#### Additional File 1

# Measures recorded during the multiple-baseline study

# Mental health and wellbeing

The Warwick-Edinburgh Mental Wellbeing Scale<sup>1</sup> was used to examine mental health and wellbeing. The scale requests participants to respond to 14 Likert scale items ranging from 1 = none of the time, 5 = all of the time<sup>1</sup>. A total score is calculated ranging from 14 to 70, where higher scores reflect greater perceptions of mental health and wellbeing<sup>1</sup>. The measure has previously demonstrated a strong Cronbach's Alpha score ( $\alpha$ =.91)<sup>1</sup>.

### Loneliness and social isolation

Perceptions of loneliness and social isolation were observed using the UCLA loneliness scale (version 3)<sup>2</sup>. Constructed from eight Likert scale item (1 = never, 4 = often) (two positive items reserved scored), the measure requests participants to rate their perception of loneliness<sup>2</sup>. A total sum score was first calculated. To improve translation to stakeholders this was re-calculated as a mean average score for all items. The measure reports strong internal consistency ( $\alpha$ =.89-.94) and good re-test reliability (r=.73)<sup>2</sup>.

# Quality of life

The Dartmouth COOP Functional Assessment Chart<sup>3</sup> was used to examine quality of life across markers of physical function, feelings, daily activity, social activity, pain, health status, changes in health, social support and overall perceptions across a four-week period. Factors are weighted negatively on a 5-point Likert scale (1= not at all, 5 = extremely) where lower scores reflect reduced risk to quality of life<sup>3</sup>. The measure has reported good convergent and discriminant validity in previous research<sup>3</sup>.

### Physical activity behaviour

Physical activity was measured using the International Physical Activity Questionnaire (IPAQ)<sup>4</sup>. The IPAQ is constructed from seven self-reported items which examine frequency and duration across vigorous- and moderate-intensity PA; walking and sitting<sup>4</sup>. Following a standardised scoring and truncation procedure<sup>4</sup>, duration and frequency were calculated as metabolic equivalent of task (MET)-minutes per-week<sup>4</sup>. The IPAQ has been found to provide valid predictions of objectively measured physical activity in older-adults<sup>5</sup> and has demonstrated an acceptable Cronbach Alpha ( $\alpha$ =.60)<sup>6</sup>.

### References

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