



The University of Manchester

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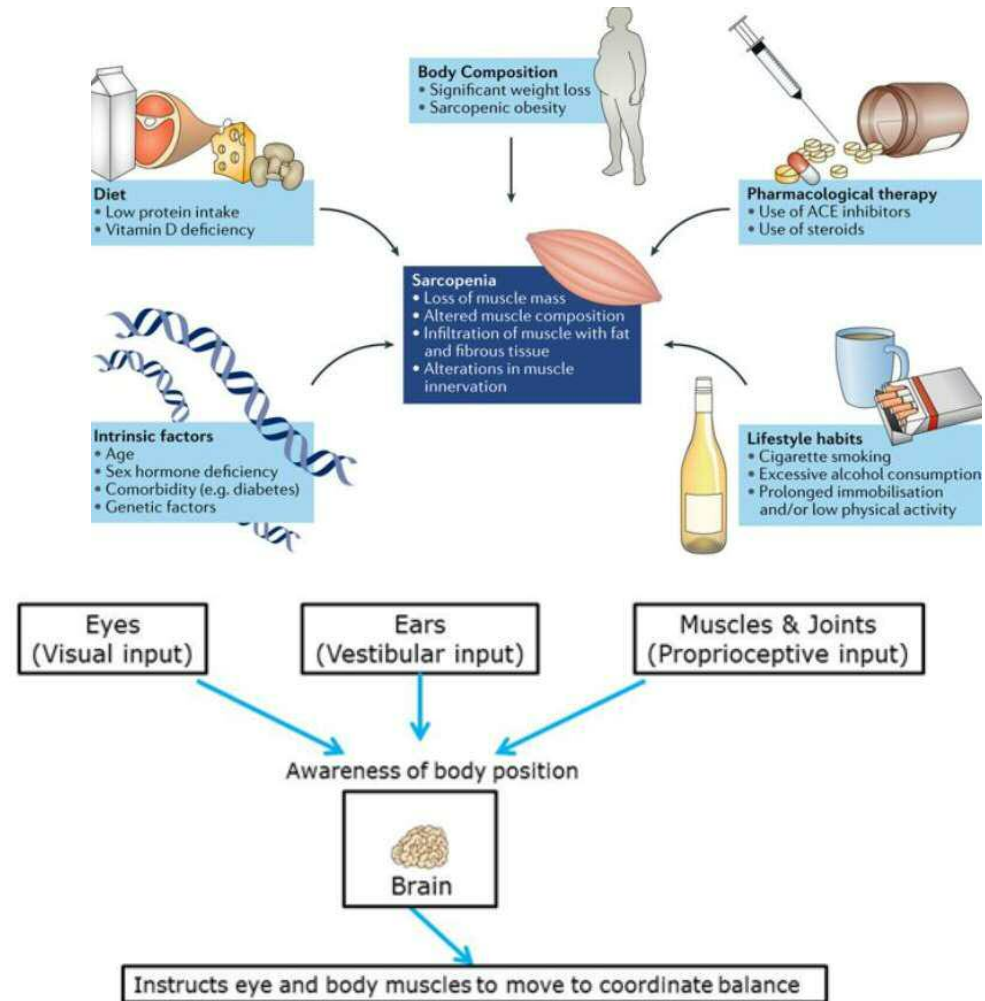
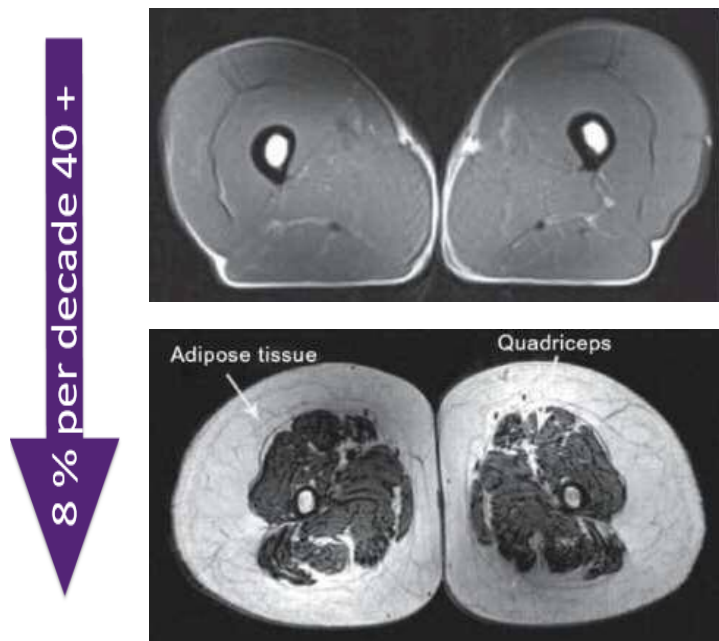
What other research units are affiliated to the Healthy Ageing Research Group?



The **Healthy Ageing Research Group** has a large area of expertise:

- **falls and falls prevention;**
- physical activity and exercise promotion (strength and balance);
- nutrition and diet;
- rehabilitation and musculoskeletal conditions;
- **development and evaluation of novel m-health and e-health technologies;**
- health behaviour change;
- health literacy

The evidence – why muscle strength, bone health and balance matter



The evidence - why muscle strength, bone health and balance matters

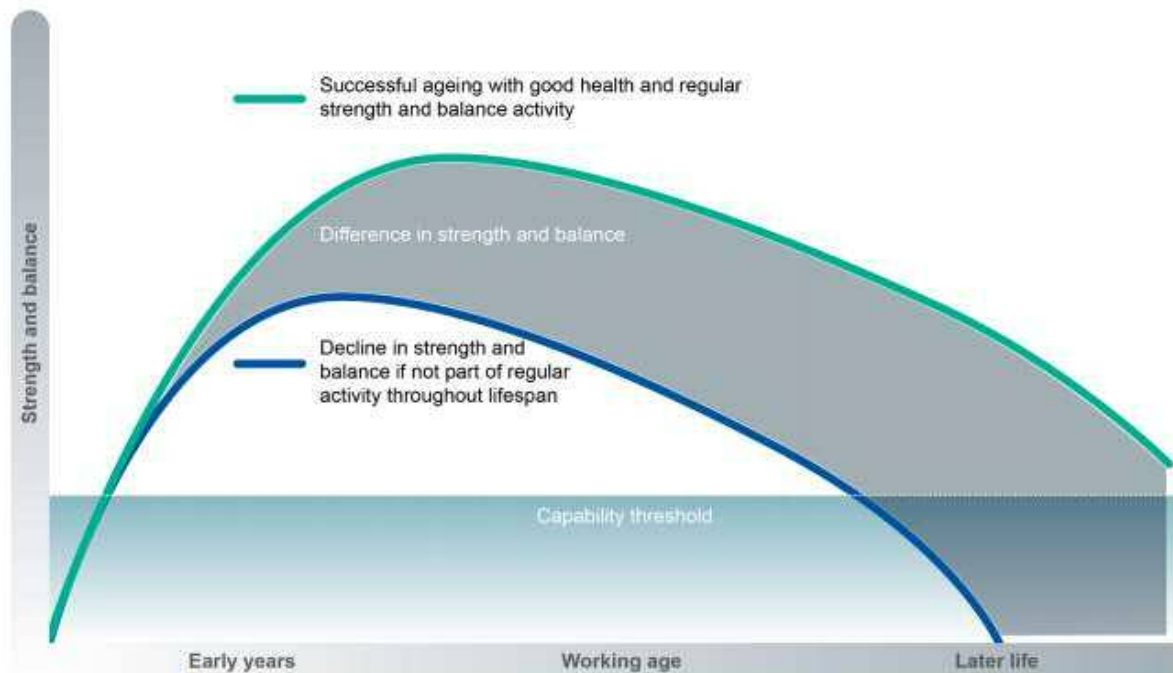
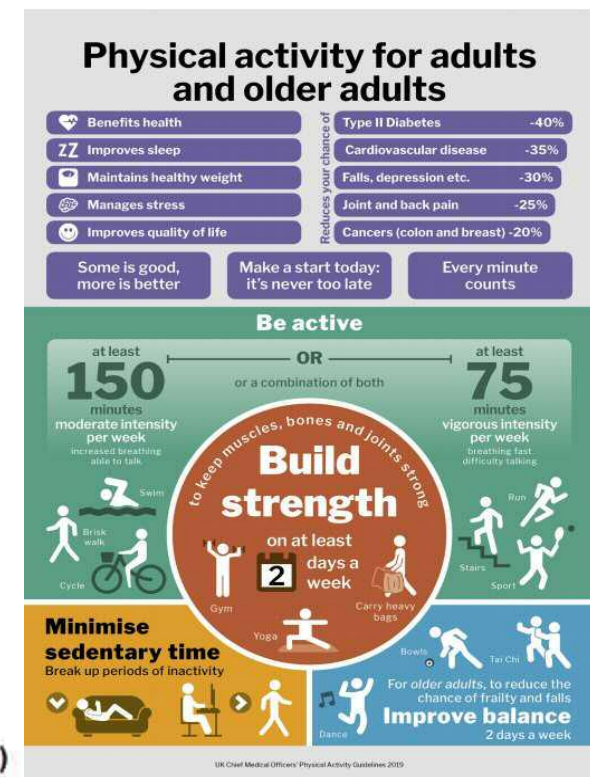


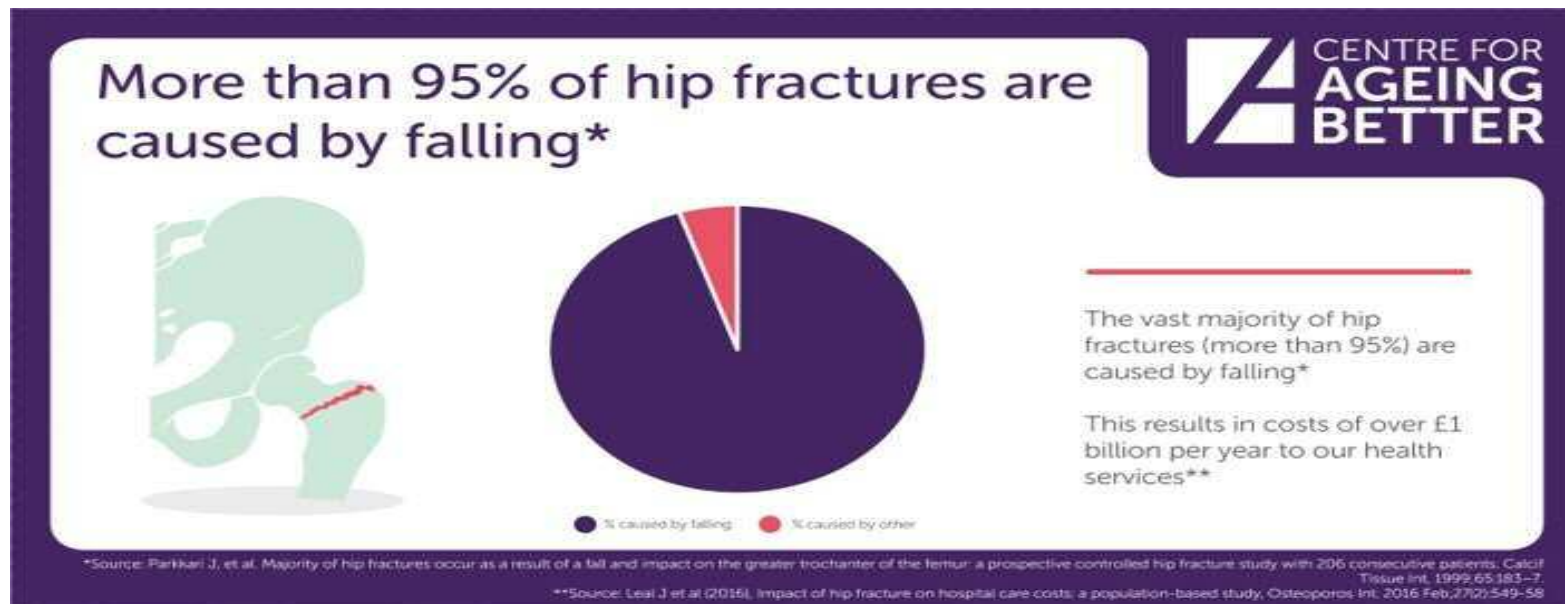
Figure 4: Physical activity for muscle and bone strength across the life course (7, 8)



*UK Chief Medical Officers' Physical Activity Guidelines 2019

The Falls Facts

- In the two years to 2016, **28%** of adults *over the age of 60* and **38%** adults over the *age of 80* reported a fall (Banks et al 2018)
- About **5-10%** of such fallers will sustain a *serious injury* (McClure et al, 2008)
- Each year there are over **210,000 falls-related emergency hospital admissions 65+**, estimated that falls cost the NHS around **£1billion a year** (Leal, J et al, 2016)



GM Emergency Admissions 2019/2020

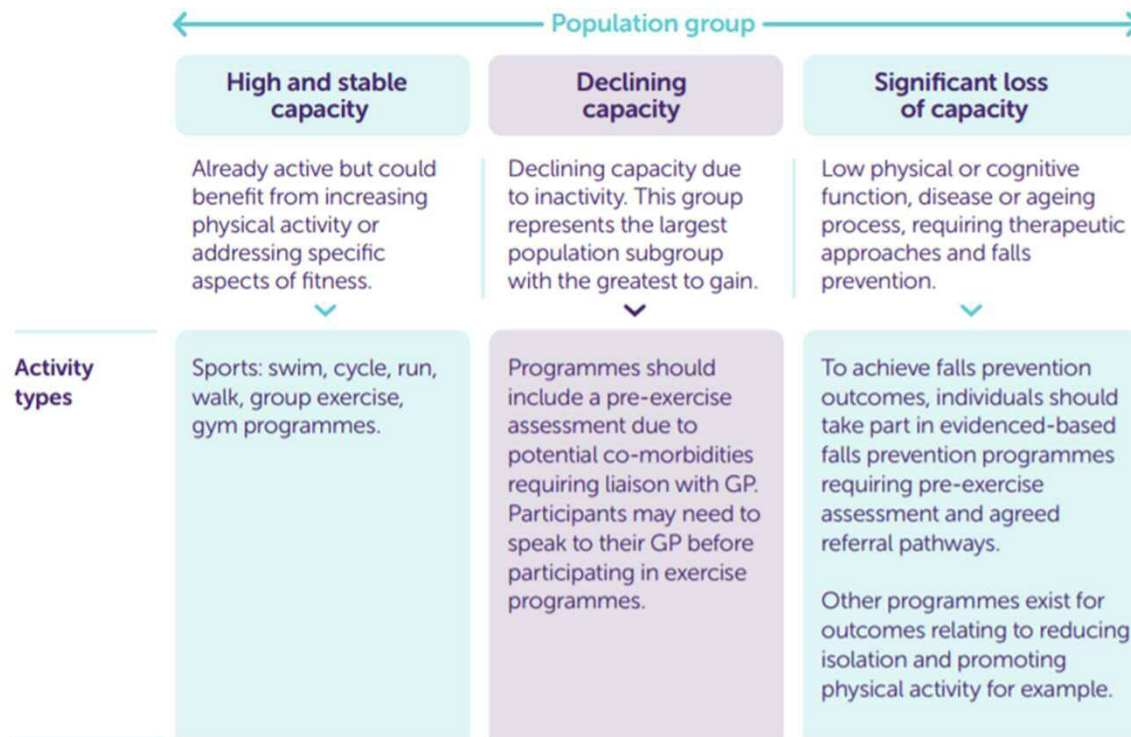
England 2,222/100,000
Northwest 2,437/100,000
(GM 2,425/100,000)

Bolton 2,098/100,000
Bury 2,151/100,000
Manchester 2,784/100,000
Oldham 2,663/100,000
Rochdale 2,098/100,000
Salford 2,151/100,000
Stockport 2,151/100,000
Tameside 2,098/100,000
Trafford 2,102/100,000
Wigan 2,864/100,000

Falls are not an inevitable part of
ageing and can be prevented!



Population health /Life course approach



Raising the bar on strength and balance: the importance of community provision



Evidence based interventions














The Falls Management Exercises (FaME) Programme

- led by Postural Stability Instructors (PSI),
- evidenced to prevent both primary and secondary falls
- appropriate for all older adults, including those at high risk.
- also increases physical activity levels, improves confidence and reduces fear of falling

Otago Exercise Programme (OEP) is led by trained OEP leaders.

- OEP has a strong evidence base for secondary falls prevention for people at high risk of falls
- delivered as home based programme of pre-set exercises with progression guidance.
- OEP can be delivered in groups in community settings as a primary prevention programme which aims to improve strength and balance as a falls risk reduction intervention

Types of physical activities that are most effective at improving muscle function, bone health and balance

Type of sport, physical activity or exercise	 Improvement in muscle function	 Improvement in bone health	 Improvement in balance
 Running	★	★★	★
 Resistance Training	★★★	★★★	★★
 Aerobics, circuit training	★★★	★★★	★★
 Ball Games	★★	★★★	★★★★
 Racquet Sports	★★	★★★	★★★★
 Yoga, Tai Chi	★	★	★
 Dance	★	★★	★
 Walking	★	★	☆
 Nordic Walking	★★	?	★★
 Cycling	★	★	★

★★★ Strong effect ★★ Medium effect ★ Low effect ☆ No effect ? Not known



Source: Foster, C. and Armstrong, M. (2018) 'what types of physical activities are effective in developing muscle and bone strength and balance?'. Journal of Frailty, Sarcopenia & Falls, Vol. 3(No.2), pp. 58-65.

Covid-19 and physical deconditioning

- Longer periods at home and increase in sedentariness will lead to a loss of muscle mass, stiffening of joints, loss of bone density (musculoskeletal deconditioning) and decreases in aerobic fitness (cardiovascular deconditioning).
- Association with risk of falls and loss of functional ability, directly impacting on our independence and ability to do activities of daily living
- Deconditioning overall can impact on wellbeing.
- Deconditioning is associated with a greater need for future healthcare and support.
- Sport England (June 2020) women, older people, people on low incomes, people living alone, people without children in the household, people with a longstanding condition or illness have found it harder to be active during pandemic

https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2020-06/Covid19%20insight%20pack.pdf?_6NuZas7gBc1ZWfioqtvwuBCU0C9ppxK

Why muscle strength, bone health and balance matter

Comments
Thoughts
Questions?



Falls Prevention Mapping across GM

What we offered to the system...

- **Map the GM system for falls prevention**, both **clinical and community** based pathways to include where possible: stakeholder interviews; short survey; desk research; data gathering
- Deliver a report, **highlighting the strengths and challenges** of the falls pathway systems and practice, identification of gaps, opportunities to build upon and take forward.
- **Explore the appetite for a GM level Falls Collaborative** to include, understanding of what GM wants/needs from this group (terms of reference), who should be present around the table (membership).
- Explore options for additional **support/capacity and financial requirement** beyond this initial mapping phase to accelerate and grow the GM Falls Collaborative priorities and activities over the coming 2-3 years.

GM Falls Prevention Mapping – Feedback Session

What we have done and next steps

- ✓ Held **informal interviews with 30+** ‘falls prevention’ stakeholders from across 10 GM localities including: **Health Care Practitioners; Strategy/Policy Leads,**
- ✓ **Commissioners; Voluntary and Community Sector** representatives
- ✓ Presented at **GM Ageing Hub** including representatives from the **GMOPN**
- ✓ Drafted **initial report / slide deck** and identified a series of **recommendations**

Next steps

Sense checking findings with interviewees/stakeholders

Preparing final report and take forward recommendations to **GM level falls collaborative** that sits within the **Age-Friendly GM Strategy Theme – Ageing Well**



GM Falls Prevention Mapping – Feedback Session

What are the challenges and opportunities post-covid...

- Lack of insight into the **potential impact of Covid-19 on physical and mental deconditioning** of all ages
- The pandemic has shone a **spotlight on inequalities** across the system for those who are excluded/under-served and who experience worse health outcomes
- Pre-falls prevention (exercise and leisure services) furloughed or **reduced/online service support**
- Clinical post-fall services have been reduced significantly or withdrawn during past 12-15 months

Regional and National Influencers

- Ageing Well Strategy, Integrated Care Systems, Inequalities Commission Report, Marmot Review (due)
- PHE national report in relation to **deconditioning during Covid-19 lockdown** (due June 2021)
- The World Health Organisation **Step Safely on falls prevention across the lifecourse**

GM Falls Prevention Mapping – Feedback Session

Initial Findings...

- **Overwhelming support for more collaborative work** and information sharing across GM to improve health outcomes and linked to ageing well priorities
- Confirmation that **falls prevention is a priority**, recognised and shared service challenges pre and post Covid-19
- Some **excellence in provision, practice and innovation** including a broad range of **approaches, pathways** and **focus** both across and within localities
- **Opportunities** around **diversity of GM population** for ‘test-bedding’ as well as for blended services in future.



GM Falls Prevention Mapping – Feedback Session

Initial Findings...

- Emphasis on **services** and **resources** biased to **clinical/rehabilitation** rather than primary prevention
- Challenge of **negative/medicalised messaging** and **language around falls, frailty, fractures** vs more positive gain messaging – **maintaining independence, strength and balance**
- General Covid-19 **concerns re increased physical (and mental) deconditioning of all ages** but especially older people and those excluded and under-served who experience worse health outcomes
- **Existing inequalities exacerbated** by the pandemic and service reduction as well as by digital default offer
- **Concerns and challenges** in **restarting falls prevention services** and meeting increased reconditioning needs with workforce capacity and resource
- Little evidence of GM information **sharing or leadership** around falls prevention agenda
- **Limited number of localities** are **delivering evidence based programmes**, specifically Falls Management Exercise Programme or OTAGO

GM Falls Prevention Mapping – Feedback Session

Draft Recommendations...

Establish a GM Falls Collaborative working towards shared Framework for Equity and Provision - Potential programme of work to include the following work streams:

- **Equity, access and equality** – set of minimum agreed standards for provision, assessment, monitoring and evaluation founded on joined-up models of community + clinical underpinned by principles of asset based approaches, with co-creation with all stakeholders including older people at the heart.
- **Embedding evidence and evaluation based practice** - supporting adoption and scaling of what works, especially rolling out evidence based practice to ensure evidence based commissioning decisions and potential to develop joint commissioning offer
- **Data insight** – expand on current outcomes for a more inclusive and holistic set of data
- **Innovation and technologies** – maximising on the opportunities of remote delivery and latest intelligence
- **Workforce training and development** – developing workforce capacity and succession planning
- **Community of Learning and Practice** – shared learning, challenges and practice
- **Changing the Narrative** – proactive shift towards positive age-inclusive narrative and gain framing to reduce stigma and pervasive ageism

Breakout Room 1 – Discussion

Questions

What are your immediate reflections on the recommendations?

GM Falls Mapping

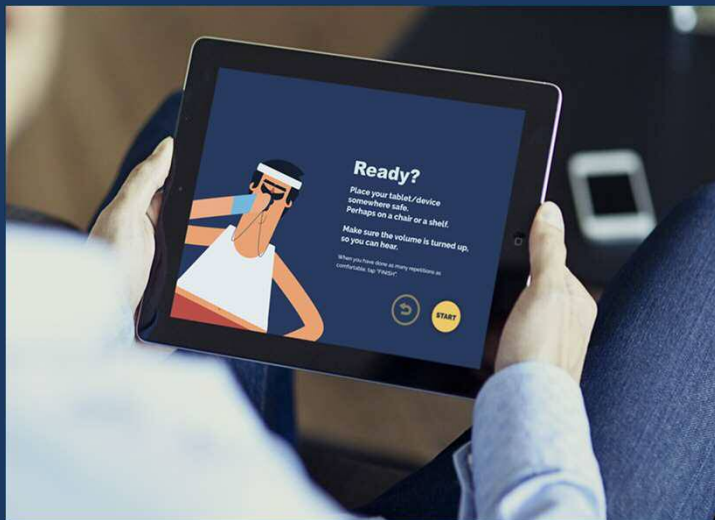
Do the recommendations make sense to you?

How can we work with this group to integrate and join up?

What if anything is missing?

Keep On Keep Up

A gamified tablet-based system to increase exercise and prevent falls in older people.



KOKU



'Keep On Keep Up'



Developed *with* older
people *for* older people

1. Reduces falls

by 1/3 through proven strength & balance exercises, home hazard and bone health awareness

2. Increases engagement

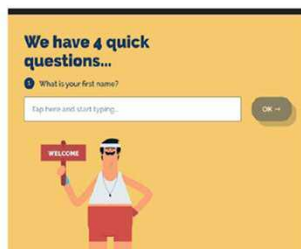
through personalised & progressive exercise plan & gamification (feedback, progression, rewards) plus data feedback

3. Advantages

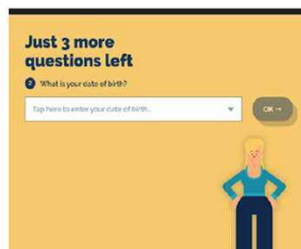
No need for clinicians – self management tool;
Scalable, accessible, affordable and user friendly



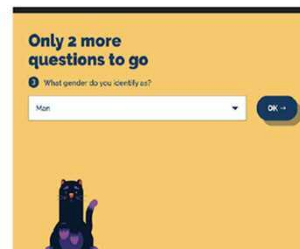
Onboarding



Four simple questions help us tailor the platform to the user and collect statistics on use based on demographics. First, their first name, so we can refer to them personally as they progress through.



We ask for a birth date to help choose exercises more suited to the user's age and potential capabilities.



We ask for gender, again to tailor to their specific needs.

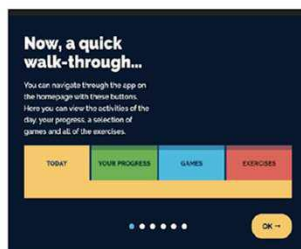


Finally, we ask users about their perceived existing fitness and mobility levels.

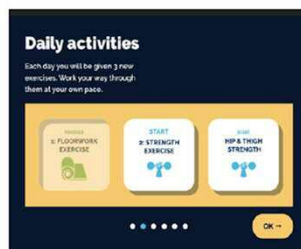


Users click to choose the sentence that best describes their current mobility level.

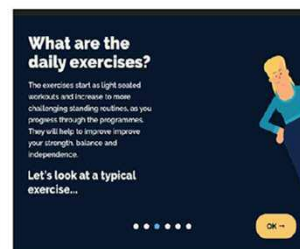
Walkthrough



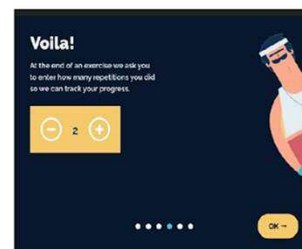
Before the main screen loads, we walk the user through the main features of the platform, including how to navigate the tabs on the home screen...



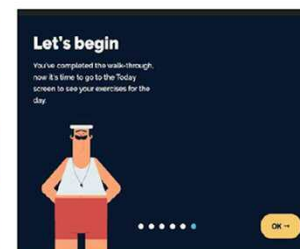
the daily activities that will be displayed when users open the app...



and what a typical exercise activity looks like. A short demonstration video follows.

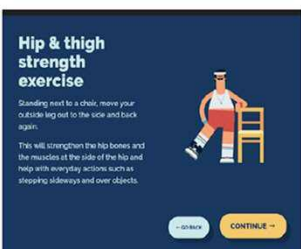


After a user finishes an exercise, they will be asked to enter the number of repetitions they were able to complete, so a record can be made to track improvements over time.



At the end of the walkthrough, the user will be taken to the Today screen to view current exercises.

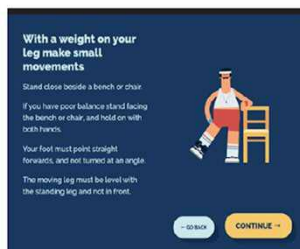
Exercises



Each exercise screen describes the type of exercise, what actions need to be taken and how it contributes to their overall health.



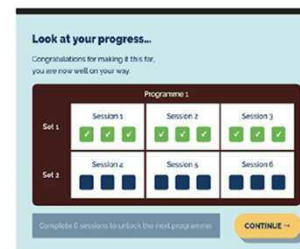
Before they start each exercise, the user is provided with key safety advice to minimise the risks of falling.



Each exercise screen describes the method in three ways: text description, an animation and a voiceover. The user chooses when to end the exercise.



After completing all daily exercises, a user is presented with a "congratulations" screen summarising their activity.



A user can check their progress from the Home screen, so they can keep up with their daily routine and progress to the next, more challenging programme of exercises.

Home & Games



The Today's activities screen displays exercises for the day yet to be completed. Completed exercises are greyed out and cannot be selected. Users can enter any other section of the app from the coloured tabs at the top.



The Exercises screen lets a user choose their own exercises from a list of all those available, based on health benefit, so they can build their own exercise regime.



From the Games tab, users can access fun educational games to increase understanding about how to improve bone health, nutrition and hydration, and to improve awareness of trip hazards in the home.



The Bedroom & Bathroom game encourages users to spot trip hazards, to learn why they may be hazardous and how to mitigate those risks.




The Bone Health game lets users select food from the fridge that can either increase or decrease Hilda's bone strengths. Users select individual items, are informed why they were right or wrong and the benefits of each type of healthy food.

Resources

Safari 14:53 Tue 28 Jul

< Today




Keep On Keep Up
Exercise for healthy ageing

OPEN

5.0 ★★★★★
4 Ratings

12+
Age




Welcome to Keep On Keep Up

Helping you to keep fit through home-based exercises

Join Wif, Hula and be Wiggleworth as they give you 2 new exercises each day. Work your way through them at your own pace.

Download now!



John's Exercises


Programme 1

You have finished 0 exercises in this session
3 more to go!

TO DO: Circulation Boosting

TO DO: Standing Up Sitting Down

TO DO: Heel Raise (Sitting)



Circulation Boosting

A little foot march in preparation for sit to stand that will help with circulation and give you better ankle and foot mobility for walking.

iPad

Keep on Keep up is a simple, NHS-approved app that helps older adults improve strength, balance and optimise healthy ageing. Based on scientific research from clinical trials, Keep on Keep up provides tailored exercises and evi more

Reason Digital
Developer

Ratings & Reviews

5.0 out of 5
4 Ratings

Tap to Rate: ★★★★★ Write a Review App Support

Simple and fun way to exercise at... 27 May
★★★★★ Michel768

The app is lovely and easy to use. I find the exercises are appropriate for my abilities and I enjoy the games. Great idea.

Love the graphics 8 Jun
★★★★★ noobsterz prevue MOOOOO

Message from user George, I have started the programme, love the graphics so far, good clarity.....

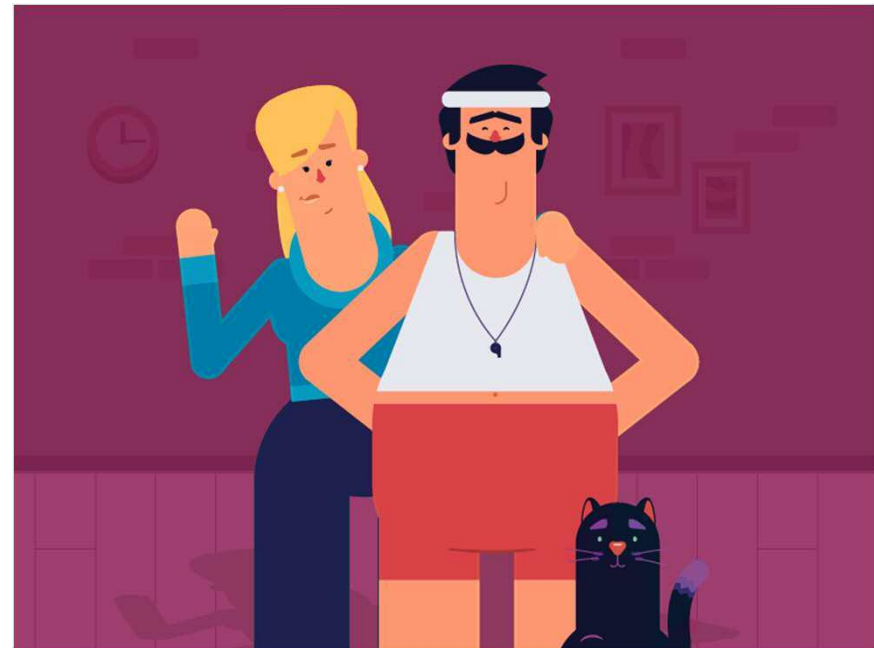
Information

Provider Reason Digital Limited	Size 152.8 MB	Category Health & Fitness
Compatibility Works on this iPad	Languages English and Danish	Age Rating 12+

Today Games Apps Arcade Search



KOKU Quick Instruction guide



'Keep On Keep Up'



<https://youtu.be/7g6zKlvj910>

Made possible with funding from:



Collaborators:



Breakout Rooms – Discussion

IMAGINE A WORLD WHERE WE ARE ALL DIGITALLY CONNECTED

Keep on Keep Up

How can we adapt so more people can access and use the app?

e.g. should we adapt the app for other communities?

What if anything is missing / could be included in future versions?

Thank you!

Jane McDermott

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#nothingaboutuswithoutus