Helping older people to stay active during the COVID-19 lockdown

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No conflicts of interest

Research Funders

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NHS

SBRI HEALTHCARE

CENTRE FOR AGEING BETTER

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

FARSEEING

ProFouND
Prevention of Falls Network for Dissemination

ProFaNE
Prevention of Falls Network Europe

PreventIT

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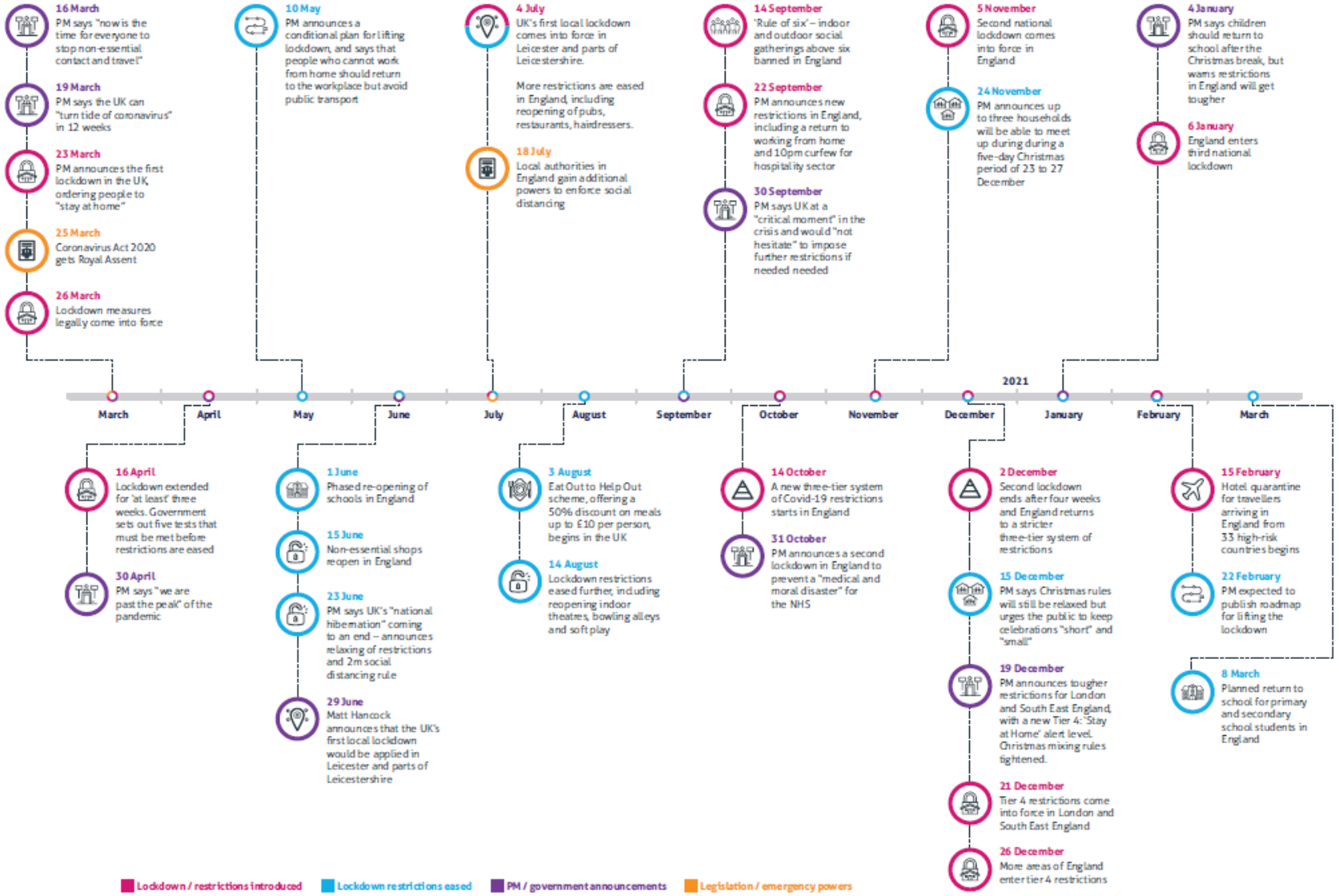
UK coronavirus lockdowns 2020-2021



www.instituteforgovernment.org.uk

Covid-19 pandemic & inactivity

- March 2020 – April 2021 nearly 10 months of national lockdown
  - Many older people shielded, stayed at home
  - Even with mass vaccination and restrictions being lifted, few activity opportunities available

- 25-66% of falls services closed down; moved to online etc.
- Activity restriction results in increased fall risk by contributing to deconditioning and functional loss

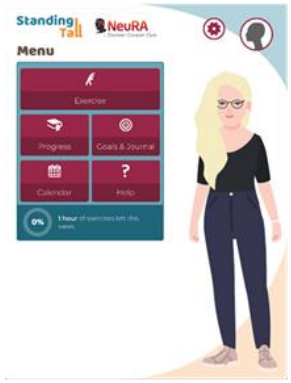
The accepted view is we face deconditioning/rehabilitation pandemic

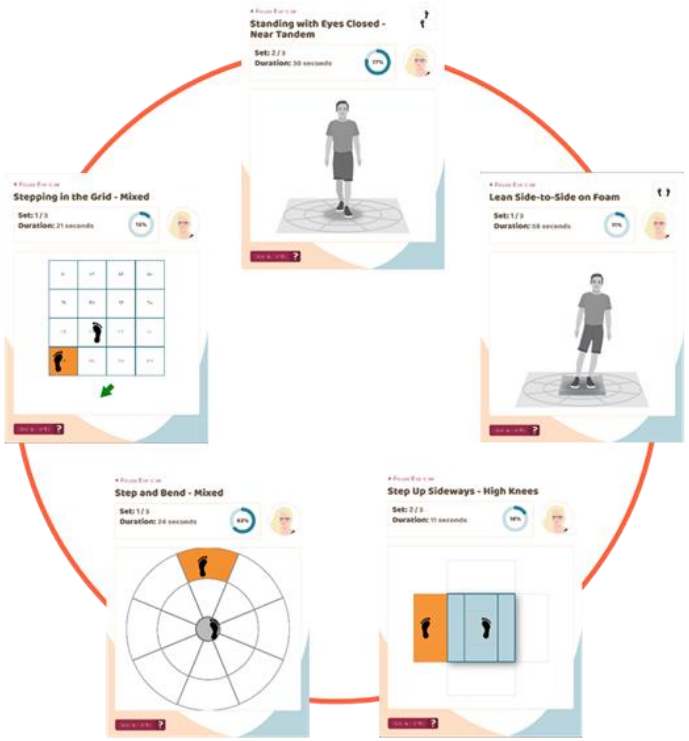
- Rehabilitation/activity programmes will be needed for
  - COVID-19 survivors especially those with long COVID,
  - Those deconditioned because of movement restrictions, social isolation
  - Those deconditioned because of inability to access healthcare
  - Those with pre-existing or new non-COVID-19 illnesses which have progressed

- Most falls services not up and running with an increasing waiting list

De Biase et al. Age Ageing 2020

Standing Taller





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PRU Briefing for DHSC

- **Delivery of strength and balance exercises for falls prevention amongst older people using digital technologies to replace face-to-face contact during COVID-19 home isolation and physical distancing.**
- https://www.opfpru.nihr.ac.uk/covid-19-research/rr7-covid-19-technology-for-strength-and-balance/

- McGarrigle L, Todd C (2020) Promotion of physical activity in older people using mHealth and eHealth technologies: Review of reviews *Journal of Medical Internet Research*
- McGarrigle L, Boulton E, Todd C (2020) Map the Apps: a rapid review of digital approaches to support the engagement of older adults in strength and balance exercises *BMC Geriatrics*

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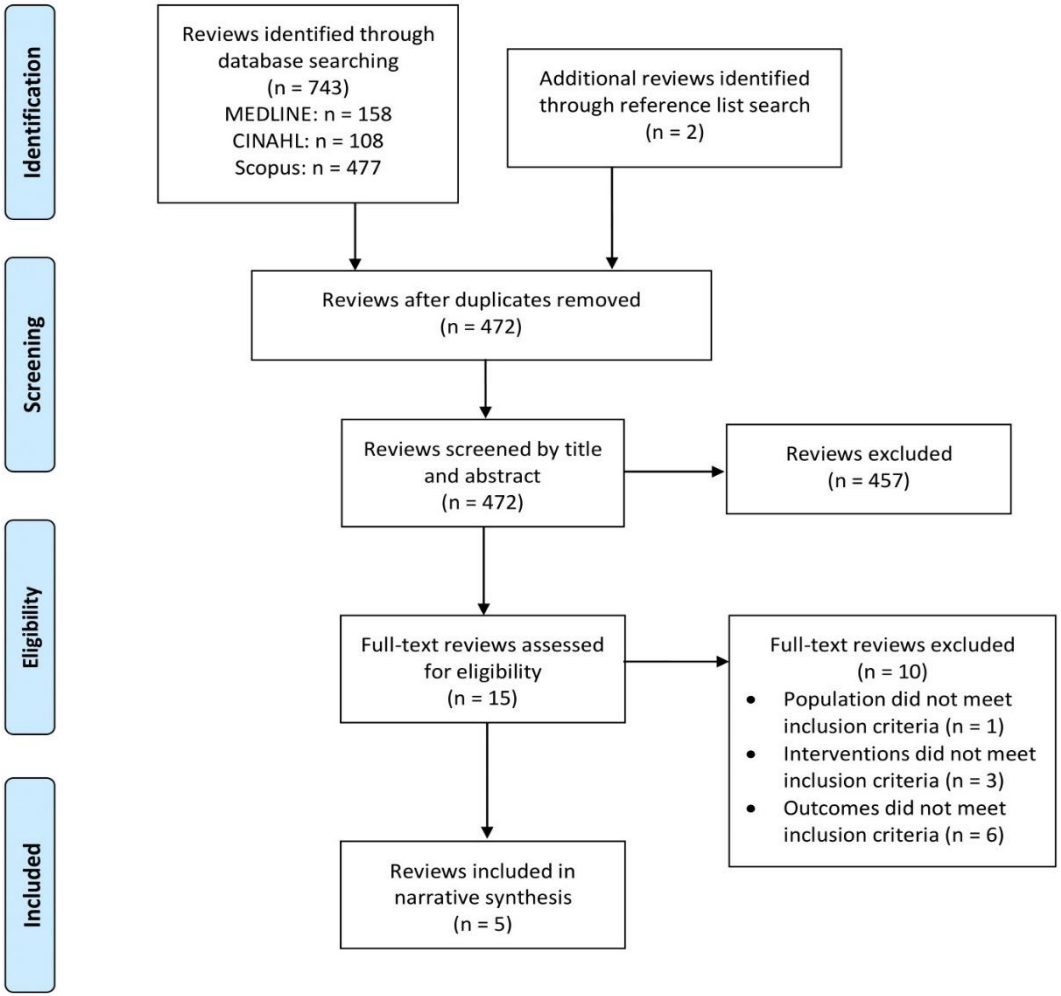
eHealth mHealth: Review of reviews



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

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General evidence for digital exercise promotion to older people

- Mobile/smartphone apps appears to be **acceptable** to older people.
- Older people appear to **adhere** to apps (at least in the short term).
- Apps may be **effective** in decreasing sedentary time, increasing physical activity and physical fitness (over 3 or so months).
- Apps that are **theory-based**, include behaviour change techniques, clear instructions, social and professional support may be more effective
- Apps should provide exercise/activity interventions that fit in with older people's **lifestyles** and **expectations** and offer **tailored** interventions taking account of individual preferences and capabilities.
- **Positive messages** are crucial.
- Older people need to understand and **appreciate the benefits** they will gain and benefits need to be in accord with older people's own lifestyle and aspirations.
- Emphasising **staying independent-** important to many older people.
- When introducing apps to older people the **steep learning curve** must be recognised and support supplied to help them.

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App searches

App Store Searches
Nov 2019 - Feb 2020
Records identified (n = 7561)
Google Play Store: n =7000; 250 results were displayed for each keyword search)
Apple App Store: n = 561

Database Search for apps in development
Records identified (n = 174)
MEDLINE: n = 58
EMBASE: n = 116

Apps selected for screening based on title and store description (n = 20)

Records after duplicates removed (n = 137)

Re-run search May 2020

Additional apps selected for screening (n = 4)
Google Play Store: n = 3
Apple App Store: n = 1

Duplicates excluded (n = 1)

Records screened by title and abstract (n = 137)

Records excluded (n = 134)

Apps excluded (n = 11)

- Required specialised equipment (n = 2)
- Not targeting older adults (n = 1)
- Aimed at specific disease groups (n = 2)
- Focus on general fitness (n = 2)
- Cannot be used independently (n = 1)
- Not exercise intervention (n = 2)
- Unavailable in English language (n = 1)

Apps downloaded and assessed for eligibility (n = 23)

Apps sought from developers (n = 3)

Not possible to acquire app (n = 2)

Apps evaluated (n = 12)

Apps evaluated (n = 1)

Total apps evaluated (n = 13)

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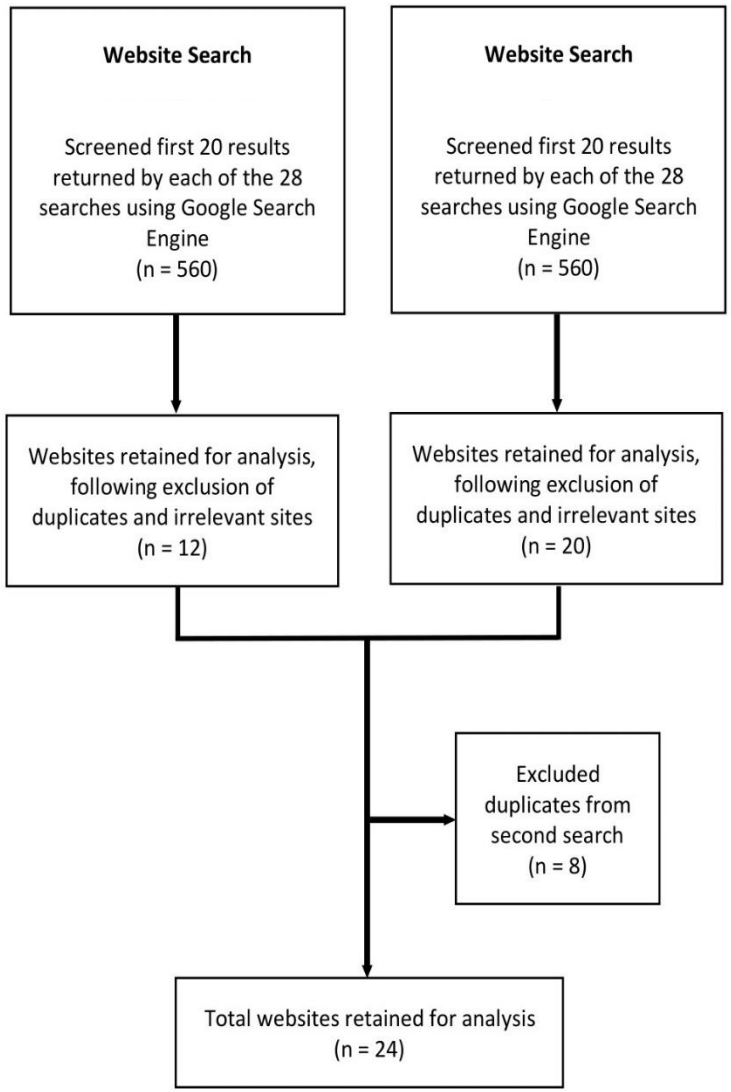
Website searches



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Apps

- Currently available*
  - Otago Exercise Programme
  - Nymbl Balance[1]
  - Keep On Keep Up

- Under development[2]
  - Standing Tall

Websites

- Currently available**
  - csp.org.uk
  - fallsassistant.org.uk
  - go4life.nia.nih.gov
  - nhs.uk/live-well
  - profound.eu.com
  - betterhealthwhileaging.net
  - caringseniorservice.com
- For resources see also
  - laterlifetraining.co.uk

* Assessed using underlying evidence base, MARS & use of BCTs. **No** RCTs or evidence of effectiveness

[1] USA only

[2] RCT published BMJ March 2021

** Assessed using underlying evidence base, HoNCode & use of BCTs. **No** RCTs or evidence of effectiveness

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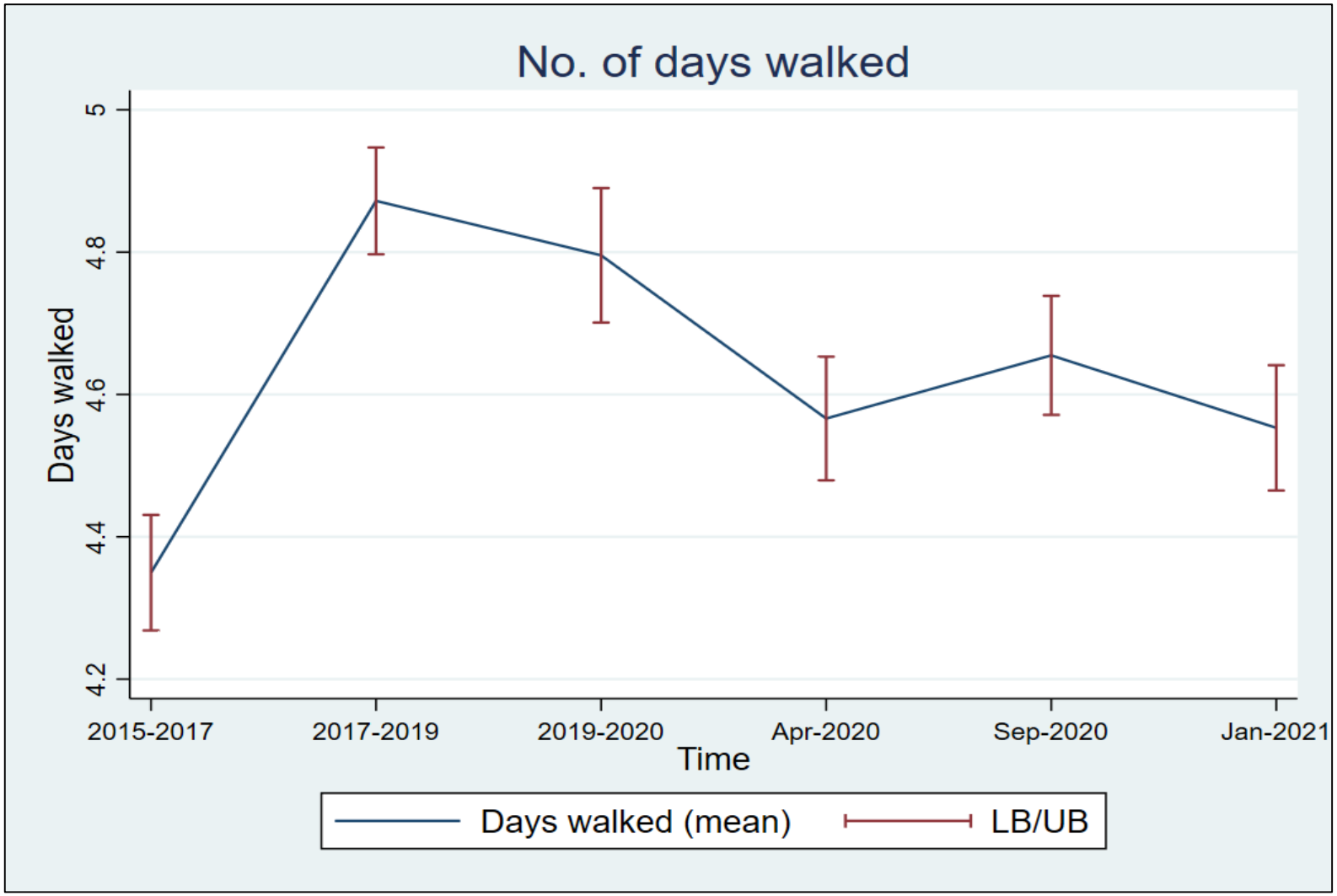
Conclusions

- Digital delivery better than no delivery
- Rapidly changing area
- In longer term digital could (will) become common, but needs carefully phased roll out
- Ensure co-development work with older people
- For the immediate future focus on
  1. Those already familiar with S&B, assessed and previously receiving face-to-face delivery, and stable health
  2. Relatively healthy and digitally literate capable of remote set-up
  3. Rehabilitation following hospital discharge with set-up done face-to-face in hospital

- NB Digital exclusion and exacerbation of health inequalities

  older, female, deprived, BaME, marginalised



Activity levels during COVID-19 pandemic lockdowns: Evidence from *Understanding Society* Luke Munford, Jack Elliott, Saima Ahmed, Chris Todd

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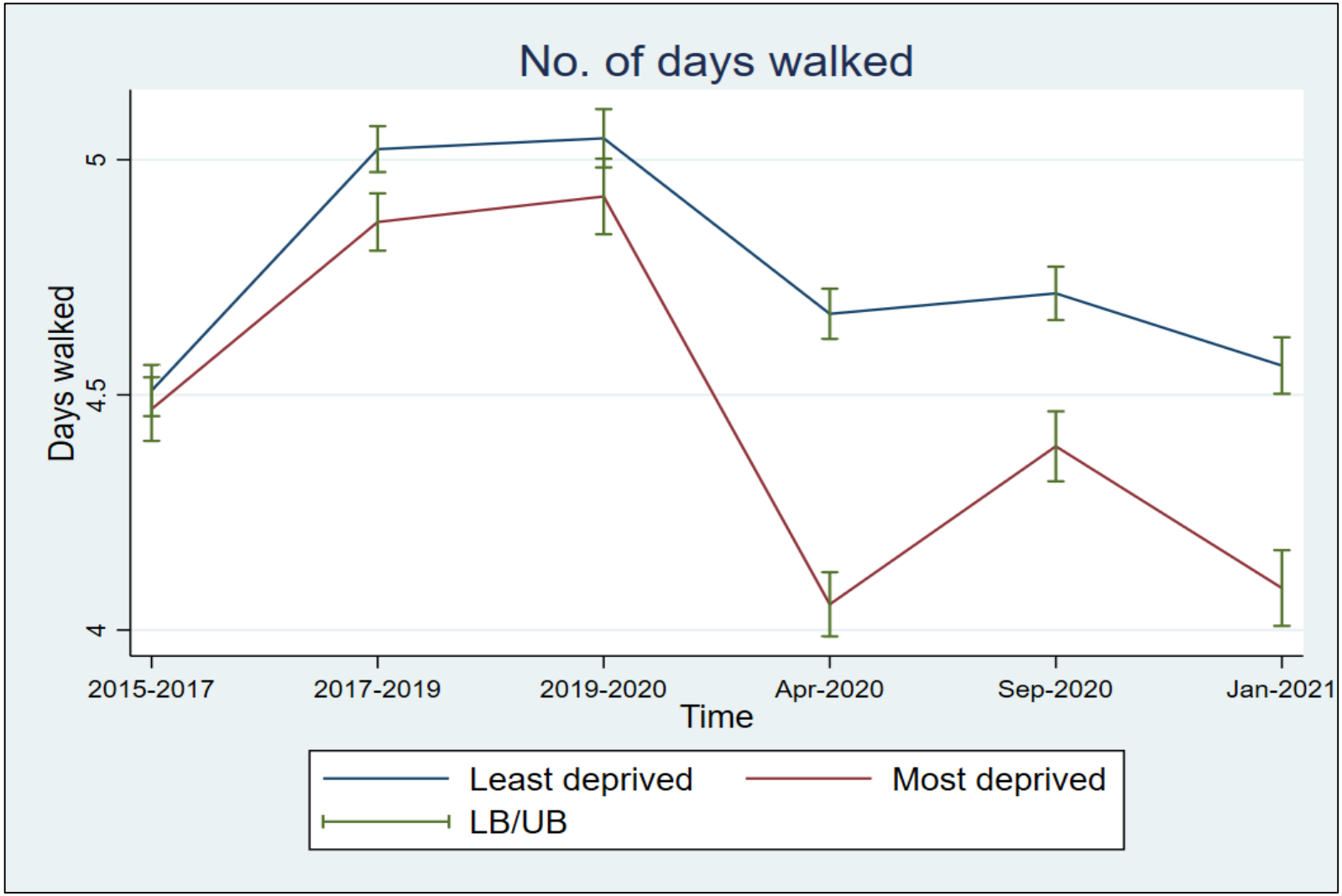

Activity levels during COVID-19 pandemic lockdowns: Evidence from *Understanding Society* Luke Munford, Jack Elliott, Saima Ahmed, Chris Todd

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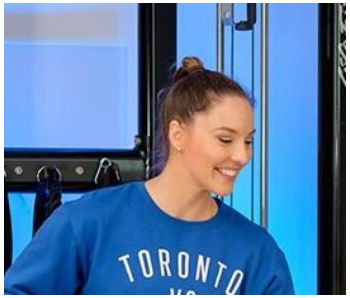
HEALTHY AGEING RESEARCH GROUP











Falls and Exercise Researchers

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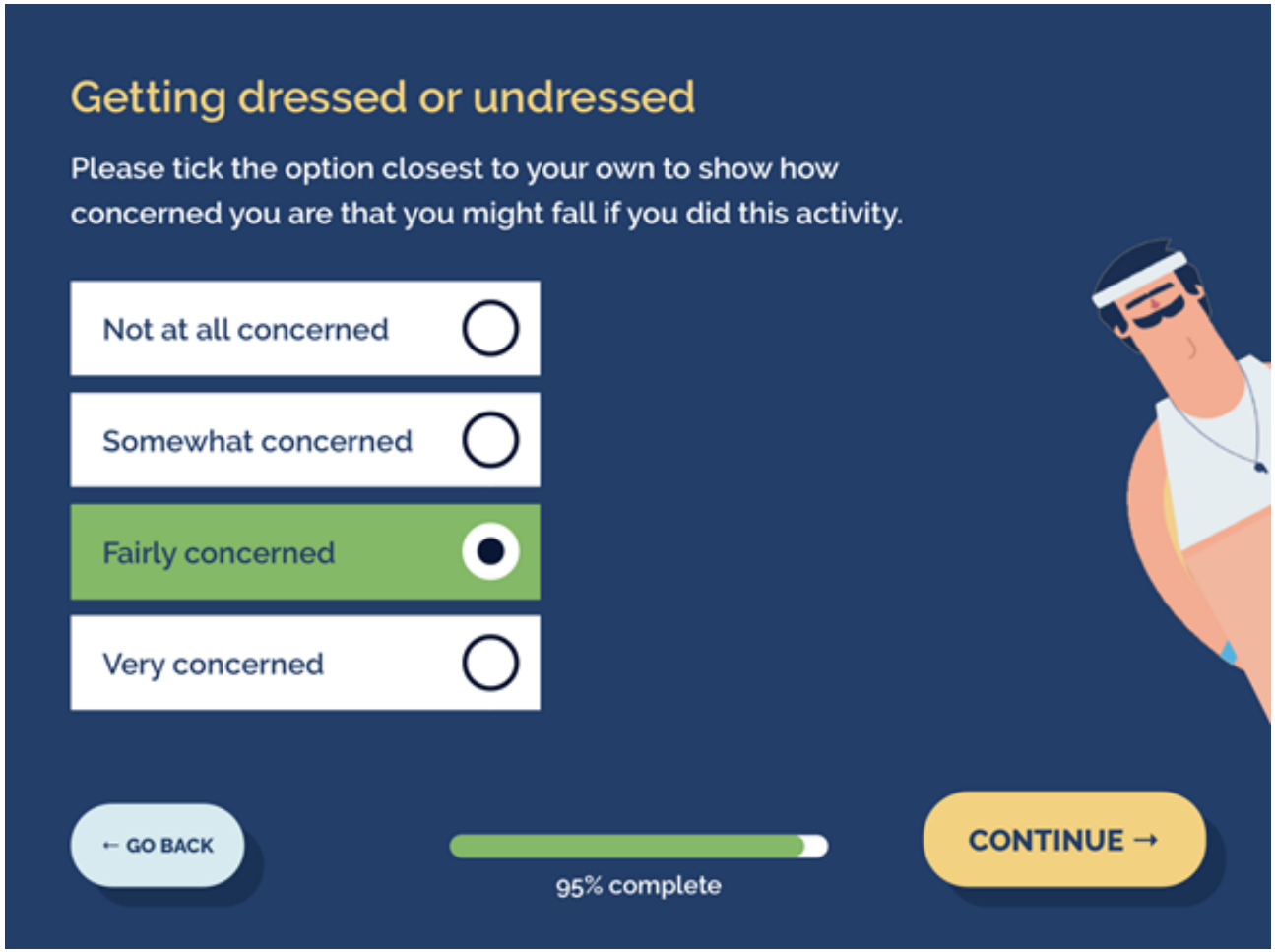
Keep on Keep Up



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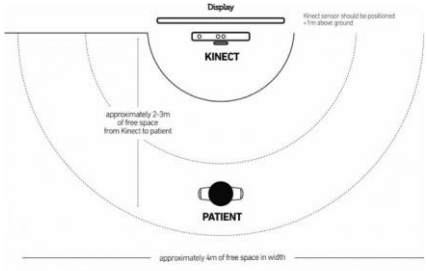
Cluster RCT of Exergame in 18 sheltered housing facilities



Improvement in Exergame group
Falls incident rate ratio **0.31 (95% CI 0.16 to 0.62)**

Balance 6.2 (95% CI 2.4 to 10.0)
Short FES-I −2.7 (95% CI −4.5 to −0.8)
VAS pain scale −12.1 (95% CI −22.3 to −1.8)

Adherence at 12 weeks 87%

Stanmore et al. BMC Medicine (2019) 17:49
https://doi.org/10.1186/s12916-019-1278-9

BMC Medicine

RESEARCH ARTICLE Open Access

The effectiveness and cost-effectiveness of strength and balance Exergames to reduce falls risk for people aged 55 years and older in UK assisted living facilities: a multi-centre, cluster randomised controlled trial

Emma K. Stanmore[1,2,3*], Alexandra Mavroeidi[10], Lex D. de Jong[4,5], Dawn A. Skelton[10], Chris J. Sutton[3,6], Valerio Benedetto[7], Luke A. Munford[8], Wytske Meekes[9], Vicky Bell[1] and Chris Todd[1,2,3]

https://doi.org/10.1186/s12916-019-1278-9

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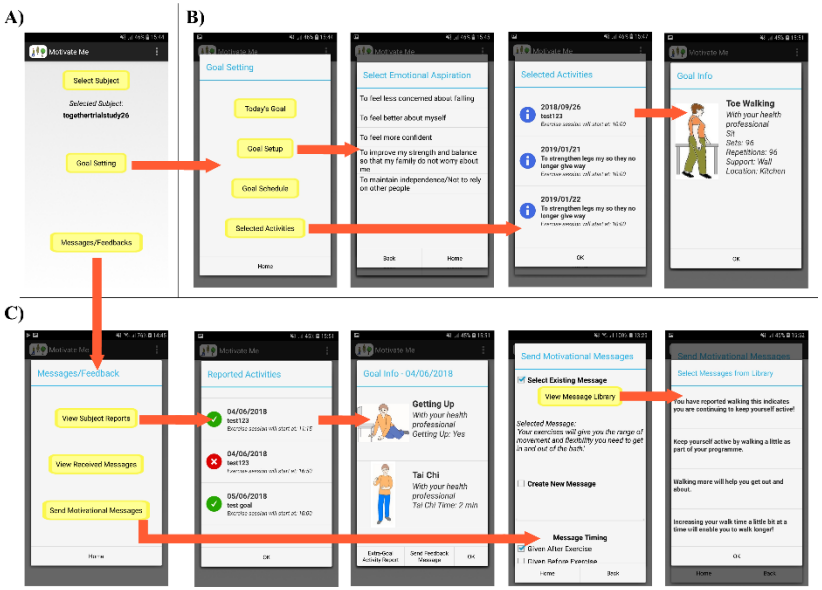
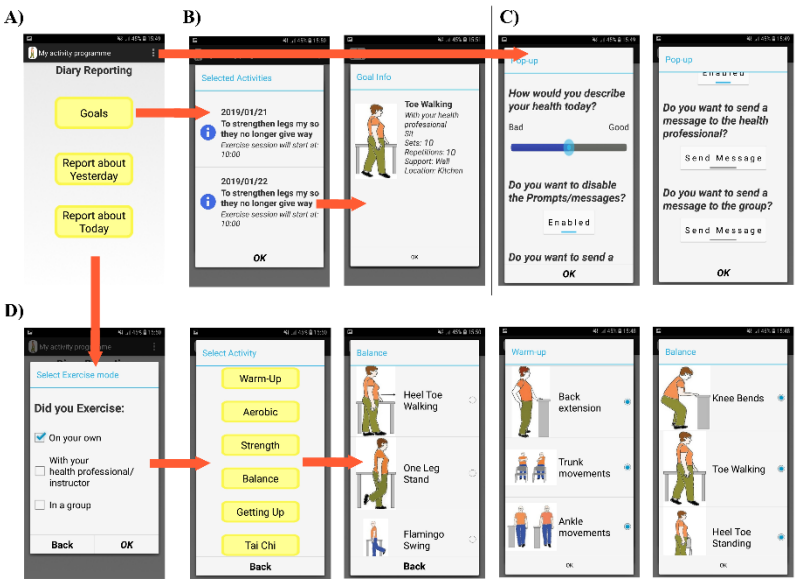
Motivate Me and My Activity apps





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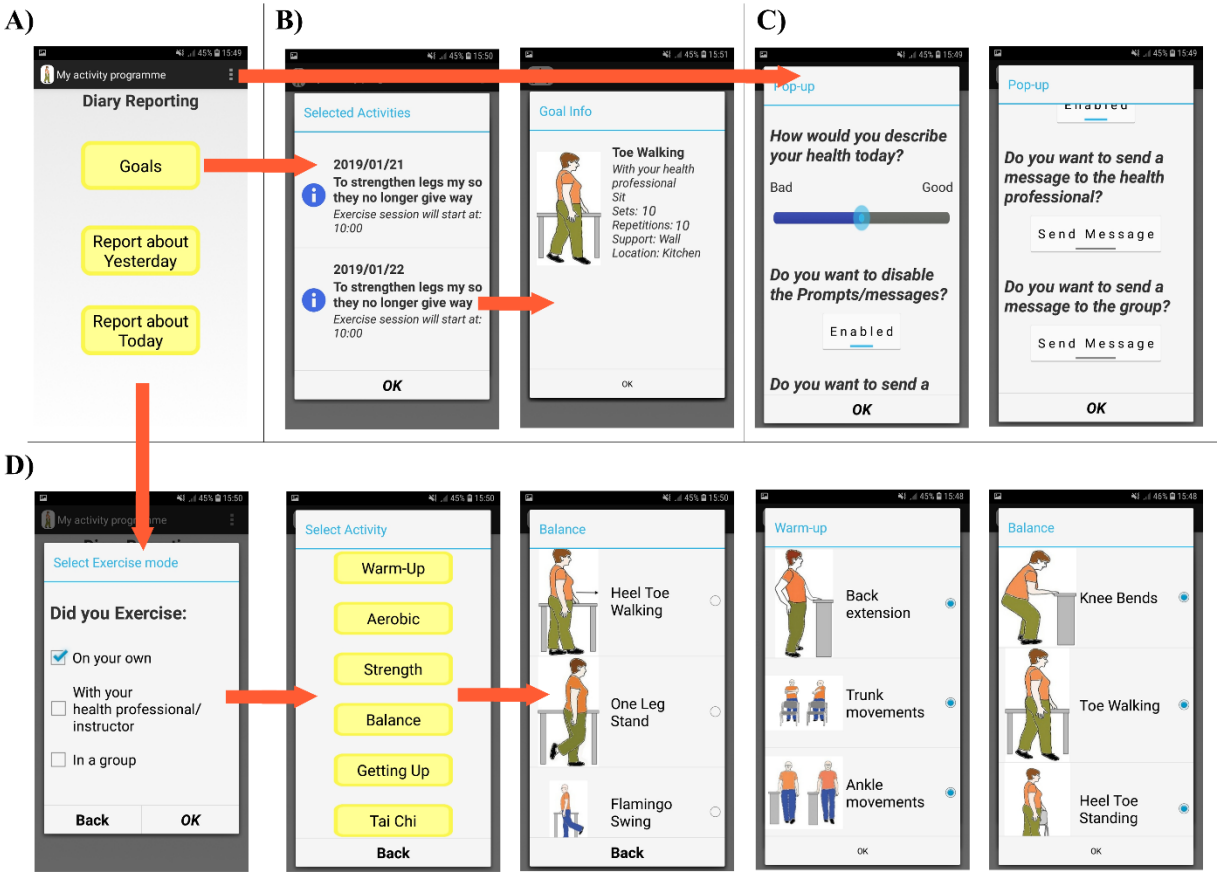
My Activity app



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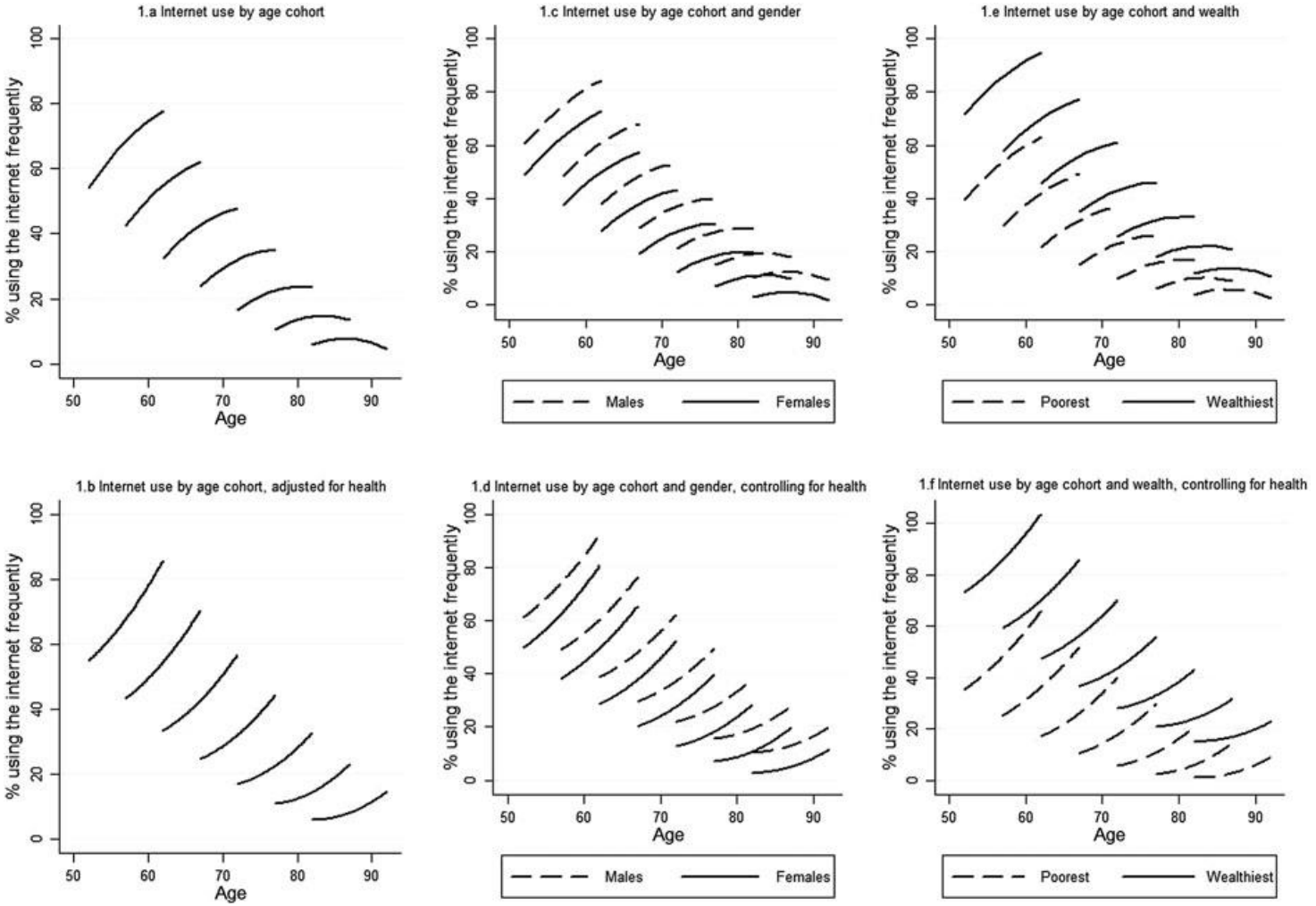
Growth curve models of frequent internet use by age cohort, gender and wealth.



Mathews, Nazroo, Marshall. *Ageing & Society* 2018

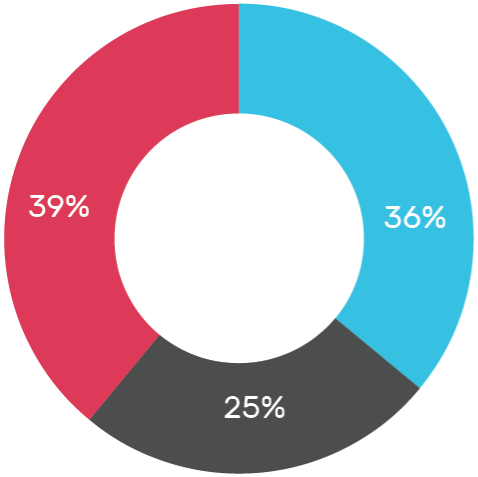
Internet use in UK 2017

- 7.8 million people (14.9%) do not use internet
- 7.4 million people (14.3%) 'limited users'
- Non- users
  - 64% aged >65
  - 48% have a disability or long standing health issue.
  - 49% in DE social class.
  - 44.5% annual household income <£11,500.
  - 78% left education at 16 or younger

https://www.goodthingsfoundation.org/sites/default/files/research-publications/ofcom_report_v4_links.pdf

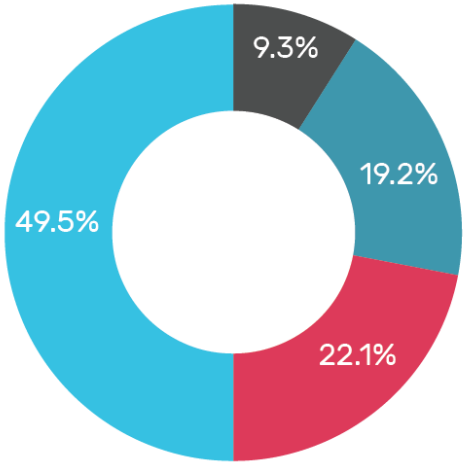
Internet use in UK 2017

The non user population split by age groups



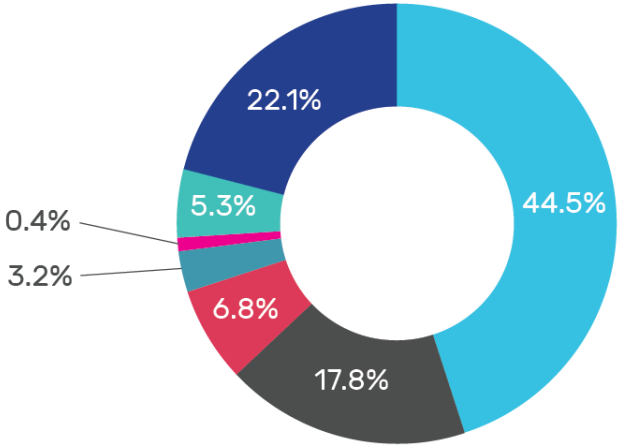
Under 65
65-74
Over 75

The non user population split by social class



AB
C1
C2
DE

The non user population split by annual household income



Under 11,500
11,500-17,499
17,500-29,999
30,000-49,999
50,000 or over
Don't know
Refused

https://www.goodthingsfoundation.org/sites/default/files/research-publications/ofcom_report_v4_links.pdf

The real digital divide? Understanding the demographics of non-users and limited users of the internet: an analysis of Ofcom data

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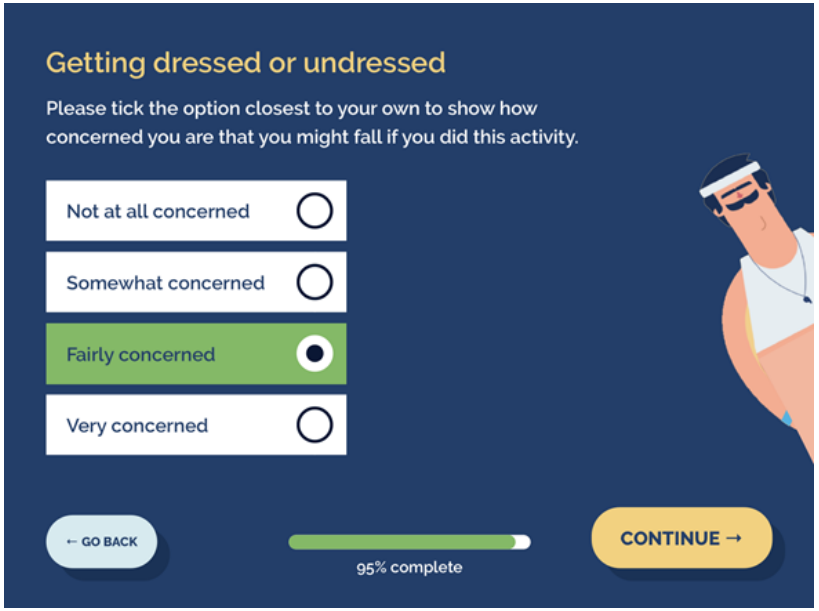
Otago

Keep on Keep Up



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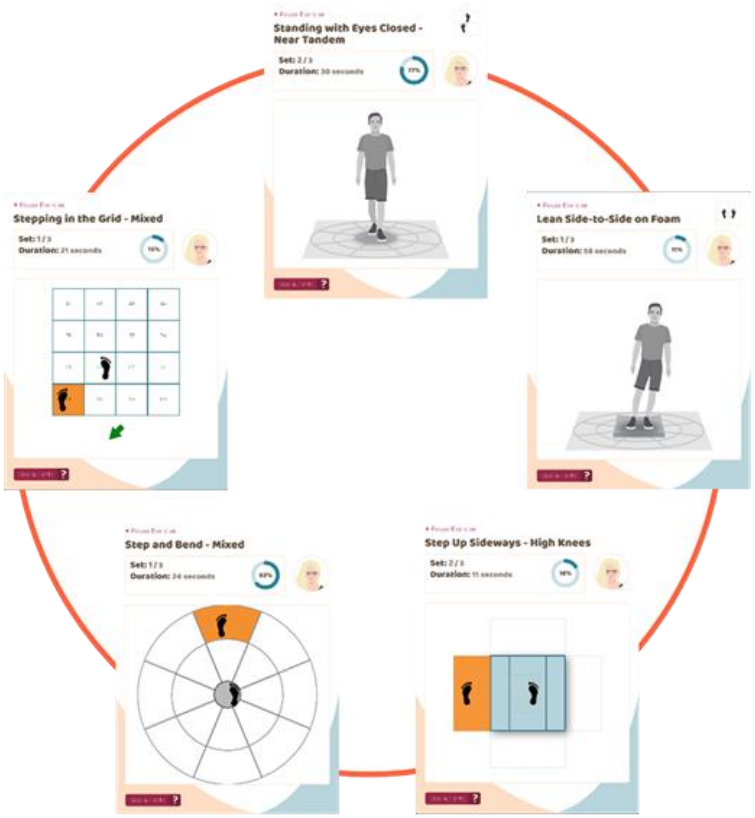
Standing Tall (Balance app)



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