

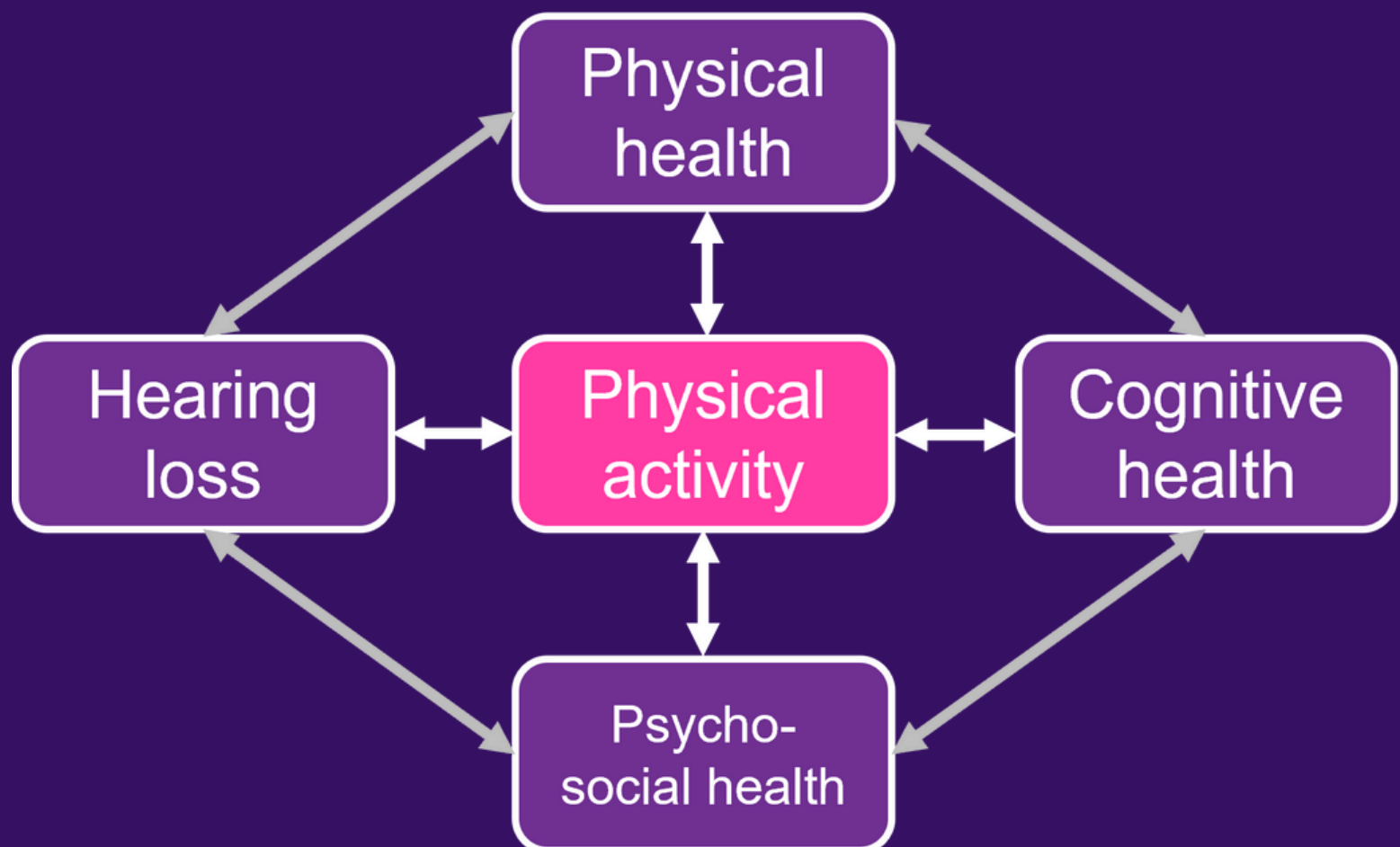
# A feasibility study assessing physical health outcomes in hearing aid users

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## 1. Background

- Hearing loss in middle- and older- aged adults is associated with physical inactivity. This could influence poorer health outcomes across a range of domains.



- Hearing aids have the potential to improve cognitive function and psychosocial wellbeing, but there is little evidence regarding physical health.
- Qualitative and observational research has shown mixed evidence as to whether hearing aids improve physical activity, with users reporting them as both a barrier and facilitator.
- There is a need for high quality evidence to assess whether hearing aids can support adults with hearing loss to be more physically active.
- Hearing aids could be an additional management tool for reducing the risk of chronic conditions (diabetes, dementia)

## 2. Methods

**Aim:** To assess the feasibility of a study that aims to assess physical health outcomes in first-time and existing hearing aid users.

### Participants

- Recruited through *Boots Hearing Care*
  - 45-75 years old
  - First-time or existing hearing aid user
  - No dementia, Fluent English

### Method

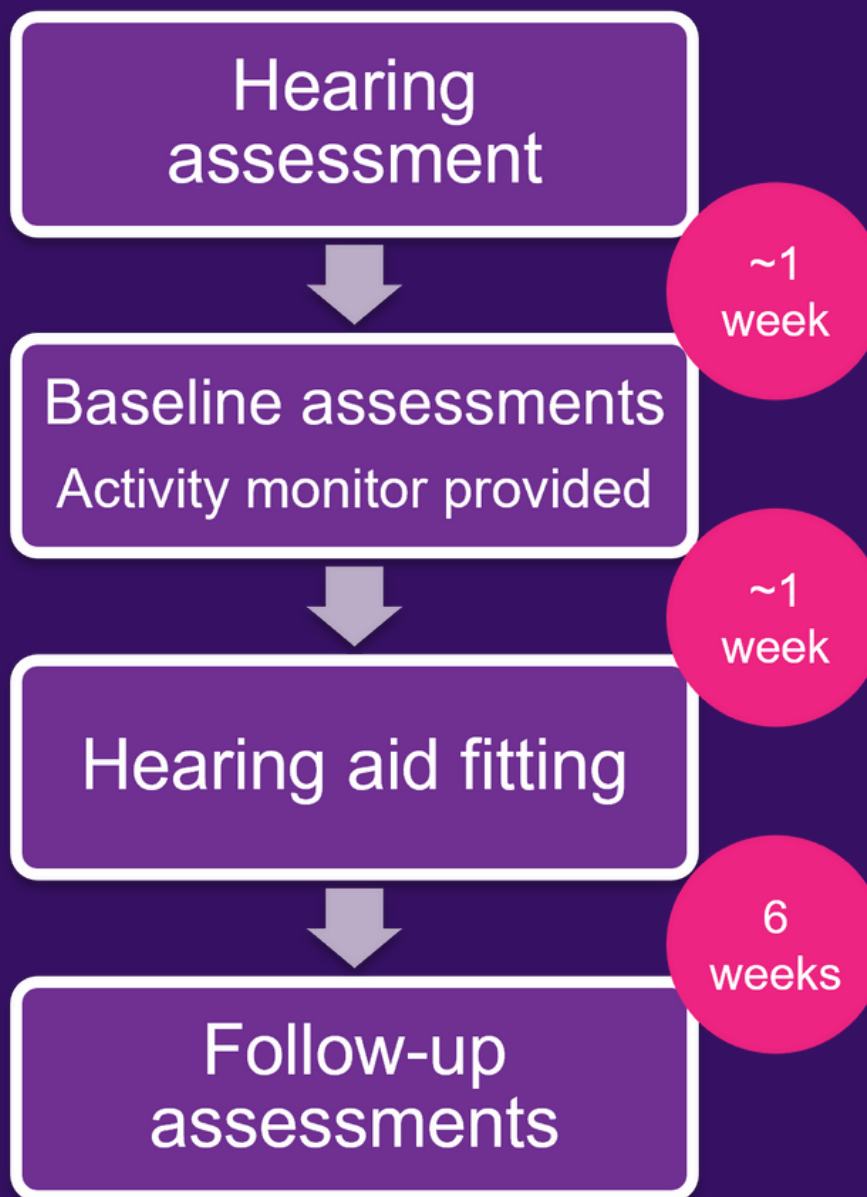
- A pre-/post-observational study.
- Participants attended 2 assessments. During the 1st assessment, asked to wear a wrist-worn accelerometer (ActiGraph GT9X) for 6 weeks.

### Main outcome

- Feasibility:** A traffic light system to determine feasibility was used.
  - Green** (proceed to full trial), **Amber** (adjustments required), **Red** (full trial should not occur).
- Acceptability:** Likert scale and open-ended questions were asked at follow-up

### Trial outcome measures:

- Physical Activity (self-report, accelerometry)
- Cardiovascular health, physical function, cognitive function, cognitive fatigue, psychosocial wellbeing (depression, loneliness, social isolation, mental wellbeing)

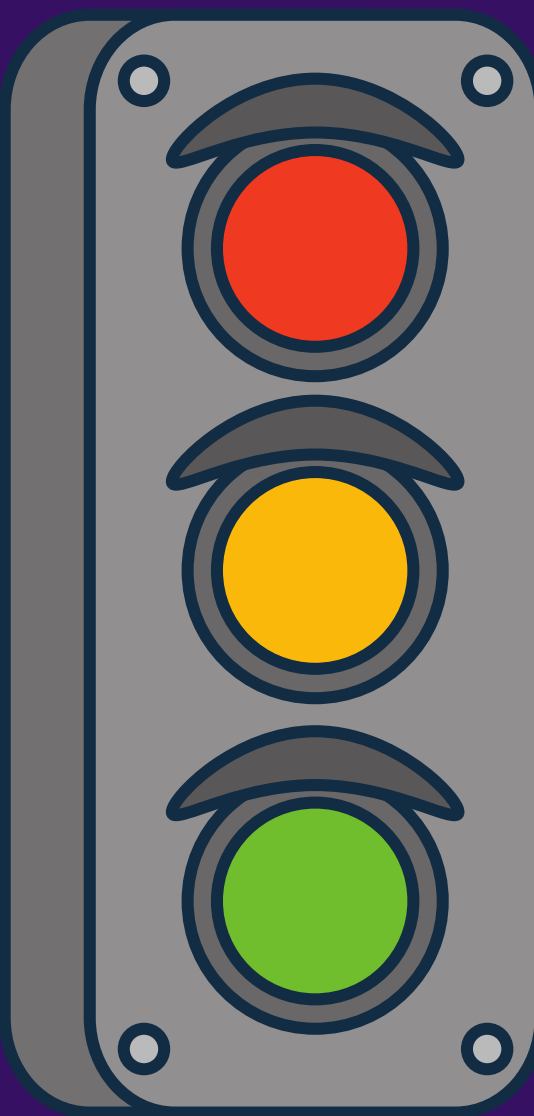


## 3. Results

- 10 participants (6 = male), aged 51-75 years ( $M = 65.9$ ,  $SD = 8.1$ ) took part in the study. Most (60%) had mild-to-moderate hearing loss, 20% had moderately severe and 20% had severe.
- 5 participants were existing hearing aid users, there were no statistically significant baseline differences for demographics between new and existing hearing aid users ( $p \geq .095$ ).
- Wilcoxon signed-rank tests showed no significant differences between baseline and follow-up for any outcomes ( $p \geq .051$ ).
- Note:** This feasibility study was not powered to test for significant differences.



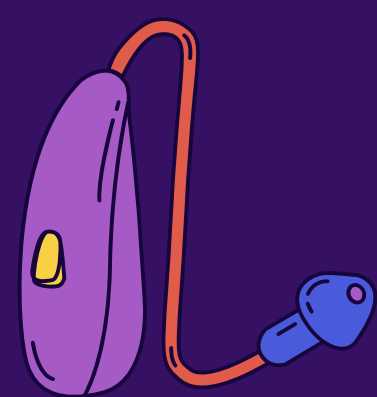
## 4. Feasibility & Acceptability



- Recruitment** - The 2 week window between assessment and hearing aid fitting made recruitment difficult.
- Implementation** - Some (20%) participants reported difficulties charging the ActiGraph.
- Fidelity** - Most (80%) participants wore the ActiGraph for the duration of the trial.
- Retention** - All (100%) participants completed both assessments.
- All participants reported enjoying the study overall (*agreed or strongly agreed*)
  - Most (70%) enjoyed using the ActiGraph.
  - Most stated they were confident using the ActiGraph and chargers (90%), plus accomponaying booklet (80%)
  - No adverse events related to the study were reported

## 5. Conclusions

- Overall, the study was well received by participants, with good retention and fidelity.
- Participant recruitment was challenging - for a future trial, could include NHS recruitment sites.
- With some adjustments to the design, a full-scale efficacy trial assessing the impact of hearing aids on physical activity would be possible.



### References

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### Meet The Team!



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