

# Rapid Evidence Synthesis: SafeSteps

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# Rapid Evidence Synthesis:

Rapid Evidence Syntheses (RES) are produced by the National Institute for Health and Care Research (NIHR) Applied Research Collaboration Greater Manchester (ARC-GM). The methods used are based on a framework set out in Norman et al. 2022 and previously registered on the Open Science Framework (OSF).<sup>a,b</sup>

RES use evidence synthesis approaches and draw on the GRADE Evidence to Decision framework<sup>c</sup> to provide rapid assessments of the existing evidence and its relevance to specific decision problems. In the first instance they focus on evidence from guidance and existing evidence syntheses. They are undertaken in a real-time context of decision-making around adoption of innovative health technologies and are designed to provide a “good-enough” answer to inform decision problems in a short timescale. RES methods are flexible and adaptive. They have evolved in response to user feedback and differ depending on the nature of the assessment undertaken.

**RES are not intended to serve as a substitute for a systematic review or rapid review of evidence.**

*This RES used unpublished information supplied in confidence which we do not have permission to publish. You are viewing a redacted version without this information. Places where information has been redacted are marked in the text.*

We welcome feedback and are particularly interested to hear how you have used this Rapid Evidence Synthesis.

Please send any queries or comments to:

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## Additional information:

This work was undertaken by the National Institute for Health Research (NIHR) Applied Research Collaboration Greater Manchester (ARC-GM). The views expressed are those of the author and not necessarily those of the NIHR or the Department of Health and Social Care.

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<sup>a</sup> Norman, G. Rapid evidence synthesis to support health system decision making. *OSF registration*. 2020 [cited 2023]; Available from: [osf.io/hsxk5](https://osf.io/hsxk5)

<sup>b</sup> Norman, G., et al., Rapid Evidence Synthesis To Enable Innovation And Adoption in Health and Social Care. *Systematic Reviews*, 2022. 11: p. 250. <https://doi.org/10.1186/s13643-022-02106-z>

<sup>c</sup> Alonso-Coello, P., et al., GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 1: Introduction. *BMJ*, 2016. 353: p. i2016.

# 1. Summary

## 1.1 SafeSteps and other apps

The impact of Safesteps on falls risk is highly uncertain as is the impact of any app in care home settings. Apps which have been assessed in community-dwelling adults appear to have key differences from Safesteps.

## 1.2 Risk assessment for falling in care home residents

The effect of risk assessment for falling in care home residents is unclear; NICE recommends that it is undertaken in the context of a specialist falls service and as part of a multifactorial intervention for people who already have specific risk factors.

## 1.3 Interventions for falls prevention

Evidence for the effectiveness of interventions for fall prevention in care home residents is low certainty and does not show clear effects of the interventions. There is strong evidence of effectiveness of exercise-based interventions for reducing falls in community-dwelling adults, including those at higher risk of falling. Multifactorial interventions may also be effective in community dwelling adults, but the evidence is less certain.

## 2. Methods

### 2.1 Description of the intervention

SafeSteps is an app which aims to reduce falls in care home residents. It's important to focus on evidence from care homes in this RES because care home residents are three times more likely to experience a fall than community dwelling peers and are ten times more likely to experience injury.[1] Therefore it's unclear how relevant evidence on apps, risk assessments or interventions to prevent falling from community-based studies/sources is likely to be. One of the ways in which the app works may be by increasing staff knowledge of risk factors and strategies for preventing falls so evidence on staff training and education about falls in care homes may also be relevant; specific evaluation of this is outside the scope of this RES.

### 2.2 Key questions

**Question 1:** What is the research evidence that the SafeSteps app reduces falls in care homes?

**Question 2:** What is the research evidence that apps reduce falls in care homes? Is there research evidence that they are effective in other ways in this setting? What is the research evidence that apps reduce falls in general?

**Question 3:** What is the research evidence that risk assessments and any associated interventions (in care homes) are effective in preventing falling?

**Question 4:** What is the evidence that interventions to prevent/reduce falls (in care homes) are effective?

# 3. Results

## 3.1 SafeSteps (question 1)

No peer-reviewed research on SafeSteps was identified.

**\*some text has been removed because it contains confidential information we do not have permission to publish\***

The statement on the company website is that the app is associated with a reduction in “preventable falls” (not further defined) by up to 25%.[2] The proportion of falls which are preventable is considered to be 100% in hospitals but is less clear in other settings. The absolute reduction in falls may therefore be much lower than 25%; there is no uncertainty presented around this estimate (confidence intervals). It is quite likely that the uncertainty around the estimate includes zero and also an increase in falls.

## 3.2 Apps (question 2)

### 3.2.1 Evidence syntheses

No systematic reviews were identified addressing effects of apps in care homes or apps for the prevention of falls.

A 2017 review of apps for caring for older people included a falls prevention app (RollingBall); this app involves a risk assessment but appears to have a distinctly different premise (user-operated and assessing dual-tasking ability while walking).[3]

A systematic review of balance and fall risk assessments with mobile technology included thirteen cross-sectional studies of individual apps but did not examine falls as an outcome.[4]

A 2016 paper on digital skills training for staff and residents in care homes was not a systematic review.[5]

### 3.2.2. Randomised controlled trials

There are a number of randomised trials of digital technology in the area of fall prevention in older adults. These tend to fall into one or more of the following categories:

- Aimed at community-dwelling participants.
- Designed to be used by the participants themselves rather than by a support worker/carer.
- Aimed at monitoring movement directly (utilising sensors for balance etc.).
- Aimed at guiding people through a set of exercises to improve balance etc.

These studies may be considered to have indirect relevance as they target a different population and utilise different putative mechanisms for fall reduction. There are some trials which are ongoing

(indexed on clinicaltrials.gov, identified through Cochrane Controlled Register of trials) which appear more relevant but which have not yet reported results.

### **3.3 Risk assessments for falling (question 3)**

Multifactorial risk assessments are recommended by NICE for older people requiring medical attention for a fall, reporting recurrent falls or demonstrating abnormalities of gait and/or balance.[6] The recommendation states that the assessment should be performed by an appropriate healthcare professional, normally in the context of a specialist falls service. The assessment should form part of an individualised multifactorial intervention.

A recent systematic review identified 33 risk assessment tools for evaluating fall risk in older adults; importantly the impact of performing risk assessment (i.e. of test and treat) was not assessed. [7]

### **3.4 Interventions to prevent falling (question 4)**

A recent (2018) Cochrane review of interventions for preventing falls in older people in care facilities and hospitals identified: trials of exercise in care facilities, medication reviews, vitamin D supplementation for those with low vitamin D levels and multifactorial interventions.[8] Evidence ranged from moderate to very low certainty for people in care facilities; but there was little or no difference in risk of falling for any intervention despite substantial numbers of participants. Vitamin D supplementation probably reduces the rate of falls. The review did not look at recurrent falls which may be a highly relevant outcome in this context.

There is much stronger (high certainty) evidence from another Cochrane review[9] that exercise interventions reduce falls (by about 23%) and recurrent falls (by about 15%) in people living in the community whether or not they are selected for high risk of falling. The first statistic is close to the 25% quoted by the SafeSteps website [2] for fall reduction as coming from Cochrane evidence.

Another recent systematic review of multifactorial interventions (typically involving exercise prescription) in community-dwelling adults found that they may be effective in reducing falls (low quality evidence).[10] The applicability of these reviews to care home residents is uncertain. Another review looked at multifactorial fall prevention interventions in older people presenting to emergency departments after a fall (i.e. prevention of recurrent falling).[11] These people were also community-dwelling but are a higher risk group. There was no clear difference in any fall-related outcome for participants in the multifactorial intervention groups.

## 4. References

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The information in this report is correct at the time of printing.

