

# Using Free-living Physical Activity as a Digital Medicine for the Prevention and Treatment of Disease

## Introduction

### Inactivity causes disease

- 4<sup>th</sup> leading risk factor for death globally<sup>1</sup>
- Responsible for 17% of premature deaths in the UK<sup>2</sup>
- 25% of all UK adults increase their risk of CVD, obesity and diabetes by being inactive<sup>3</sup>

### Activity is an underused therapy

- Activity is a cornerstone of cardiac rehabilitation but is an ineffective service where guidelines are not met & uptake is only 45% by eligible patients<sup>4</sup>
- As a result cardiac readmissions in 2009/10 cost the NHS £349 million<sup>5</sup>
- Physical activity is proven to be an effective therapy for several different diseases<sup>6</sup>

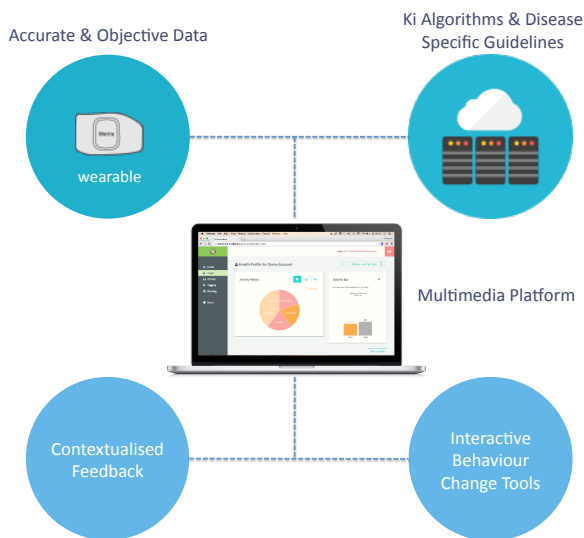
### Creating Sustainable Healthcare

- Enabling personal responsibility & self-management for patient health is vital for managing future healthcare costs
- Digital healthcare is integral to this future, but needs solutions that are validated & safe

### Harnessing Activity as a Digital Medicine

- The KiActive innovation (patent pending) advances digital healthcare
- It is transformational for overcoming the current barriers to activity
- It optimises “free-living” activity & powers unique evidence based digital diagnostic & therapeutic software

## Intelligent Digital Medicine – How it Works



## Diagnostic & Therapeutic Software

### Features:

- Bespoke
- Multidimensional
- Evidence Based
- Disease Specific
- Easily Understandable
- Engaging & Motivating

### Benefits:

- Accessible
- Flexible
- Safe & Controlled
- Empowering
- Proven Behaviour Change
- Scalable

## Research Evidence

### Preventing disease in Public Health: 12-week activity behaviour change programme for patients identified at risk of disease

Wearability & retention

> 90%

Physical activity behaviour has been successfully changed

- Continued collaboration on the Mi-PACT research study with the University of Bath
- Mi-PACT is funded by the National Prevention Research Initiative

### Cardiac Rehabilitation in the NHS: 6-week hospital-based programme

> 90%

of CR patients chose to join the pilot

Wear time averaged over

89% & 87%

in the first & final week of CR, respectively

Targeted behaviour change: Contextualised feedback was associated with a

27% ↑

in the proportion of physical activity at the ideal intensity

## Impact – Improved & Sustainable Patient Care

£10bn

Annual cost of Inactivity to the UK economy<sup>7</sup>

£100bn

Annual cost of related diseases to the UK<sup>8,9,10</sup>

KiActive is a cost-effective solution that delivers scalable sustained behaviour change and reduced healthcare costs

£14bn

Annual costs of CVD to the NHS<sup>9</sup>

£349m

Annual cost of Cardiac Readmissions in the UK<sup>5</sup>

£104m

Savings to the NHS by increasing CR uptake to 65%<sup>5</sup>

KiActive is a cost-effective solution that will enhance current programmes, and improve patient access by enabling community based CR services

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Mi-PACT

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