A participatory evaluation of a Falls Awareness Programme: Report

Authors: Megan Elliott (USW), Hannah Watson (RCTCBC), Amy Lewis (RCTCBC), Ron Hook (Gwaunruppera Close), Shirley Keeble (Gwaunruppera Close) & Dr Carolyn Wallace (USW)

Executive summary

Falls are common in older adults and are associated with injuries and serious ongoing problems. Approximately 30% of people over the age of 65 years fall at least once per year. As well as having major physical implications on a person's life, a fall can affect a person's psychological well-being, activity levels, social interactions, self-confidence and independence.

Rhonda Cynon Taf County Borough Council designed and implemented a 10-15 week Falls Awareness programme, which aims to raise awareness of falls risks and contribute towards falls prevention in older adults. The programme invites expert speakers to host sessions in sheltered housing schemes or community venues to address different falls risks.

This participatory evaluation worked with a steering group including academics, health and well-being improvement professionals and members of the public who had participated in the programme, to design and conduct a mixed-methods study to evaluate the Falls Awareness programme.

Data to assess general well-being and falls efficacy was collected at baseline (week 1 of the programme) from 147 participants. Data was also collected at follow-up (final week of the programme) from 74 participants. Four focus groups were also held with 24 participants to further explore their experiences of the Falls Awareness programme. Participants in both parts of the study were split amongst sheltered housing schemes and community venues.

Concerns about falling were high amongst participants, particularly those living in sheltered housing schemes. Self-reported general health was higher for participants in the community venues, compared to sheltered housing schemes. Levels of concern or general health did not significantly change between baseline and follow-up. However, the data indicates a slight trend suggesting the programme may be more effective for people in sheltered housing schemes.

Through thematic analysis of the focus groups two themes were identified. The first theme; *'Value of the programme'* discusses the value of information from a credible source, useful information to improve safety, and small but sustainable changes that participants made following the programme. The second theme; *'Programme structure'* is presented as three subthemes; *'Accessibility of the programme'*, exploring how participants found out about the programme and engaged with it, *'Social learning'*, highlighting the benefits of peer support and social interaction, and *'Mode of delivery and content'*, discussing the specific features of the programme that were preferred by participants.

From these results, the authors have provided a number of recommendations regarding; the programme name, identifying 'at risk' individuals, more effective allocation of resources, reviewing data collection tools used, repeated data collection points, providing informal opportunities for participants to engage with presenters and socialise amongst themselves, seeking ways to increase engagement of men, as well as a number of smaller recommendations.

Easy Read Summary

Rhondda Cynon Taf County Borough Council developed a Falls Awareness programme delivered both in community venues and sheltered housing schemes. They drew on activities, professionals and best practice guidelines and information to inform older people about the risk of falling and how to improve their well-being.

What did we do?

We evaluated the Falls Awareness programme by comparing questions that people answered before the programme with their answers from after the programme. We also met with groups of people who had completed the programme and asked them about their experiences.

Why did we do this?

A fall can have a big effect on a person's life, and cause problems with their health, independence and quality of life. We wanted to know whether a programme that aims to make people more aware of falls can help them to change their behaviour and improve their well-being.

What did we find?

We found that many of the people we talked to were worried about falling, and that the programme gave them some tips of things that they could do to reduce their risk of falling and improve their well-being. People also said they enjoyed being part of a group and having experts give advice. People also had some ideas about how to make the programme better, and we used these ideas to make a list of recommendations.

What happens next?

The findings of the evaluation and recommendations will be used to make some changes to the programme and the team will continue to run the programme in the Rhondda Cynon Taf area.

Introduction

The United Kingdom has an ageing population (Government Office for Science, 2016), with 18.2% of the UK population aged over 65 years in 2017. This figure has increased since 2007 (15.9%) and is projected to rise to 20.7% by 2027 (ONS, 2018). Within Wales, these figures are higher. Baxter & Boyce (2011) reported that, in 2008, 18% of the population in Wales were over the age of 65 years, and estimated that this will rise to 26% in 2033.

Falls are common in older people and often result in fall-related injuries, which are associated with serious ongoing problems (NICE, 2013). A fall is defined as "an event which results in a person coming to rest unintentionally on the ground or lower level, not as a result of an intrinsic event (such as a stroke) or overwhelming hazard" (Tinnetti, Speechley & Ginter, 1988). It is estimated that 30% of people over the age of 65 years fall at least once a year. The risk of falling continues to increase with age, with 50% of people over the age of 80 years falling at least once per year (NICE, 2013). Public Health Wales (2012) reported that falls were the leading cause of injuries resulting in deaths and hospital admissions in Wales. Falls can have a substantial impact on the lives, physical health and psychological wellbeing of older people.

In a literature review of the physical consequences of falls in older people, Terroso, Rosa, Torres Marques and Simoes (2014) found that falls commonly result in fractures, bruises and injuries. Fractures and injuries can be particularly serious for older people. There is a high risk that patients will not return to their former rate of mobility and function following hip fracture (Votchteloo et al., 2012). Moreover, hip fractures have been associated with increased mortality rates. NICE (2011) reported that 10% of patients with a hip fracture pass away within 1 month and a third pass away within 12 months of the injury.

In addition to serious injuries, falls frequently result in functional decline and inactivity (Terroso et al., 2014). Consequently, individuals may find that they lose their autonomy and independence, and become more reliant on carers or family members. This is associated with increased rates of depression, loss of self-confidence, loss of self-efficacy and fear of falling (Terroso et al., 2014; NICE, 2013), as well as increased social isolation and loneliness. Salkeld et al (2000) found that 80% of older women surveyed stated that loss of independence and quality of life following a hip fracture and admission to a nursing home would be worse than death. The psychological consequences of a fall may also slow subsequent recovery by reducing activity levels due to fear of falling and lack of confidence.

Whilst falls can be extremely damaging to those who fall, they also have implications for family members and carers (NICE, 2013) and significant financial implications for health and social care services. NICE (2013) estimated the financial burden of falls to be more than £2.3 billion per year to the NHS in the UK.

Evidently, falls have serious implications and consequences for older individuals, their families and society as a whole. The Burden of Injury in Wales report (Public Health Wales, 2012) recommended that *"injury prevention in Wales needs to be more collaborative and cross-sectoral in order to produce greater impact and more quickly reduce burden of injuries on population health and the NHS".* Chang et al (2004) reviewed 40 studies investigating efficacy of falls intervention programmes on falls outcomes and found that interventions significantly reduced frequency and rate of falling in older people. Exercise interventions which increase muscle strength and activity

levels in older people are also effective in reducing the risk of falls (Chang et al., 2004). Examples of falls preventions initiatives in Wales include the 1000 lives multiagency falls collaborative for Wales (Ageing well in Wales, 2014), which focuses on those who have already fallen, as well as the falls prevention network of ageing well in Wales, which takes a preventative approach to preventing a fall in older people. Creating initiatives that align with recommendations from the Wales Burden of Injuries report (Public Health Wales, 2012) and with NICE (2013) guidelines will be effective in reducing the risk and burden of falls in the elderly population.

Community profile: Cwm Taf Morgannwg and Rhondda Cynon Taf Local Authority

As with the UK and Wales, Cwm Taf (Rhondda Cynon Taf and Merthyr Tydfil County Borough Council areas) has an ageing population, with an estimated increase of 36.6% in people aged over 65 years between 2016 and 2041 (ONS, 2017). In Cwm Taf there are currently 54,000 people aged over 65 years and 23,000 over 75 years (Cwm Taf Social Services and Wellbeing Partnership Board, 2018). Of those aged over 75 years in Cwm Taf, 44.5% live alone and spend the majority of their time in their home.

Furthermore, 36% of the population of Cwm Taf live in areas considered to be within the most deprived 20% in Wales (Welsh Government, 2015). The burden of falls is greater among the most deprived communities (Public Health Wales, 2012), which has implications for those living in the deprived areas of Cwm Taf. There are also more hip fractures per 100,000 people in Rhondda Cynon Taf (596.6), compared to the average for Wales (632.4). Additionally, rates of adults meeting physical activity guidelines in Rhondda Cynon Taf are lower (41.7%) than the Welsh average (53.2%).

These statistics demonstrate the need for a falls prevention programme to be rolled out in Rhondda Cynon Taf.

The Falls Awareness programme for Rhondda Cynon Taf

The falls awareness programme in Rhondda Cynon Taf consists of a 10-15 week programme, which aims to raise awareness of falls risks and to contribute towards falls prevention in older adults. The programme was developed locally in Rhondda Cynon Taf in 2015 and piloted in a sheltered housing scheme in the borough. Following a successful pilot and positive feedback, suggestions were considered and a resource pack and handbook were developed. The project officially launched in spring 2017 at an event with stakeholders including Ageing Well in Wales, Health representatives, Cwm Taf Care and Repair, Communities First, Housing Associations. Following the launch, the project was formally rolled out in summer 2017 in sheltered housing scheme settings and community venues, including libraries, social centres and lifelong learning centres.

The falls awareness project combines informational sessions, covering topics such as foot and nail care, appropriate footwear, sensory impairment, medication management and home safety advice with gentle exercise sessions. In addition, participants meet with a range of partner organisation for practical advice, including first aid advice and assessments of functional mobility. These include the Welsh Ambulance Service Trust, the British Red Cross and physiotherapists. Example programme plans and sessions included can be found in Appendix A.

The Evaluation

USW researchers (Megan Elliott and Prof Carolyn Wallace) were commissioned by Rhondda Cynon Taf County Borough Council, in partnership with Cwm Taf Morgannwg University Health Board to conduct an evaluation of their Falls Awareness programme for older people in sheltered housing and the wider community. The role of USW was to conduct data analysis of retrospective anonymised data from participants who have already taken part in the programme as well as prospective participants and to collect qualitative data in stakeholder focus groups and interviews.

The Participatory Approach

The evaluation took a participatory approach. Participatory evaluation is; *'an approach designed to engage participants in the research or evaluation process, rather than a specific set of methods or techniques'* (Cousins & Chouinard, 2012, p.8). This partnership approach to evaluation actively involved key stakeholders in the development and implementation of the evaluation. Participatory evaluation recognises the unique expertise of those working within and accessing the project and uses this throughout the evaluation. In order to do this, the researchers engaged with a steering group regularly throughout the evaluation.

The steering group comprised of two University of South Wales researchers, Megan Elliott (Research Assistant, Chair) and Prof Carolyn Wallace (Associate Professor), two members of the RCTCBC Public Health, Protection and Community Services team, Amy Lewis (Health and Wellbeing Improvement Manager) and Hannah Watson (Health and Wellbeing Improvement Officer (Older People), Falls Awareness programme co-ordinator) and two lay individuals who had previously taken part in the Falls Awareness programme at their sheltered housing scheme; Ron Hook (Gwaunruppera Close) and Shirley Keeble (Gwaunruppera Close).

The steering group met four times throughout the evaluation process and collaborated on aspects of the evaluation including; seeking ethical approval, designing the interview schedule and planning recruitment for the qualitative work, reaching a consensus of findings, triangulating results, generating conclusions and recommendations and writing the lay summary.

Aim

The present evaluation aims to evaluate the Falls Awareness programme delivered in Rhondda Cynon Taf County Borough Council using a participatory approach.

Objectives

- To compare quantitative baseline data with evaluation data to understand the impact of the Falls Awareness programme.
- To engage with service users, staff and stakeholders using focus groups to seek an insight into their experiences with the programme and any benefits or challenges that they perceived.
- To collaborate with a steering group throughout the evaluation to take a participatory approach to the evaluation.

Methods

Across 10 sessions of the Falls Awareness Programme, 6 held in sheltered housing schemes and 4 held in community venues, a total of 192 people attended at least one session. Programmes were held between August 2017 and July 2019.

Study 1: Comparing data at baseline and follow-up

A total of 147 participants (77% female) completed the questionnaires at baseline or follow-up. A total of 82 participants (57%) attended a community-based programme and 62 attended a programme in a sheltered housing scheme (43%).

Data was collected for 134 participants (92%) at the start of the programme (baseline) and for 74 participants (51%) at the follow-up assessment in the final session, using three tools:

- A general health and well-being questionnaire comprising of six sections (17 questions) regarding smoking, healthy eating, physical activity, alcohol consumption, general health and falls history and concern.
- The EQ-5D-5L, a standardised instrument to assess generic health status across; mobility, self-care, usual activities, pain/discomfort and anxiety/depression, using five levels and a visual analogue scale.
- The Falls Efficacy Scale-International, a tool to assess concern about falling doing a range of 16 daily activities on a scale of 1 (not at all concerned) to 4 (very concerned).

Further details of the methods and data analysis can be found in Appendix B.

Study 2: Focus groups with Falls Awareness programme participants and hosts

Four focus group were held, two in community venues and two in sheltered housing schemes. A total of 24 individuals participated across the four focus groups (see table). Participants were predominantly female (*n* = 19, 90%) and the average age of participants was 77 years (range 62-92 years).

Focus group	Venue	Participants
1	Sheltered Housing Scheme	3 (3 participants)
2	Sheltered Housing Scheme	3 (2 participants, 1 host)
3	Community library	11 (9 participants, 2 hosts)
4	Community venue	7 (6 participants, 1 host)

A focus group schedule was co-designed within the steering group. The focus group schedule aimed to explore participants experiences with the Falls Awareness programmes, any impact it has had on them, any perceived benefits (e.g. socially, health, activity levels), motivations for participating, barriers to participating (e.g. the title) and their thoughts about the data collection tools that were used. The full focus group schedule can be found in Appendix C.

Focus groups were conducted by one of the researchers (ME). Focus groups were audio-recorded and transcribed verbatim, and lasted an average of 49 minutes (shortest = 35; longest = 68).

The focus group transcripts were analysed using thematic analysis (Braun & Clarke, 2006) which involves iteratively following six steps. The analysis was primarily done by the research team. Members of the steering group were involved in interpretation and finalising and labelling themes. Further detail about the methods and data analysis can be found in Appendix B.

Results

Study 1: Comparing data at baseline and follow-up

The full version of the results section can be found in Appendix D. The key findings of Study 1 are reported here.

Participant characteristics

Participants who engaged with the programme were predominantly female (77%) and ranged in age from 56-95 years. Participants in the sheltered housing scheme were significantly older than those in community venues.

Generally, participants engaged in healthy behaviours including taking part in regular exercise, e.g. walking, yoga/Tai Chi or housework and consuming an average of 3 portions of fruit and vegetables a day. Around half of participants reporting drinking alcohol and rates of smoking were low (5%).

However, long-term conditions were common (74% of participants). Over half of participants took four or more forms of medication daily.

Falls frequency and concern

Before participating in the Falls Awareness programme, 50% of participants had fallen and 78% of participants reported feeling some concern about falling. Based on defined cut-offs of the Falls Efficacy Scale-International (Delbaere et al., 2010), participants reported high levels of concern about falling.

Those who reported doing regular exercise were less concerned about falling. Concern about falling was higher for those who had fallen once or more in the past 12 months.

Programme attendance

Half of participants (51%) completed the follow-up measures, completion rates were higher for participants in sheltered housing schemes. Participants attended an average of six sessions. Attendance were higher for programmes in sheltered housing schemes, compared to community venues. Older age was associated with increased attendance, regardless of programme venue.

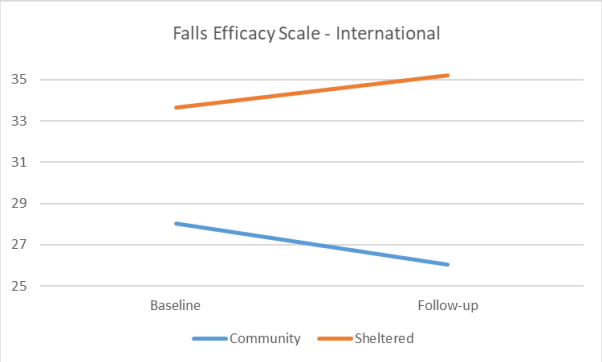
The most well attended sessions provided within the programme included; *Tai Chi Movements for Wellbeing* (80 attendees), *Action on Hearing Loss (AoHL): How safe is your home? Hearing* (77 attendees), *Welsh Ambulance Service Trust* (73 attendees), *RNIB: How safe is your home? Vision* (68 attendees) and *Your Medicines Your Health* (66 attendees).

Comparing baseline (before the programme) data and follow-up (after the programme) data

There were no change in level of concern about falling and general health before and after the programme for participants in the sheltered housing schemes or community venues.

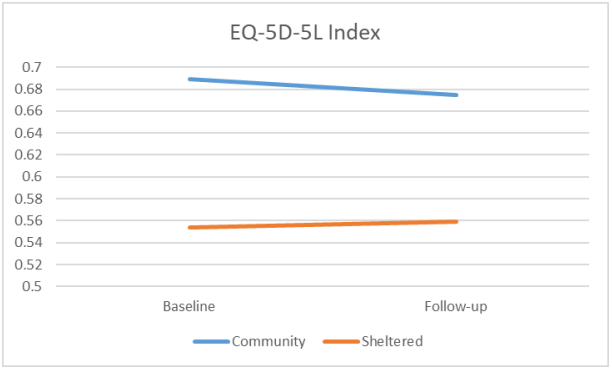
Participants living in sheltered housing schemes rated their own health as worse than those living in the community, these participants also reported higher levels of concern about falling before the programme.

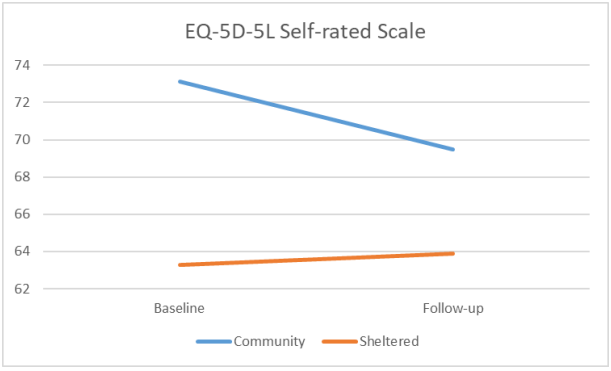
Although the results were not significant, the pattern of results suggests that the Falls Awareness programme had different effects in the sheltered housing schemes and the community venues.



Compared to their scores at baseline, participants in community housing venues had lower concerns about falling, whereas those in the sheltered housing schemes had higher concerns about falling.

On the general health measure, the EQ-5D-5L, the trend suggests that, for those in the community venue, their general health status decreased over the course of the programme. However, for those in the sheltered housing scheme, the trend suggests a slight increase, or maintenance of health status at the end of the programme.





Study 2: Focus groups

These focus groups sought to answer the question; '*What were the experiences of people who took part in, or hosted, the Falls Awareness programme?*' Two themes were identified; '*Value of the programme'* (Theme 1) and '*Programme structure'*, which was further split into three sub-themes; *Accessibility of the programme* [1], *Social learning* [2] and *Content and mode of delivery* [3]. Illustrative quotes are provided to support the themes, identified by focus group number and venue type (i.e. a community venue or sheltered housing scheme). Where the quote was said by a scheme/venue co-ordinator, rather than a participant, this is stated.

Theme 1: Value of the programme

Participants agreed that the Falls Awareness programme was effective in providing them with useful information and raising their awareness of falls:

> *I think it's all very helpful, any information we can have to keep ourselves safe [FG1, Sheltered housing scheme]*
>
> *Making us aware of it is great because although, everyone thinks about these things it's pushed to the back of your head [FG4, Community venue]*
>
> *I think it's a good thing really [being aware of risks of falling], it's about looking after yourself isn't it, if you're aware of falling then you're looking after yourself then aren't you? [FG1, Sheltered housing scheme]*
>
> *I'm a nurse and my husband is a doctor and we're in the medical world all the time, but I still came to the medicines one and … there's always something new to learn [FG4, Community venue]*

A lot of the information provided through the programme was perceived to be simple, or common sense, but nonetheless helpful, as it *"jogs your memory" [FG2, Sheltered housing scheme]* and increases awareness of associations between behaviours and falls risks:

> *I think we're all slightly scared of falling and, and so … Making us aware of it is great because although, everyone thinks about these things it's pushed to the back of your head. [FG4, Community venue]*
>
> *You do know already, but then whenever things are pointed out, you think of I hadn't thought of that [FG3, Community venue]*
>
> *Some of it was really common sense but things you just don't think about [FG1, Sheltered housing scheme]*

The way that the programme was structured to invite a specialist speaker from different organisations and industries each week was well received. One participant felt that information coming from a professional was particularly valuable, as they were thought to be more confident and knowledgeable in the area they were discussing, as opposed to a presentation from a non-expert.

> *I think it's listening to the individual specialists, people who were here offering all different bits and pieces. Somebody can stand and talk generally but when you've got professionals doing special things it sinks in a lot better, you remember it better, even at our age! [FG2, Sheltered housing scheme]*
>
> *At least these professional presenters, they know their thing don't they. I mean you can go through life not worrying about too many things until a specialist pulls you to one side, and says, 'well have you done this?' or 'do you think about this?', then it sinks in a bit more. [FG2, Sheltered housing scheme]*

This expert opinion provided a fresh perspective for participants, and highlighted some of the risks that they may not have previously been aware of:

> *Personally, I don't think I was afraid or aware of falling down. But it's looking at somebody else's vision of life rather than my own vision of life … somebody else like a professional,*

> *who has been to university, been to college … they make you think of another angle. It always opens up your mind a little bit [FG2, Sheltered housing scheme]*

Being presented with this alternative perspective allowed participants to consider whether they may need to make some adjustments to the habitual behaviours that they developed across their lifetime, in order to prevent falls and increase their safety:

> *You get to a certain age and you've gone through life on that path and then all of a sudden someone comes from the side and says how about this, 'ah I never thought about that' [FG2, Sheltered housing scheme]*

However, in contrast, another participant valued someone just chatting with them, rather than lecturing or giving a presentation:

> *I think it was a lady along the second, I think it was the second or the third week, when she just sat and talked to us about falls and things like that and she was really nice! [FG3,* Community venue*]*

One of the co-ordinators of a sheltered housing scheme discussed how some tenants may not think that a service or support was necessary or appropriate for them, but that the Falls Awareness programme provided a good opportunity to highlight these potential needs, and the services available to meet them:

> *But I think although that service is in place, because it came out again, maybe people like [name] who probably didn't think that they needed that service, it sort of highlighted that well actually I probably do. [FG2, Sheltered housing scheme, Co-ordinator]*

Across all of the focus groups, participants discussed changes that they had implemented into their daily lives, as a result of the programme. Examples of changes that participants made include; taking better care of their feet [FG1, FG4], putting medical information in a pot in the fridge as instructed by 'Your Medicines Your Health' [FG3, FG4], taking particular care on the stairs [FG3, FG4], practicing Tai Chi at home [FG2], not trying to carry too much at once [FG4], closing fire doors [FG1] and putting a rail on the pathway out of their house [FG3]. For some, the focus group was held up to a year and a half after participation in the programme, demonstrating the longevity of some of the small but effective changes.

> *Little things they come back to you sometimes [FG4, Community venue]*

As well as benefiting from information themselves, participants often commented that they were able to take information and advice from the session away to family members or friends:

> *I took it away for somebody else, as I knew someone who was interested in it, so you could pass the information on if you wanted to. [FG3, Community venue]*

> *I think the ones that don't come, dare I say it are the ones who should come ... but I suppose we talk to them and say what it is like and they're getting it from word of mouth [FG1, Sheltered housing scheme]*

This increased their confidence in being able to provide support or advice for others and knowing what to do in a situation where someone else has fallen. One of the community scheme co-

ordinators also shared that information she learnt from the programme enabled her to make changes to the set-up of the community venue to be safer for users and make small adjustments to her interactions with users to make them feel more comfortable:

> *I found [the session on eye sight] really interesting because lots of users have certain degrees of sight problems … so from my point of view it was thinking about you know, things that they can see, where you put the furniture. Especially with people like [service user], who does have very limited sight, knowing little things like touching his arm before speaking to him. I found that really helpful [FG4, Community venue, Co-ordinator]*

Another community host shared that the programme contents added to the array of services and resources that he can share with his community:

> *I personally found the sessions informative and beneficial and have added to the information services I can direct inquiries to [FG3, Community venue, Co-ordinator]*

Theme 2: Programme structure

Participants in all of the focus groups discussed the structure of the programme. This theme is presented as three subthemes; *Accessibility of the programme* [1], *Social learning* [2] and *Content and mode of delivery* [3].

Sub-theme 1: Accessibility of the programme

Participants became aware of the Falls Awareness programme through a variety of different routes, e.g. seeing posters advertising the programme [FG1, FG2, FG4], word-of-mouth [FG4], shared at a tenants meeting [FG2] and advertised in community venues [FG3]. Participants were motivated to attend because of an awareness of the consequences of falls and the impact they have on others:

> *You know when you create a problem for yourself; you create a problem for your family as well. They have to look after you. [FG1, Sheltered housing scheme]*

Fear of falling was also discussed in many of the focus groups and for some participants was a strong motivating factor for encouraging them to participate:

> *That is the fear nowadays, falling is top of my mind, all of the time [FG3, Community venue]*

As a result of these feelings and motivations to reduce their risk of falling, some participants felt that the programme name, the Falls Awareness programme, was appropriate in capturing their interests and making them want to attend the programme:

> *I think from a catch to get people in, everybody's got this notion about falls when they get to a certain age [FG3, Community venue]*

Others found the title ambiguous and felt that the title did not encompass everything that was included in the programme and that it missed the other things that were included:

> *"P1: Nobody knew what it was about did they?*
> *P2: I find the heading, you know, Falls Awareness, what's it mean?" [FG1, Sheltered housing scheme]*

> *"It just seems that we're only interested in falls, whereas it's a very, very varied programme" [FG4, Community venue]*

And equally, they felt that there were some components of the programme that were not appropriate for a Falls Awareness programme, feeling at times that there was a lack of coherence with the general theme:

> *I didn't see the point in someone telling you don't store medicines, what's that got to do with falling down you know. It won't save you falling down will it? [FG1, Sheltered housing scheme]*

They felt that there was a risk that people would see the title and be put-off attending the programme or think that it was not appropriate for them:

> *It was on all the posters and I suppose that maybe that was part of the reason that we didn't have more people, in case people didn't take the time to look down at the timetable, they just looked at the title and thought that's not for me [FG4, Community venue]*

Another possible barrier to attending which was suggested by participants was that people would think that because it is a course over a number of weeks they would be required to commit to all of the sessions, even though participants were made aware in the first session that this was not necessary:

> *It seems as if maybe to some people you have to commit to all of them … and people aren't keen to commit to that amount of time [FG4, Community venue]*

> *"P1: We all thought it was going to be too long, didn't we?*
> *P2: Well initially we did and then it all got interesting and everybody came out and supported it" [FG1, Sheltered housing scheme]*

> *"Not everybody wanted to come to every one" [FG1, Sheltered housing scheme]*

However, participants also commented that they enjoyed attending the programme each week and agreed that the sessions grouped well together across the programme to form a course with good continuity:

> *It was more of a course than separate identities every week, it was something that flowed into each other [FG2, Sheltered housing scheme]*

Participants and scheme coordinators discussed the value of having a 'catch' to draw people in and keep them coming back to the course, by using freebies or quizzes on a weekly basis. Variety across the sessions was essential to maintaining interest and attendance

> *12 weeks is not a problem, as long as you have a different item each week, that's the thing, to engender interest. No good coming back three or four weeks later with the same information, people will not take it on [FG2, Sheltered housing scheme]*

Participants commended the Falls Awareness programme for having a varied array of sessions:

> *None of them were wasted … each one was different and it was good [FG3, Community venue]*

Sub-theme 2: Social learning

Being part of a group was a really important part of the programme for the participants in Focus Group 3. The peer support enabled them to share their experiences and understand how other people coped with similar challenges:

> *Meeting together and sharing things, sharing opinions and seeing what had happened to other people … seeing how they coped. [FG3, Community venue]*

These participants discussed how they learnt a lot from each other's experiences and frequently shared advice amongst each other. Even during the focus group, one participant shared a tip that she had heard from her daughter with other members of the group:

> *We learnt as much from each other as much as the people presenting. [FG3, Community venue]*

This was the case both during the programme sessions and also afterwards, where many of the participants would stay behind for discussions and more social interaction:

> *That was perfect because we all sat in there [the library], we didn't leave straight away you know, so we discussed the group things after, so we chatted. [FG3, Community venue]*

This social interaction was appreciated both amongst participants and also between participants and the presenters. Both community hosts and participants felt that it was important for presenters to stay behind after their session to have informal discussions and answer questions from the participants:

> *HOST: My feedback was always stay behind, instead of just packing up and leaving PARTICIPANT: Stay and chat to us so we can ask questions [FG3, Community venue]*

> *A cup of tea, a biscuit, that gives you the ability to chat then, ask questions, very much a case of 'ah can you explain that to me?'. I think [programme organiser] fed that back then, the latter group stayed behind much more [FG3, Community venue]*

In addition to this type of social learning, other participants explained how they had taken information from the programme and shared it with people who did not want to participate, or with their family members or friends:

> *[Name] will never sit down by there and listen to what [the presentations], but I suppose we talk to them and say what it is like and they're getting it from word of mouth [FG1, Sheltered housing scheme]*

> *I have told my sister off, and my brother off, which I never do … she was standing on a stupid little rickety stool and I said 'get down off there now!' [FG1, Sheltered housing scheme]*

Sub-theme 3: Mode of delivery and content

Attendance at the Falls Awareness programme sessions varied widely in numbers and the programme aimed to recruit approximately 15-20 people to each session. Whilst this was not

always achieved, participants shared a preference for smaller groups, particularly for discussion sessions, to enable them to engage with the speaker and participate more within the group:

> *The Tai Chi one there was about 20 of us, that was lovely because of the Tai Chi and what have you. I think sitting down if there had been 20-25, I would probably have drawn into the back row more, rather than, whereas in a small group, every week you got to know everybody, we're all friends, chat to each other. I found it very easy. [FG4, Community venue]*

> *I think I probably enjoyed the smaller groups … it's more personal. In a large group I don't think I might've participated as much. [FG4, Community venue]*

The smaller groups made it easier for participants to socialise and meet new people:

> *I suppose at the end of the day it's a little bit of social activity, when people came together, that's another thing see [FG1, Sheltered housing scheme]*

> *P1: It was good socially, meeting people*
> *P2: I was going to say, it's all a social event [FG4, Community venue]*

However, attendees at the programme were predominantly female and one participant noted that there were very few males who attended the programme:

> *I did notice that we were mostly women, there were very few men [FG3, Community venue]*

Participants living in sheltered housing schemes in both focus groups [FG1, FG2] also commented that it was the same people who typically participate in activities organised by the scheme, and it was hard to engage different people:

> *It [the name of the programme] made people think what's in it, but unfortunately it's the same people who participate, you know [FG1, Sheltered housing scheme]*

> *I wouldn't say it was anything to do with the Falls Awareness course … but I think when you are in this scheme environment, you get so many people will get involved and so many people won't get involved. It's the same people who will get involved week after week [FG2, Sheltered housing scheme, CO-ORDINATOR]*

A key message that was shared in all of the focus groups was the need for sessions to be fun and interactive, to capture interest and help build confidence in completing actions that they were taught about, such as the exercises or helping someone who had fallen. Sessions that were presented in lecture format were not well received, and in some cases put people off returning to other sessions.

> *One person refused to come back. It was very much a case of they… I think what we've learnt is they're a lovely audience, but sometimes, people deliver it too [scripted], they are very much, this is what I'm going to say [FG3, Community venue]*

> *It can't all be pounding information into somebody's head, you've got to get that interaction … talk for ten minutes and then say 'we used to do this', breaks it up a little [FG2, Sheltered housing scheme]*

Participants particularly favoured sessions that involved learning a new skill and being active, such as the Tai Chi session or the Keep Fit session.

A recommendation offered by a participant in one focus group was to build review sessions into the programme, in addition to the discussions immediately after the sessions. Participants felt that this might be a useful way of retaining the information and giving them the opportunity to go away and think of any other questions that they had. One of the co-ordinators agreed that this would be a good addition to the programme:

> *I think if we had a sort of recap maybe the week after or something, just to go over everything, you know, everybody can ask questions if they're not sure of anything, would be good wouldn't it? [FG4, Community venue]*

Additionally, whilst participants valued the majority of the information that they learnt in the programme, there were some recommendations that they felt were inappropriate and unpractical. For example, participants in two different focus groups raised the recommendation to put a blanket and bottle of water in every room in case of a fall. They felt that this was unpractical and served as a constant reminder of their risk of falling.

<u>Case study of the falls awareness programme in a community library</u>

In 2018, a community library hosted 15 sessions of the Falls Awareness programme, with 45 individuals taking part and attending at least one session. The programme was well-received by local residents who felt that it provided them with a good opportunity to socialise, access resources to support their independence, be active, learn how to help others and share experiences. Attendees enjoyed the variety of sessions and shared a preference for interactive sessions, rather than lecture-style presentations. They appreciated it when the presenter stayed after the session for informal discussions and an opportunity to chat and ask questions.

The programme co-ordinators shared that they had received incredibly positive feedback about the programme and commented that "*people have found through the sessions that there are things they can do to help keep themselves active and healthy, that there are organisations and various aids that they previously didn't know were available that will help them in their day to day activities*". The co-ordinators also shared that they found the sessions to be informative and beneficial and provided them with additional resources and information services.

Following the Tai Chi session provided as part of the programme, one of the members of staff within the library was inspired to seek out a teaching course. He now provides regular chair Tai Chi and dynamic Tai Chi sessions through the library service.

"I suppose the best compliment is we've been asked when we are having the sessions again!"
(Librarian)

<u>Case study of a gentleman who participated in the falls awareness programme in a sheltered housing scheme</u>

Steve, an 80 year old gentleman living in a sheltered housing scheme in Rhondda Cynon Taf, participated in the Falls Awareness programme from September 2017 – December 2017. Steve is a lively individual, he likes to be out and about and has some difficulties with his hearing. He found out about the programme at the tenants meeting within his scheme.

Steve felt that the most valuable part of the course were the sessions provided by experts in their field, he appreciated receiving information and advice from these individuals. However, he felt that it was important that this information was given in a fun and interactive way, giving the opportunity for residents to ask questions and socialise.

He enjoyed the exercise sessions, particularly the Tai Chi. Along with the scheme co-ordinator, he tried to arrange for ongoing Tai Chi sessions after the programme, however these were not well attended within the scheme and therefore were not able to continue. Despite this, Steve still regularly practices Tai Chi in his flat based on guidance from the Falls Awareness programme.

Although Steve did not feel very concerned about falling, he felt that the programme made him more careful and thoughtful. He was more aware of the risks and the sessions offered a new perspective on his habits and the potential risks:

"You don't get cocky with old age, but you're so used to it, you've done this for 80 odd years, and then someone comes and says something different, and you think, "I've never thought of it like that", and it does open your eyes a little to different ways of doing things or thinking about things".

Discussion

This report has presented findings from a mixed-methods participatory evaluation of a Falls Awareness programme that was delivered in both community venues and sheltered housing schemes. Generally, the programme was well received by participants in both venue types and appeared to lead to small but sustainable changes in behaviour to reduce risk of falls.

Summary of key findings and recommendations

Participants reported high levels of concern about falling in both elements of the study, concern about falling was particularly high if an individual had previously had a fall. For many participants this fear motivated them to participate in the programme. As such, the name; 'Falls Awareness programme' was appropriate in capturing their interest and encouraging them to participate. However, the programme encompassed more than falls, and encouraged other healthy lifestyle behaviours and activities promoting well-being, and these elements were not covered in the title. There was also concern that the name might put some people off, who did not feel that they would benefit from a programme specifically about falls.

RECOMMENDATION: ASK FOR SUGGESTIONS FROM PREVIOUS AND NEW PARTICIPANTS OF THE PROGRAMME AS TO A NEW, MORE APPROPRIATE NAME.

Concern about falling was particularly high amongst people who did not frequently exercise, had previously had a fall or lived in sheltered housing schemes.

RECOMMENDATION: IDENTIFY RISK FACTORS FROM THIS STUDY AND EXISTING LITERATURE. IDENTIFY 'AT RISK' INDIVIDUALS WHO MAY HAVE HIGH LEVELS OF CONCERN ABOUT FALLING AND TARGET RESOURCES AND RECRUITMENT TOWARDS THEM.

Need for intervention appears to be greater in the sheltered housing schemes. These individuals reported higher concern about falls, worse general health on two measures and were older in age at the time of participation. Furthermore, the nature of these schemes means that individuals living there are more likely to have health problems (?) and need additional support. In spite of the worsened health, these participants had higher attendance and completion rates. This may be due to ease of access and not being required to travel to the programme, but nonetheless indicates good engagement. Furthermore, although not significant, the results indicate that following the programme, individuals living in sheltered housing schemes had either maintained or increased their general health, whilst those in community venues showed a decline in general health. This indicates that the programme might be more appropriate for individuals in sheltered housing schemes and alternative programmes and support should be sought for community venues.

RECOMMENDATION: DIRECT RESOURCES WHERE NEED IS HIGH, PARTICULARLY IN SHELTERED HOUSING SCHEMES, WHERE ENGAGEMENT IS GOOD AND HEALTH IMPROVEMENTS MAY BE OBSERVED.

No significant differences were found on the measures of falls efficacy and general health between baseline and follow-up. Whilst this may indicate that the programme did not have an effect on falls efficacy or general health, this may also be due to the tools used.

In this study, participants frequently missed out questions on the Falls Efficacy Scale – International. The scale asks about falls concern regarding 16 daily activities and states that if you do not usually do a task, you should respond how you think that you would feel. However, this resulted in some confusion amongst participants who felt unable to judge their concern regarding actions that they do not undertake, or who were unsure about how to respond. Another issue with this scale is that the scale does not seek to identify reasons for high/low concerns, or whether there are any aids or support that participants have, which reduce their levels of concern. For example, a participant may respond with low concern about going shopping, but this may be because she goes to the shop with her daughter and uses a trolley to support herself. Without these aids, the same individual may report extremely high concern. This would not be reflected in her answer.

Finally, whilst the main aim of the programme was to increase awareness of falls and ways to reduce the risk of falls, the programme also aimed to increase activity levels and social activity amongst participants. Comments from the focus groups alluded to improvements in activity levels and increased social activity, however there was no quantitative measure of these outcomes.

RECOMMENDATION: REVIEW THE TOOLS USED TO ASSESS THE IMPACT OF THE PROGRAMME ON PARTICIPANTS TO ENSURE THAT THEY ALIGN WITH THE AIMS OF THE PROGRAMME, ARE SENSITIVE TO DETECT CHANGES OVER TIME AND THE MEANING OF THE QUESTIONS ASKED IS CLEAR.

Completion of questionnaires at follow-up was low, and only undertaken by half of participants, limiting comparison of baseline and follow-up data and conclusions that can be drawn from the

data. No interim data was collected during each of the programmes, this interim data could have mitigated some of the limitations of low completion rates at follow-up. Alternatively, a brief tool (maximum of 5 questions) could be used at the end of each sessions to identify concern about falls, understanding of the session and any changes that had been implemented since the week before. This continual monitoring data may give further insight into the impact of the programme.

RECOMMENDATION: SELECT KEY OUTCOME MEASURES TO BE COMPLETED PART WAY OR CONTINUALLY THROUGH THE PROGRAMME TO MITIGATE FOR LOW COMPLETION RATES AT THE END OF THE PROGRAMME.

Both participants and co-ordinators felt that there was added value to the sessions when the presenter/expert stayed after the session to answer questions and have informal conversations with the participants. This more relaxed environment also enabled participants to socialise amongst themselves. A suggestion was made that it would be useful to hold recap/review sessions regularly to go over what was done in previous sessions and give participants the opportunity to reflect and ask any questions they had thought of after the session. These ongoing review sessions would also enable people to maintain that regular social contact and allow people who missed sessions to keep informed.

RECOMMENDATION: PROVIDE INFORMAL OPPORTUNITIES FOR PARTICIPANTS TO SOCIALISE AMONGST THEMSELVES IN THE CONTEXT OF THE PROGRAMME, MEET THE PRESENTERS AND ASK THEM QUESTIONS. PROVIDE THE OPPORTUNITY FOR PEOPLE TO ASK QUESTIONS ANONYMOUSLY THROUGH A WRITTEN BALLOT BOX.

RECOMMENDATION: HOLD REGULAR RECAP/REVIEW SESSIONS TO MAINTAIN THE LEARNING AND SOCIALISATION AFTER THE PROGRAMME END.

Engagement of men in the Falls Awareness programme was low, particularly in the community venues. However, the two men who discussed their attendance in the focus group were positive about their experience and felt that they learnt a lot and benefited from the programmes. Engagement of men in health promotion programmes is low in general (Robertson et al 2013) and this is reflected in this situation. However, men are still at risk of falling, so seeking to engage more men would be beneficial.

RECOMMENDATION: SEEK TO ENGAGE MORE MEN BY EXPLORING WHAT THEY WANT FROM A PROGRAMME, THEIR MOTIVATIONS AND WAYS TO ENGAGE THEM IN FUTURE RESEARCH.

Other, smaller recommendations raised from the data collected in this study include:

- **RECOMMENDATION: LIMIT PROGRAMME SESSIONS TO SMALL NUMBERS, OR PROVIDE OPPORTUNITIES FOR PARTICIPANTS TO BREAK INTO SMALLER GROUPS TO PROMOTE DISCUSSION AND ENSURE PEOPLE FEEL COMFORTABLE.**
- **RECOMMENDATION: ENSURE THAT SESSIONS ARE FUN AND INTERACTIVE TO ENCOURAGE PARTICIPATION AND COMPLETION OF THE PROGRAMME.**
- **RECOMMENDATION: CHECK WITH SHELTERED HOUSING SCHEME AND COMMUNITY VENUE CO-ORDINATORS REGARDING EXISTING SESSIONS THEY HAVE HELD TO AVOID DUPLICATION OF SESSIONS AND RESOURCES.**

- **RECOMMENDATION: DEFINE 'FALLS' WHEN ASKING QUESTIONS ABOUT FALLS, WITHOUT CLARITY THIS COULD BE INTERPRETED IN A RANGE OF WAYS, FROM A TRIP OR STUMBLE TO A FALL THAT RESULTS IN INJURY OR HOSPITALISATION.**
- **RECOMMENDATION: AVOID ADVICE THAT COULD BE PERCEIVED AS IMPRACTICAL OR PATRONISING BY PARTICIPANTS.**
- **RECOMMENDATION: ON THE PROGRAMME POSTER/LEAFLET, PROVIDE A BRIEF STATEMENT EXPLAINING WHY EACH SESSION IS RELEVANT TO FALLS AND THE BENEFITS THAT MAY RESULT FROM THAT SESSION TO ENCOURAGE PARTICIPATION.**
- **RECOMMENDATION: PROVIDE OPPORTUNITIES FOR WEEKLY FEEDBACK ON SESSIONS USING A BALLOT BOX.**
- **RECOMMENDATION: GATHER DATA ON FALLS FREQUENCY AND INJURY FROM SHELTERED HOUSING SCHEME CO-ORDINATORS TO IDENTIFY IMPACT OF THE PROGRAMME AND CAUSES OF FALLS WHICH MAY BE PREVENTABLE.**

Limitations of the evaluation

Despite the merits of this study, it is important to note a couple of limitations. Firstly, as discussed, completion rates at follow-up were low (approximately half of participants), this limits conclusions that can be drawn from the data. Secondly, some of the focus groups were held a long time (up to 1.5 years) after participants had participated in the programme, therefore memories of some of the specifics of the programme or specific challenges experienced, behaviours implemented or changes noticed may not have been remembered, and therefore captured in this evaluation.

Conclusions

This mixed-methods participatory evaluation has drawn a number of interesting conclusions and provided a range of recommendations for the continuing Falls Awareness programme, as well as for the future evaluation and design of other health improvement interventions.

In general, the Falls Awareness programme was positively received by participants and it was successful in improving awareness of falls and falls risks. The results indicate that the programme may be more appropriate for delivery in sheltered housing schemes due to their increased levels of need, higher levels of retention and completion and trends towards increased health following the programme; and an alternative programme or programme structure may be more appropriate for delivery in community venues.

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APPENDICES

Appendix A: Example programme plans and lists of sessions

Appendix B: Methods

Across 10 sessions of the Falls Awareness Programme, 6 held in sheltered housing schemes and 4 held in community venues, a total of 192 people attended at least one session. Programmes were held between August 2017 and July 2019.

Study 1: Comparison of baseline and evaluation data

Participants

A total of 147 participants (77% female) took part in the Falls Awareness programme, which was held in community venues (*n* = 4) and sheltered housing schemes (*n* = 6) across Rhondda Cynon Taf County Borough Council. A total of 82 participants (57%) attended a community-based programme and 62 attended a programme in a sheltered housing scheme (43%).

Baseline (Time 1) data was collected for 134 participants (92%) and data was collected for 74 participants (51%) at the follow-up assessment in the final session.

Materials

A general health and well-being questionnaire comprising of six sections (17 questions) regarding smoking, healthy eating, physical activity, alcohol consumption, general health and falls history and concern was used.

The EQ-5D-5L (Herdman et al., 2011) is a standardised instrument used to assess generic health status. It assesses health across five dimensions; mobility, self-care, usual activities, pain/discomfort and anxiety/depression, using five levels. A summary index can be derived from these five dimensions using a conversion table, to give a maximum score of 1 (indicating the best health state). The EQ-5D-5L visual analogue scale (VAS) asks participants to rate their current health status on a visual scale between 0-100, with 100 indicating the best health status.

The Falls Efficacy Scale-International (Yardley et al., 2005) assesses concern about falling doing a range of 16 daily activities (e.g. going to the shop [5], going to answer the telephone before it stops ringing [10]). The scale ranges from 1 (not at all concerned) to 4 (very concerned). It asks participants to answer how concerned they think that they would be, if they do not currently do that activity.

Design

A within subjects 2x2 design was employed. The independent variables were general health (as assessed by the EQ-5D-5L) and falls efficacy (as assessed by the Falls Efficacy Scale-International).

Procedure

Participants were asked to complete the data collection tools during their first session at the Falls Awareness Programme as a baseline measures. Participants were also asked to complete the data collection tools during their final session with the Falls Awareness programme (10-15 weeks later).

Data analysis

Data collected were inputted into an Excel spreadsheet and analysed using IBM SPSS (V26) and R software version 3.6.1 (R Core Team, 2019). Descriptive statistics were reported and paired-samples t-tests were used to compare baseline and evaluation data. In accordance with guidance

for the 16-item Falls Efficacy Scale-International (https://sites.manchester.ac.uk/fes-i/), responses with five or more items missing were excluded. New total scores were calculated for responses with 1-4 items missing by taking the mean of the dataset and multiplying by 16 (total number of items). The EQ-5D-5L index score was calculated using the EQ-5D-5L Crosswalk Index Value Calculator (https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/valuation-standard-value-sets/crosswalk-index-value-calculator/).

Study 2: Focus groups with Falls Awareness programme participants and hosts

Study 2 engaged a qualitative cross-sectional design using focus groups with individuals who had previously participated in the Falls Awareness programme and service providers/managers who had hosted the programme.

Participants

Four focus group were held, two in community venues and two in sheltered housing schemes. A total of individuals participated across the four focus groups (see table). Focus groups were made up of individuals who had attended the Falls Awareness programme (participants, *n* = 21) and service providers/managers who supported the programme (hosts, *n* = 4). Participants were predominantly female (*n* = 19, 90%) and the average age of participants was 77 years (range 62-92 years).

Focus group	Venue	Participants
1	Sheltered Housing Scheme	3 (3 participants)
2	Sheltered Housing Scheme	3 (2 participants, 1 host)
3	Community library	11 (9 participants, 2 hosts)
4	Community venue	7 (6 participants, 1 host)

Data Collection

A focus group schedule was co-designed within the steering group, in accordance with the participatory approach taken for the evaluation. The group discussed the aims of the evaluation and key areas for discussion, and devised the questions accordingly. One of the researchers subsequently devised the schedule and shared it with the steering group, who offered comments and approved the final version.

The focus group schedule aimed to explore participants experiences with the Falls Awareness programmes, any impact it has had on them, any perceived benefits (e.g. socially, health, activity levels), motivations for participating, barriers to participating (e.g. the title) and their thoughts about the data collection tools that were used. The full focus group schedule can be found in Appendix X.

Focus groups were conducted in two community venues and two sheltered housing schemes by one of the researchers (ME). Focus groups were audio-recorded and transcribed verbatim by the interviewer (ME), and lasted an average of 49 minutes (shortest = 35; longest = 68).

Data analysis

Thematic analysis (Braun & Clarke, 2006) was used to analyse the focus group transcriptions. This involves iteratively following 6 steps:

1. Familiarisation with the data: Done through listening to audio files, transcription and repeated reading of the transcripts.

2. Generating initial codes: Done by the researcher using NVivo 11.

3. Searching for themes: Done by reviewing the coded data and identifying areas of similarity and overlap between the codes.

4. Reviewing potential themes: This was done first by the research team and subsequently with the steering group to ensure that the data supported the potential themes and the theme was cohesive.

5. Defining and naming themes: This was primarily done by the research team and subsequently discussed with the steering group.

6. Producing the report: Themes are presented coherently and the report has been reviewed by steering group members. Following the creation of this report, an academic paper will be written for publication in a peer-reviewed journal.

The coding and analysis was primarily done by one of the researchers but members of the steering group coded sections of each of the transcripts to ensure reliability across the analysis. The steering group together reviewed the transcripts, codes and analysis, identified themes from the data and labelled the themes accordingly.

Appendix C: Focus group schedule

Introduction: Researcher first reviews the PIS with the participant, offers the participant an opportunity to ask questions and takes consent, then introduces the participant to the interview, explains what will happen, explains the audio recorder and reminds the participant that they can stop the recorder or the interview whenever they would like.

- Why did you want to attend the Falls Awareness programme? (motivation for attending)
    - How did you find out about the programme?
- How useful did you find the programme?
    - Prompts of the individual session titles from the itinerary
    - What were the three best bits?
- What did you think about:
    - The length of the sessions, the number of sessions, content of the sessions, variety of sessions.
- Is there anything that you would change or add to the programme?
    - Prompt: If there was one thing you could change?
- Have you done anything differently since attending the programme?
    - Have you made any changes?
    - Why did you make those changes?
    - Why not?
    - Did you expect to make changes after the programme?
    - Prompts: Improve health, activity levels, well-being, walking more, making friends, additional activities, going out, social contact (added benefit of project)
- Has attending the project helped you interact more/make friends?
- How do you feel about falling now?
- Do you know anyone who would have liked to attend but couldn't?
    - Why were they not able to?
- Is the title of the project appropriate for the programme?
    - Did the title put you or your friends off attending the sessions?
- What did you think about the questionnaires that were used at the start and end of the programme?
    - Useful? Easy to complete? Did they make sense to you? Any problems/suggestions?
    - *Researcher will have a blank copy of the questionnaires to remind the participant.*

<u>Demographics</u>

- Age
- Gender
- Living situation (i.e. living alone, sheltered housing, etc)
- Is there someone who visits you, to help with your daily tasks? (e.g. family member / Care provision)

Appendix D: Study 1 Results

Participant characteristics

Participants ranged in age from 56-95 years (*M* = 76.36, *SD* = 9.62) across all programmes delivered. Participants attending the programme in sheltered housing schemes were significantly older (*M* = 80 years) than those attending in the community (*M* = 73.5 years), $t(137) = -4.358$, $p < 0.001$. However, age was not associated with general well-being (EQ-5D index and scale) at baseline or evaluation.

Participants were predominantly women (77%, *n* = 110), with lower engagement from men (23%, *n* = 33). However, there were no significant difference between baseline scores, follow-up scores or completion rates between men and women.

Data collected from a general health questionnaire at baseline indicated that participants commonly engaged in healthy behaviours. Over half of participants reported taking part in regular exercise (57%, *n* = 76), with the most common types of exercise including; walking (*n* = 54), yoga/Tai Chi (*n* = 13), armchair exercises (*n* = 7), housework (*n* = 5), gardening (*n* = 5) and dancing (*n* = 4). Number of fruit and vegetable portions consumed daily varied widely between 0 and 5, with most participants eating 3 portions per day (mode) and 23% of participants eating 2 or less portions a day. Among participants the rates of smoking were low (5%, *n* = 7) and there was an even split between participants who reported drinking alcohol and those who did not. The vast majority of participants (89%, *n* = 117) had had their eyes tested in the past two years.

Long-term health conditions were common amongst the sample of participants, with 74% (*n* = 97) reporting that they had at least one condition and over half of the participants (55%, *n* = 71) taking four or more forms of medication daily. Some participants also reported that they sometimes feel dizzy (44%, *n* = 57) and that their hearing affects their ability to enjoy their daily lives (31%, *n* = 39).

Fall frequency and concern

At baseline, self-reported frequency of falls in the previous 12 months ranged from no falls to 15 falls. Fifty percent (50%) of participants had not had a fall in the previous 12 months, 25% had had one fall and 25% had had two or more falls.

Participants were asked to record how concerned they were about falling, ranging from *not at all concerned* to *very concerned*. Responses were mixed and varied across participants answering not at all concerned (32%), somewhat concerned (29%), fairly concerned (21%) and very concerned (19%).

The average score on the Falls Efficacy Scale-International for all participants was 30.57, which indicates high levels of concern, based on cut-points defined by Delbaere et al (2010): Low (16-19), Medium (20-27) and High (28-64).

Responses to the single-item question about falls concern correlated with scores on the Falls Efficacy Scale-International ($r = 0.595$, $p < 0.001$).

Participants who did not report doing regular exercise reported greater concern about falling (*M* = 35.9, SD = 13.53) than those who reported doing regular exercise (M = 25.96, SD = 11.81), $t(122) = -4.35$, $p<0.001$.

Participants who had had one or more falls in the past 12 months were significantly more concerned about falling (M = 33.91, SD = 1.78) than those who had not fallen (M = 26.13, SD = 1.62), t(111) = 3.226, p = 0.002

Programme attendance

Overall, 51% of participants (*n* = 74) completed the follow-up measures. Rates of completing follow-up measures were greater for participants in sheltered housing schemes (69.4%, *n* = 43) compared to those in the community (37.8%, *n* = 31).

All programmes had at least 10 sessions, with some having up to 15 separate sessions. On average participants attended six sessions (*M* = 6.48, *SD* = 4.19) in a course. Attendance was significantly greater among participants in the sheltered housing schemes (*M* = 7.6, *SD* = 4.17) compared to the community (*M* = 5.66, *SD* = 3.99), *t*(142) = -2.829, *p* = 0.005.

Older age was associated with increased attendance, *r*(139) = 0.239, *p* = 0.005, even when controlling for the programme venue.

The most well attended sessions provided within the programme included; *Tai Chi Movements for Wellbeing* (80 attendees), *Action on Hearing Loss (AoHL): How safe is your home? Hearing* (77 attendees), *Welsh Ambulance Service Trust* (73 attendees), *RNIB: How safe is your home? Vision* (68 attendees) and *Your Medicines Your Health* (66 attendees).

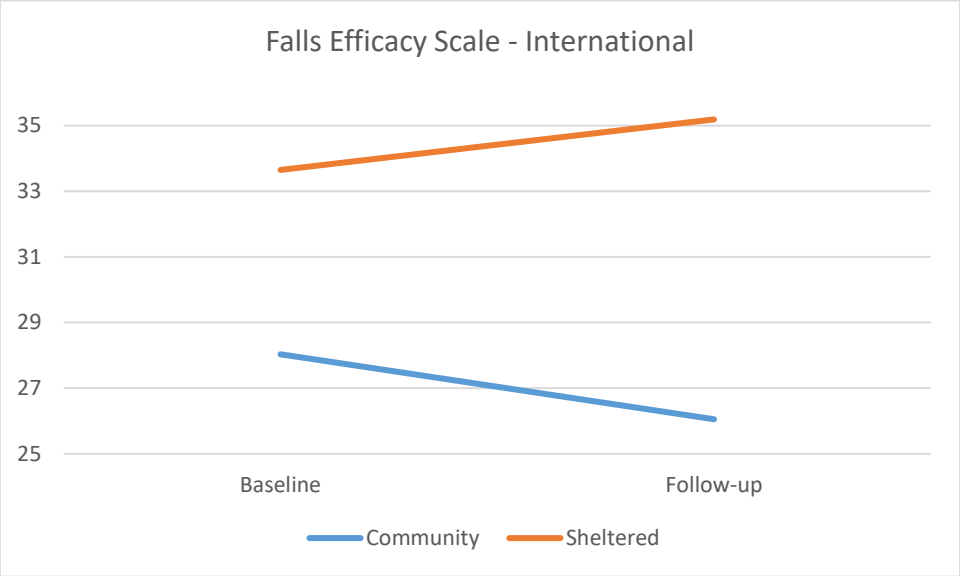
Comparative data (baseline and follow-up)

Falls Efficacy Scale-International

At both baseline and evaluation, mean scores on the Falls Efficacy Scale-International indicated high levels of concern about falling, based on cut-offs defined by Delbaere et al (2010). Note that high scores equate to higher levels of concern about falling.

A repeated measures ANOVA found strong evidence for a significant main effect of venue (*p*=0.0016), but no significant interaction between venue and time (p=0.129) and no significant main effect of time (p=0.806). BH-adjusted post hoc tests found that the effect of venue was significant at both baseline (p=0.0232) and follow-up (p=0.0064).

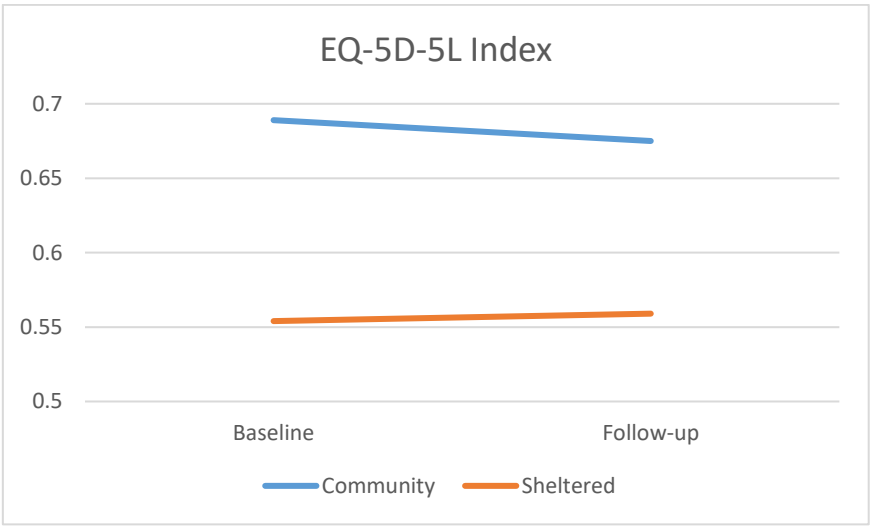
	Baseline	Follow-up
Community	28.03	26.05
Sheltered	33.65	35.19



EQ-5D-5L Index scores

A repeated measures ANOVA found evidence for a significant main effect of venue (*p*=0.0161), but no significant interaction between venue and time (p=0.2205) and no significant main effect of time (p=0.3885). BH-adjusted post hoc tests found that the effect of venue was only significant at baseline (p=0.0394) and not at follow-up (p=0.2215). Note that higher index scores indicate greater health and well-being.

	Baseline	Follow-up
Community	0.689	0.675
Sheltered	0.554	0.559



EQ-5D-5L Self-rated Scale

A repeated measures ANOVA found evidence for a significant main effect of venue (*p*=0.0125), but no significant interaction between venue and time (p=0.423) and no significant main effect of time (p=0.601). BH-adjusted post hoc tests found that the effect of venue was only marginally

significant at baseline (p=0.0697) and not at follow-up (p=0.8663). Note that higher scores indicate greater self-rated health and well-being.

	Baseline	Follow-up
Community	73.14	69.49
Sheltered	63.26	63.89