

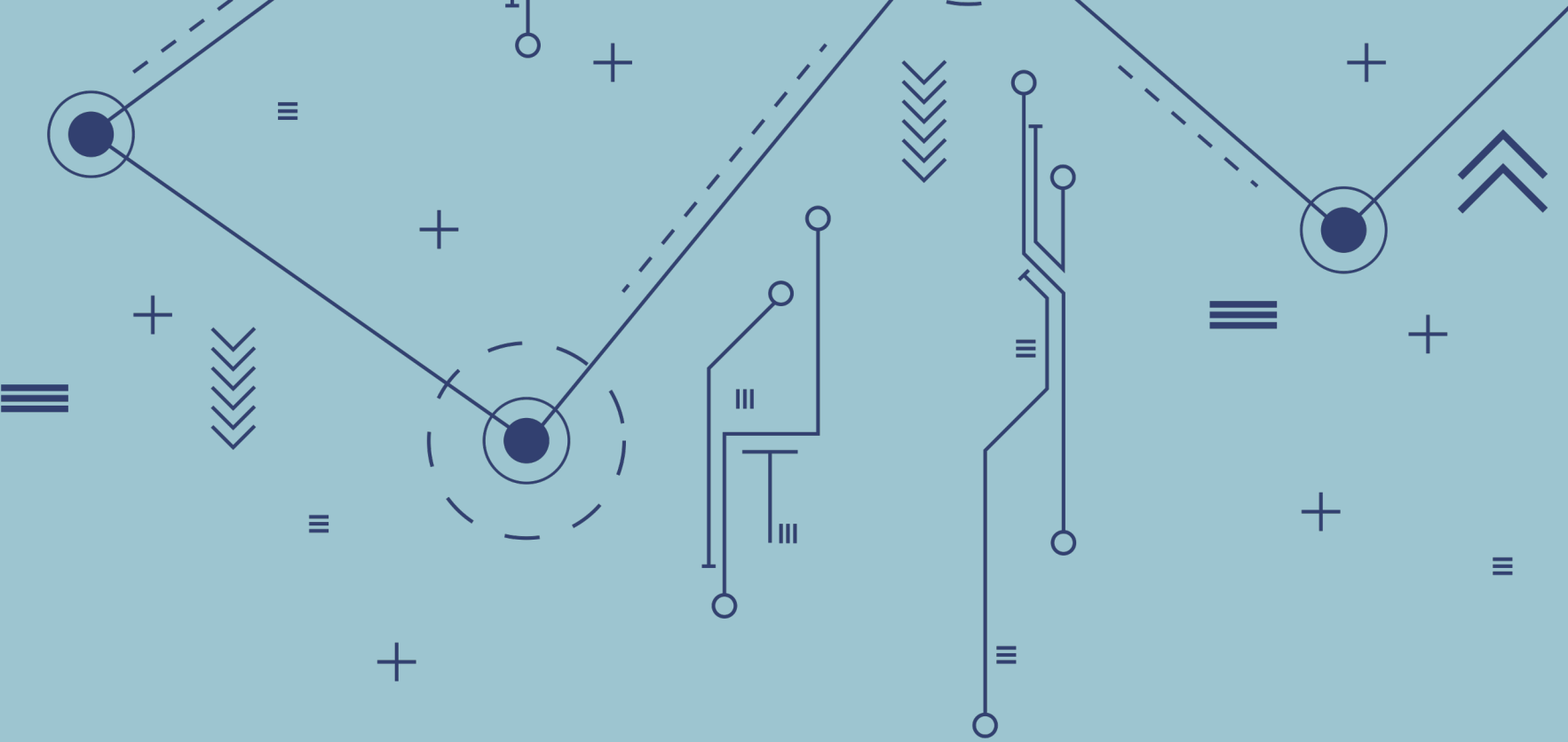
# VITAPULSE

REDUCING STIGMA AROUND FRAILTY  
THROUGH SMART JEWELLERY



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- The Challenge
- Current Solutions
- Product Proposal
- RRI & Impact
- Further Info

## Contents

# 1.

## Frailty

A **multi-system disorder** that increases vulnerability to poor recovery after an acute stressor event.

# 2.

## Multiple body systems

- Unintentional weight loss
- Reduced muscle strength
- Reduced gait speed
- Self-reported exhaustion
- Increased mortality rate, disability, falls, loneliness, depression, cognitive decline, dementia

# 3.

## Chronicity

Frailty is a dynamic process. As such, it needs follow-ups, reassessments, and readjustments.

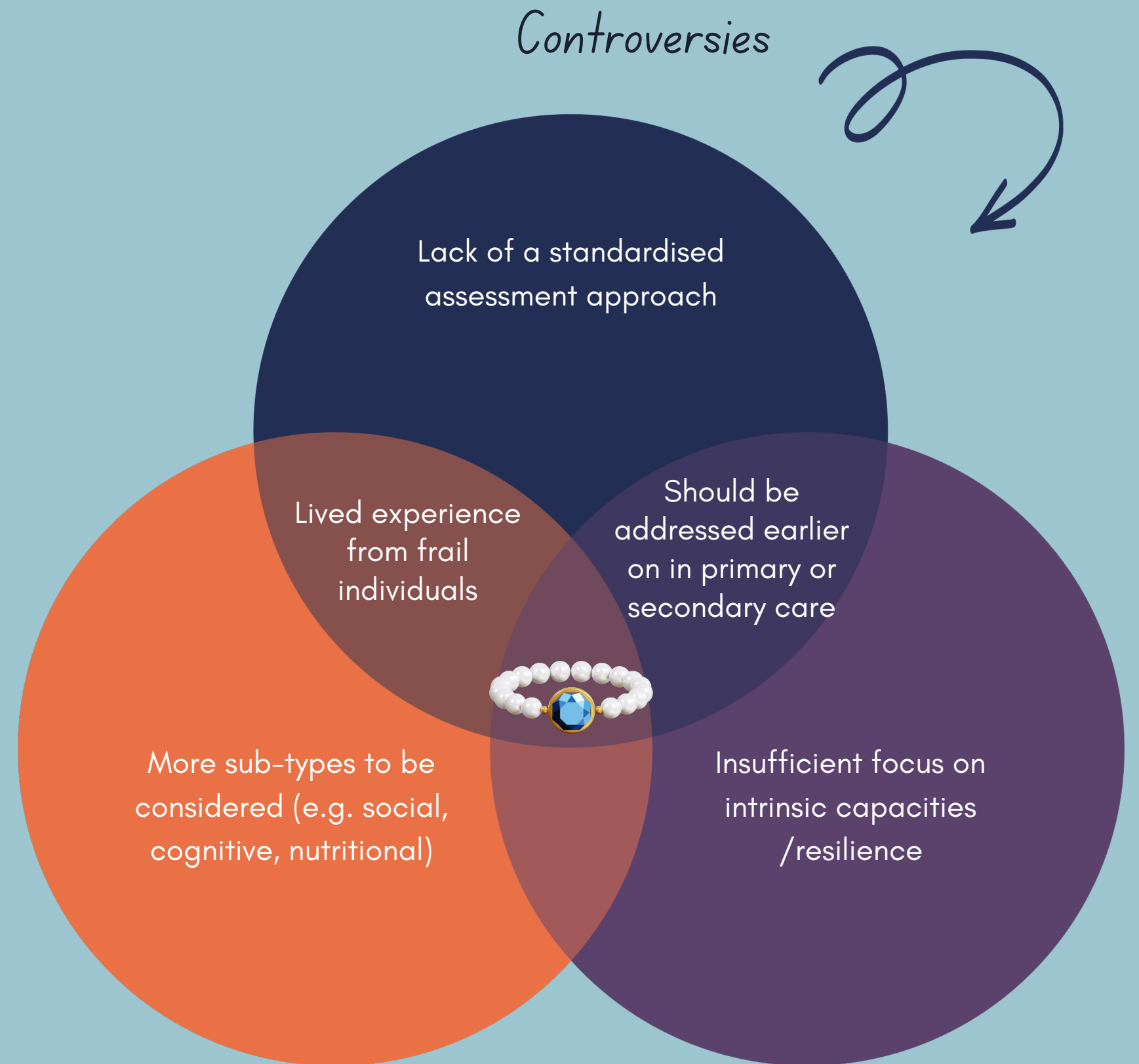
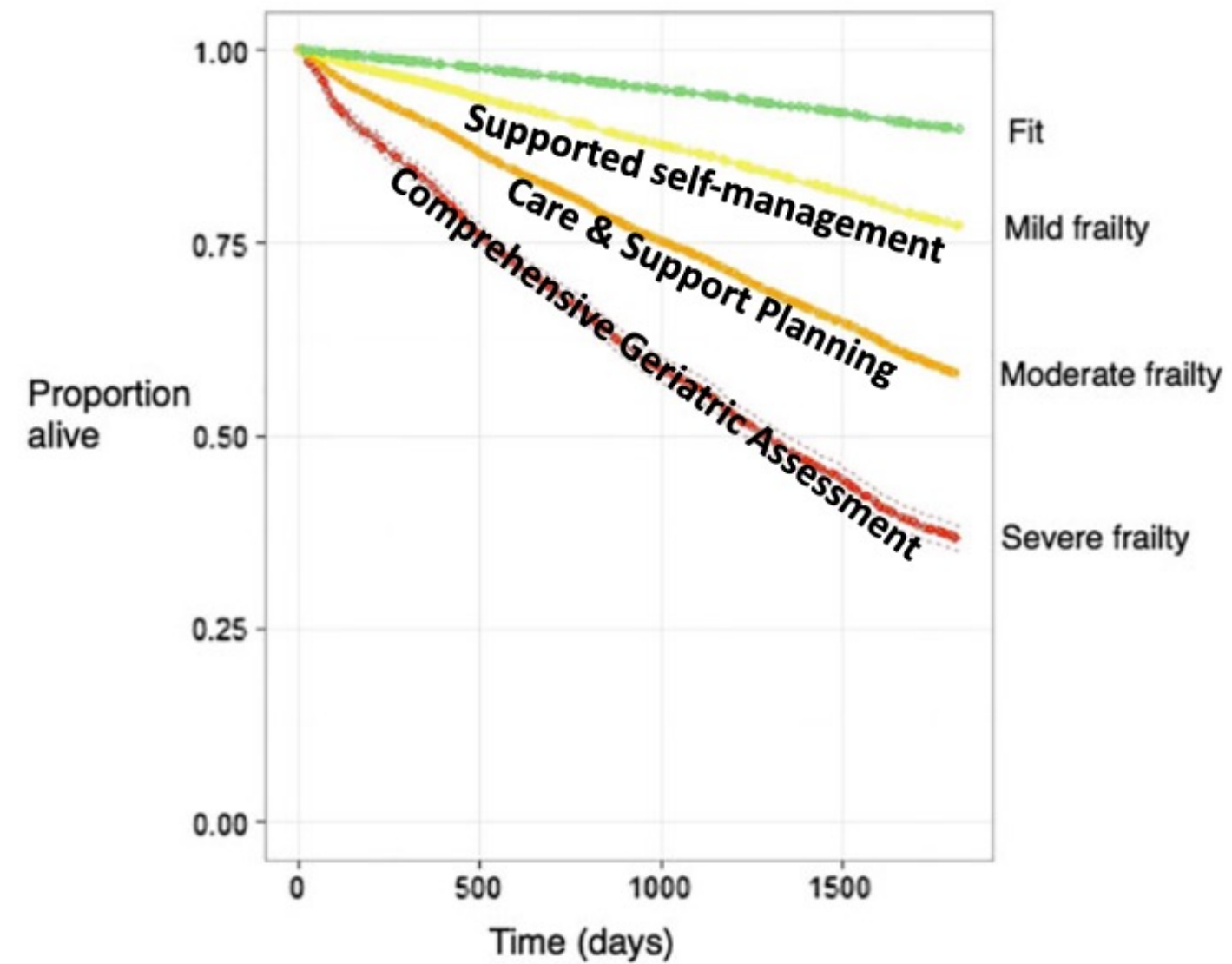
# 4.

## Prevalence

- Weighted prevalence of 11% (high income countries: range 4-59% across studies)
- Long term care residents: 53%
- People with HIV: 5-29%
- End stage renal disease: 37%
- Cancer: 42%

# The Challenge

# Management of Frailty



## Current Solutions





## Product Concept



Reducing the stigmatisation of frailty and supporting individuals in its management through wearable(s)-jewellery



Fall alarm buttons can be very obtrusive and likely to worsen stigma around frailty, vulnerability, and ageing



Individuals' lived experience: "if it looked more like jewellery, we would all wear it"

**One Bracelet, Multiple Configurations**



# Product Visualisation







## Functions & Materials



Fall detection



Customisable NFC scanning points



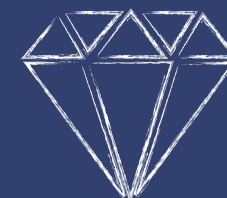
Personalisable vibration



Bluetooth and Wi-Fi connectivity



Hypoallergenic and sweat-proof materials



Can be stacked with watches and jewellery





## RRI & Impact



The integration of NFCs creates collaboration opportunities between OTs, social care workers and caregivers



Supports ageing in place and independent living

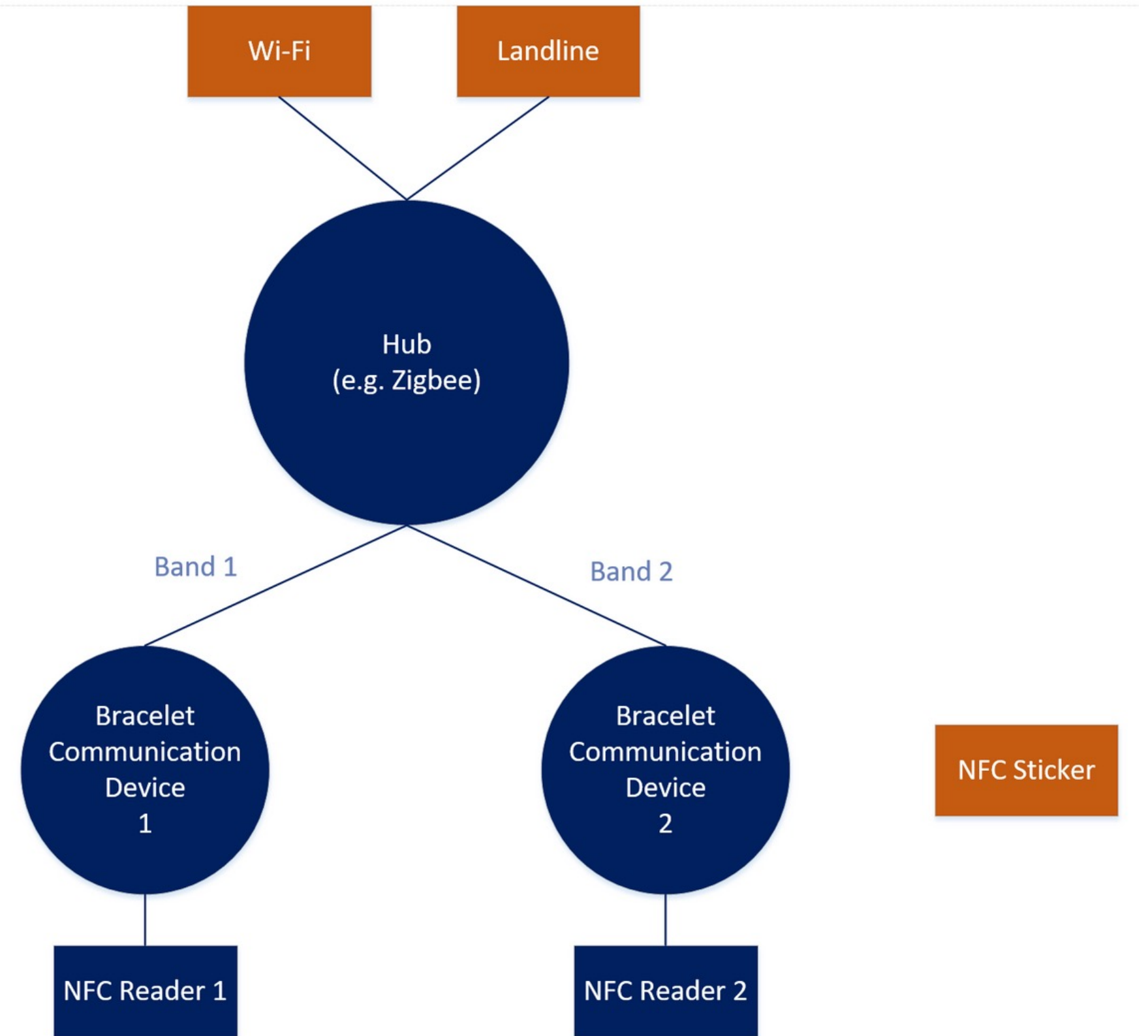


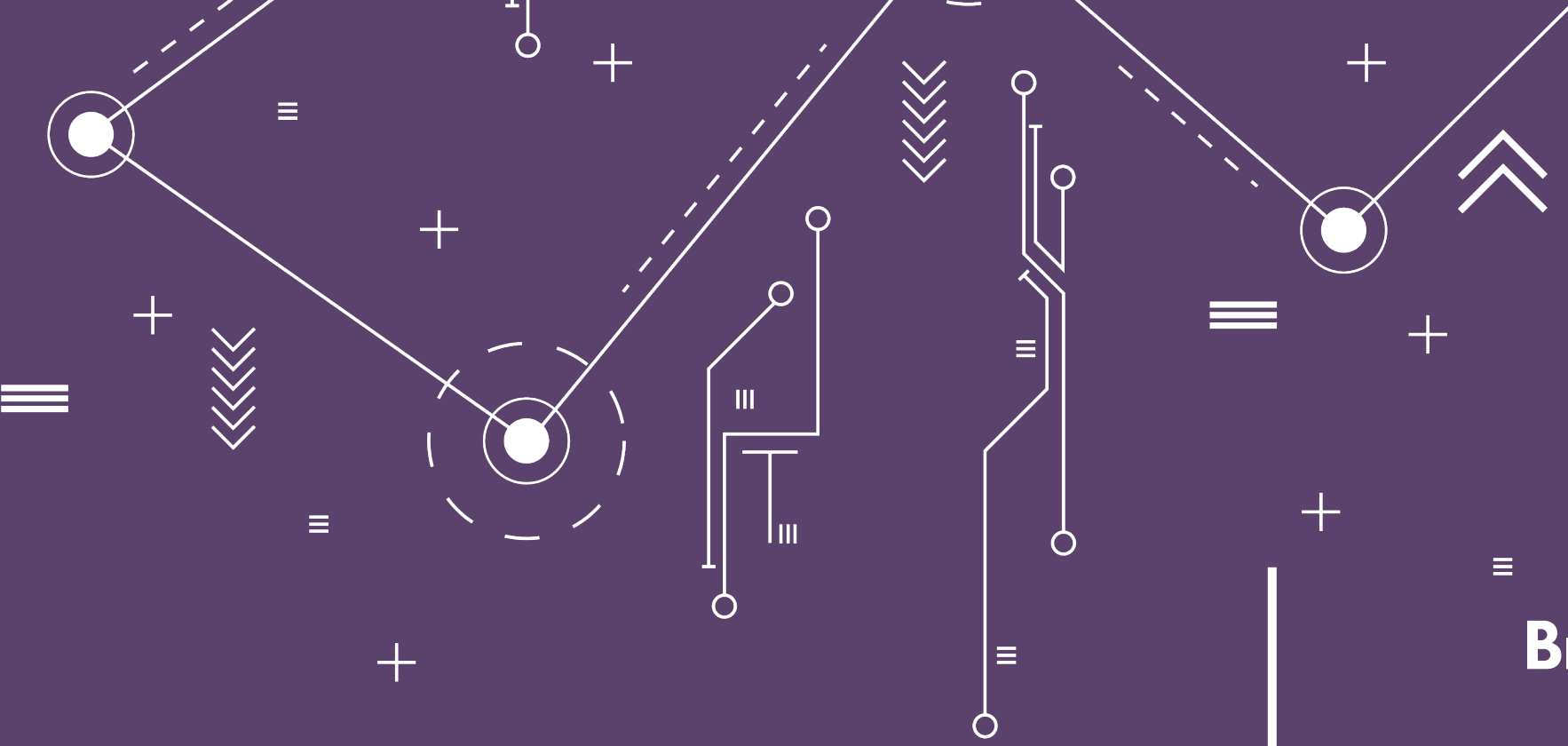
Reduces healthcare expenditures, both individual and public



# Communication Flowchart

NFC Sticker





## Cost Estimation

### Bracelet Components:

Micro-controller £20  
Lithium-battery £20  
Communication device £30  
NFC reader £25  
Skin sensor £10  
Outer case £30

### Other Parts:

Hub £100  
NFC Stickers £5/10pcs

## References

### Sites:

Excellent review article summarising frailty concepts – Clegg et al, Lancet 2013

[https://doi.org/10.1016/S0140-6736\(12\)62167-9](https://doi.org/10.1016/S0140-6736(12)62167-9)

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The eFI – derivation and validation of this GP frailty tool in ~1 million people

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British Geriatrics Society: guidelines on frailty, CGA etc

[www.bgs.org.uk](http://www.bgs.org.uk); <https://www.bgs.org.uk/resources/silver-book-ii-frailty> (acute care)

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European approach to frailty <https://www.advantageja.eu/>

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<https://taking.care/pages/oysta-gps-mobile-alarm>



# Q&A

## ASK AWAY!

