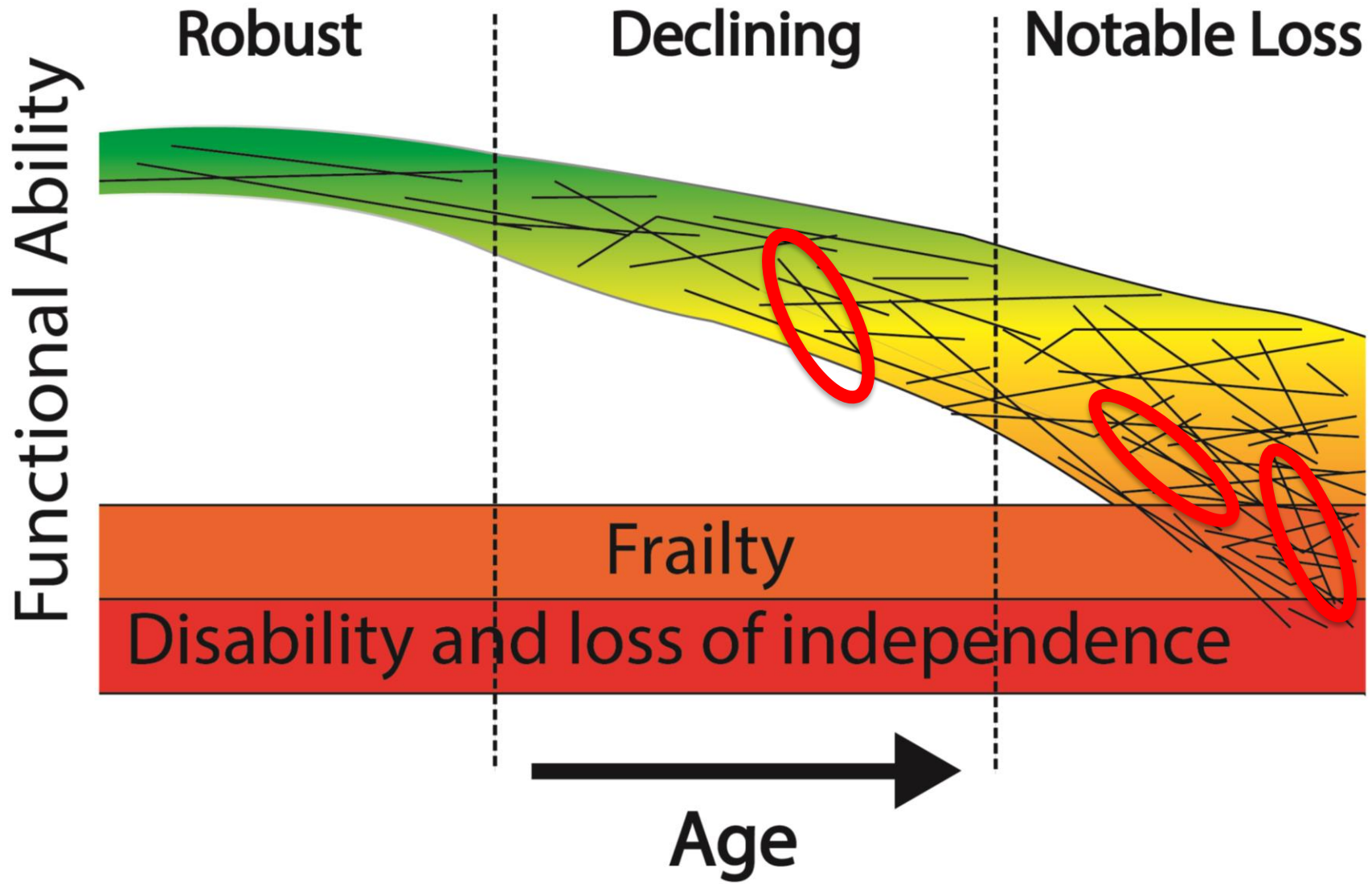
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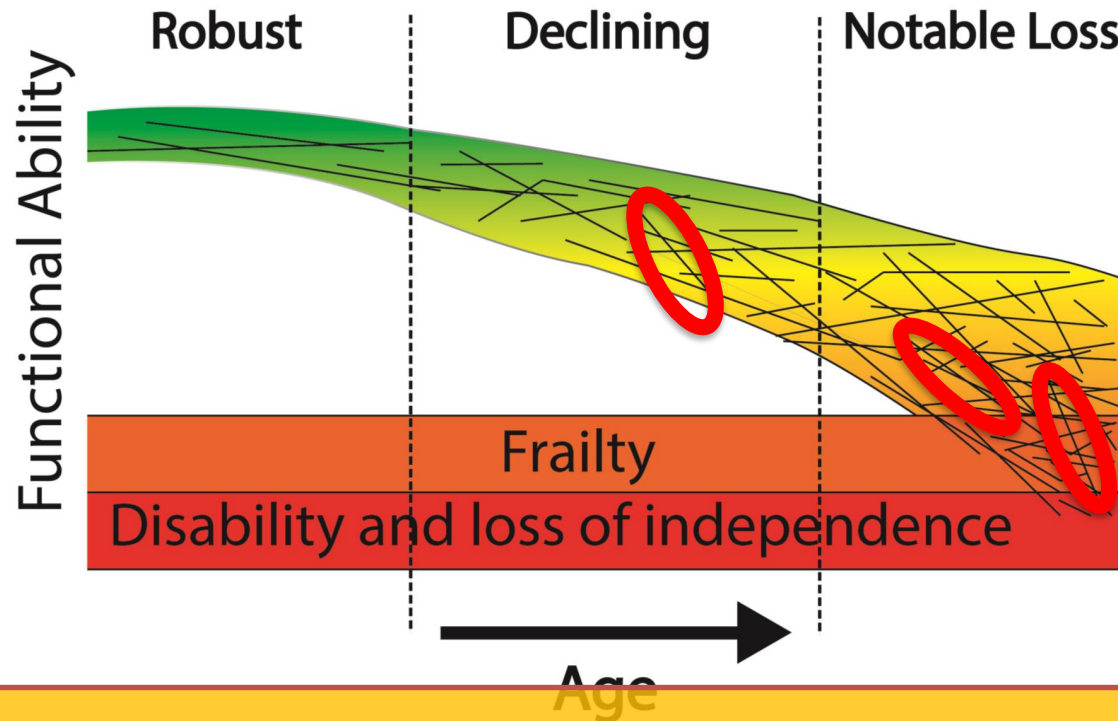
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Mobile health enables monitoring and therefore appropriate, in-time interventions to prevent health decline



The next course starts on 18th June 2018

A Free Online Course

Recognizing frailty: An introduction for health care professionals

The goal of the course is to improve the awareness about frailty, functional ability and well-being of older adults. It will provide professionals with the knowledge to screen or assess for the presence of frailty.

The course contents will also showcase a range of frailty tools that can be used, in a variety of settings, including social care, residential care, and occupational health, to primary and secondary care.

Go to waru.org.uk/frailty-mooc for this FREE course

Coordination: Marco Arkesteijn - Aberystwyth University
Partners



Promoting FrAilty Care and wEl function (FACET)

Value Proposition

Frailty is a geriatric syndrome of great vulnerability to the occurrence of falls and injuries, hospitalization, loss of functional capacity, institutionalization and death. The inclusion of frailty screening and assessment as part of usual care is increasingly being recommended, for example by the British Geriatrics Society.

Program

The course will include videos, text, short quizzes on the following topics:

- Impact of frailty on the older patient
- Frailty, disability and comorbidity
- Scientific models of frailty
- Desirable characteristics of frailty tools
- Frailty screening versus frailty assessment
- Evaluating the most common frailty tools

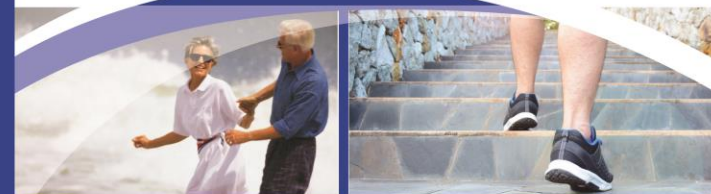
More information can be found on waru.org.uk/frailty-mooc

The course will be delivered in English with different materials to be transcribed into Spanish.

The next course starts on 18th June 2018

Duration

The Recognizing Frailty course has a duration of 2 weeks, with 4 hours of material. Participants will have opportunity to attend the course at different periods, i.e. the course will be available at certain periods throughout the year in 2018, in June and October.



CONTACTS

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website: waru.org.uk/frailty-mooc

Thanks for listening!

Marco Arkesteijn

Email: maa36@aber.ac.uk

Phone: 01970 628559

