

# STEADY ON YOUR FEET



Fall Prevention Strategy 2020

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# INTRODUCTION

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Falls result in a loss of independence, confidence, social isolation and generally impacts negatively on a person's life with significant costs to the whole system. It is also a key priority for the Single Health and Wellbeing Board in South Tees. It is not inevitable that getting old means a person will fall and it is vital that all organisations work together on changing this mind set within the public. This starts with the earliest possible intervention and public awareness raising.

There are many factors that may result in a person falling such as poor health or frailty, or environmental factors, such as trip hazards within the home or within the community. There are a number of potential consequences to an older person having a fall, which may include:

- **Physical** – pain, serious injury, discomfort, reduced mobility
- **Social** – reduced independence, social isolation, need for long term care, decreased quality of life
- **Psychological** – loss of confidence, fear of falling, mental health issues, not wanting to disclose a fall due to how others may perceive them

With this in mind, there is a need to consider the cause and effect of falls as we develop services to support and minimise the likelihood of a fall, and recognise that falls prevention is the responsibility of all organisations.

In addition to understanding the personal impact of falls on an older person, there is also the financial and system pressures caused by falls. Around a third of all people aged 65 and over fall each year, this increases to 50% of people aged over 80; falls are the major cause of disability and mortality resulting from an injury in people aged over 75 in the UK. Nationally, over 190,000 older people are admitted to hospital every year as the result of a fall.

*("Falls and fracture consensus statement – supporting commissioning for prevention", January 2017)*

With this in mind, there are key areas that are impacted that need to be considered:

- **People** – The effect on a person having a fall and on their overall wellbeing, along with the impact on their loved ones or carers
- **Care** – When people have a fall they can find themselves requiring a level of care which they previously did not need

- **Health services** – Falls impact significantly on the hospital and related health services. There is also an increased risk of a person having a fall when they are in hospital as a patient, often because they are in an unfamiliar environment. There is also an increased capacity issue on GP and community services for those who do not need to attend hospital
- **Cost** - The National costs of fragility fractures to the UK has been estimated at £4.4bn which includes £1.1bn for social care\*

*(“Falls and fracture consensus statement – supporting commissioning for prevention”, January 2017)*

There is also an increased risk of a person requiring a care home admission following a fall with up to 40% of people moving into a care home as the result from a fall. This then increases the likelihood of a person having a fall in a care home setting, with it being three times more likely that a person will fall in a care home, versus being in the community.

The Department of Health has identified key intrinsic and extrinsic risk associated with falls. The intrinsic risks are as follows:

- Balance, gait, mobility problems including those due to degenerative joint disease and motor disorders
- Conditions requiring complex medication (four or more medications) and sedating or blood pressure lowering medications
- Visual impairment
- Impaired cognition or depression
- Postural hypotension

**Extrinsic, or environmental risk factors for example, include:**

- Poor lighting
- Steep stairs
- Loose carpets or rugs
- Slippery floors
- Badly fitting footwear or clothing
- Lack of safety equipment such as grab rails
- Poor lighting conditions
- Assistive devices such as use of a stick, frame or wheelchair

*(Falls: Applying All Our Health, August 2017)*

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# NATIONAL CONTEXT

# NATIONAL CONTEXT

In January 2017, Public Health England produced “Falls and fracture consensus statement – supporting commissioning for prevention”, along with the National Institute for Clinical Excellence outlining “Falls in Older People: Assessing risk and prevention”.

Both of these documents call for a collaborative whole system approach towards falls prevention and recognise the need for all local systems to be joined up for maximum benefit in reducing the risk of falls within a number of settings from community, care homes and acute.

Within the Falls and fracture consensus statement – supporting commissioning for prevention there were 8 key interventions that are proposed to support the effective implementation of a Falls Prevention Strategy, these being:

- **Risk factor reduction** – consistent and effective public, private and voluntary sector collaboration and action to reduce exposure to risk factors needs to take place at the different stages of the life course. Increasing exercise in line with National recommendations for people aged 65 plus.
- **Case finding** – ensuring that older people in contact with professionals and organisations which have health and care as part of their remit should be asked routinely about falls. Development of competencies within the workforce to upskill professionals. All patients aged 65 and over admitted to hospital should be regarded as a risk of falling.
- **Risk assessment** – Those identified through case finding should be given access to a comprehensive risk assessment and carried out by a trained healthcare professional and followed up with appropriate interventions. This may include strength and balance exercises, home hazard assessment, vision assessment and referral and medication review with modification or withdrawal where possible. A Cochrane Collaboration systematic review found that risk assessment followed by appropriate interventions for falls prevention reduced the rate of falls by 24%.
- **Strength and balance exercise programmes** – Recommended that older people living in the community with a low to moderate risk of falls should include strength and balance exercise programmes. This should comprise of 50 hours or more delivered for at least two hours per week. A Cochrane Collaboration systematic review found that group exercise reduced the rate of falls by 29% and risk of falling by 15%. Home based exercise reduced the rate of falls by 32% and the risk of falls by 22%.

- Healthy homes** – A Cochrane Collaboration systematic review found that home hazard assessments and modifications carried out by OT's reduced the risk of falls by 19% and risk of falling by 12%. Any older person who has received treatment in hospital following a fall should be offered a home hazard assessment. This can be provided using a multiagency approach from Cleveland Fire Brigade Safe and Well visits, OT's, handy person schemes, housing practitioners.
- High risk environments** – These include hospitals, mental health and learning disability units, along with residential and nursing homes. Around ¼ of patients with hip fractures are admitted to hospital from a care home setting. There is evidence to support multiple interventions performed by a multi-disciplinary team and tailored to the individual patient can reduce falls by 20 – 30%. This is particularly important for patients with dementia or delirium who are at high risk of falls in hospital.
- Fracture liaison services** – Patients presenting with a fragility fracture, related or unrelated to fall, should be assessed for osteoporosis and receive effective management to improve their bone health and reduce their risk of future fractures. An evaluation of fracture liaison services showed a reduction of hip fracture rates by 2.26%, vertebral fracture rates by 0.75% and other fracture rates by 1.13%. It is recommended that patients are referred to a falls risk assessment and prevention services where possible.
- Collaborative care for severe injury** – For patients who fall and result in a severe injury, acute care of these patients should include an interdisciplinary approach. There is a strong case for this in hip fractures. It is recommended that this should involve orthopaedic doctors and nurses, geriatricians and allied health professionals within a hospital, but also liaison and integration with related services, particularly falls prevention services and bone health services, mental health, primary care and social services.

The National Institute for Clinical Excellence (NICE) give recommendations for good practice based on the best available evidence of clinical and cost effectiveness. The NICE guidance identified five key priorities for implementation of a service for the assessment and prevention of falls in older people, as described below:

## Key priorities for implementation

### 1. Case / risk identification

- Older people in contact with healthcare professionals should be asked routinely whether they have fallen in the past year and asked about the frequency, context and characteristics of the fall.
- Older people reporting a fall or considered at risk of falling should be observed for balance and gait deficits and considered for their ability to benefit from interventions to improve strength and balance.

### 2. Multifactorial falls risk assessment

- Older people who present for medical attention because of a fall, or report recurrent falls in the past year, or demonstrate abnormalities of gait and / or balance should be offered a multi-factorial falls risk assessment. This assessment should be performed by healthcare professionals with appropriate skills and experience, normally in the setting of a specialist falls service. This assessment should be part of an individualised, multi-factorial intervention.

- **Multi-factorial assessment may include the following:**

- Identification of falls history

**Assessment of:**

- Gait, balance and mobility, and muscle weakness
- Osteoporosis risk
- The older person's perceived functional ability and fear relating to falling
- Visual impairment
- Cognitive impairment and neurological examination
- Urinary incontinence
- Home hazards
- Cardiovascular examination and medication review

### **3. Multi-factorial interventions**

- All older people with recurrent falls or assessed as being at increased risk of falling should be considered for an individualised multi-factorial intervention.
- In successful multi-factorial intervention programmes the following specific components are common (against a background of the general diagnosis and management of causes and recognised risk factors):
  - Strength and balance training
  - Home hazard assessment and intervention
  - Vision assessment and referral
  - Medication review with modification / withdrawal
- Following treatment for an injurious fall, older people should be offered a multidisciplinary assessment to identify and address any future risk, and individualised intervention aimed at promoting, independence and improving physical and psychological function.

### **4. Encouraging the participation of older people in falls prevention programmes including education and information giving**

- Individuals at risk of falling, and their carers, should be offered information orally and in writing about what measures they can take to prevent further falls.

### **5. Professional education**

- All healthcare professionals dealing with patients known to be at risk of falling should develop and maintain basic professional competence in falls assessment and prevention

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# LOCAL CONTEXT

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As this strategy has made clear, falls are an important issue that impacts negatively on older people's lives in South Tees and there is a commitment from all organisations, across health and social care, to improve the pathways for integrated falls prevention.

The falls strategy is also closely linked with the Frailty Strategy for South Tees, which identifies the need for an integrated approach to falls prevention as a key approach to reducing or preventing frailty.

As such, both the Integrated Executive Group and Out of Hospital Steering Group have ensured that the integrated falls prevention strategy is a key priority in keeping older people fit and healthy.

Additionally, South Tees Trust are also producing their own falls prevention strategy for in patient care which this strategy will be linked to.

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# THE NEED FOR CHANGE

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Within this strategy, we have examined the need for change and the impact of falls and illustrating why falls are a priority for Health and Social Care Nationally. There are key statistics to take into account when assessing the needs in South Tees:

- 1:3 people aged 65+ experiences a fall at least once a year
- 4,398 older people died in 2016 from a hip fracture according to the National Hip Fracture Database report published in 2017
- Falls are a major contributing factor to disability and mortality resulting in injury in over 75's
- Older people in a residential, nursing home or acute setting are 2-3 times more likely to fall than in a community setting
- 5% of older people who fall experience a fracture or require admission to hospital

Although South Tees has a commissioned falls service via the CCG, which is provided by South Tees Community Trust since 2007, it has had significant year on year growth (as shown in the table below) in referral rates. Despite this, the team has operated on the same resource and has become reactive rather than proactive.

Year	Male	Female	Total Referrals
2013	462	861	1323
2014	585	1027	1612
2015	684	1096	1780
2016	678	1047	1725
2017	639	1081	1720

Public Health has provided some local intelligence on the number of falls for over 65's in Middlesbrough (see Appendix 1a) and Redcar and Cleveland (see Appendix 1b) for 2016/17 that shows the emergency admissions due to falls and the number of hip fractures, along with illustrating our comparison to other Local Authorities and the year on year trends due to emergency admissions. Whilst this does show that South Tees is positively impacting on falls in the elderly, it also illustrates the need for change.

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# **COPRODUCTION WITH SERVICE USERS**

# COPRODUCTION WITH SERVICE USERS

In the development of this strategy, we have worked extensively with the voluntary sector in our partnership engagement and approach, in order to obtain patient and carer input via community groups and services.

It is intended that further consultation and engagement work will be undertaken to launch this strategy. This will be targeted at specific older people's groups, voluntary sector organisations along with health improvement services and other key partners to ensure older people are fully involved in the future development and implementation of the falls prevention strategy. The main aim will be to raise awareness of falls, overcoming the stigma for older people in discussing falls by using user friendly terms like staying steady, along with understanding where to get help and information and understanding what will happen if you do have a fall.

In reviewing our current online resources, we have identified that our approach is fragmented and needs to be more coordinated. The intention is to improve our online access to promote self-care, and for members of the public to have access to linked up resources and information across all agencies.

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# VISION, AIMS & OBJECTIVES

## 6.1 VISION

The vision of the South Tees Integrated Falls Prevention Strategy is to reduce the number of people falling across South Tees by establishing an integrated falls pathway. This will enable any older person, regardless of gender, ethnicity, culture or disability, who is at risk of falling, or has fallen, to access appropriate and standardised assessments, high quality treatment and support from a wide range of service providers.

## 6.2 AIMS

The overarching aim of the strategy is to ensure that:

- **Make every contact count** – All professionals, across Local Authorities, Primary Care and Acute Trust, along with VCS organisations, will ensure that they identify anyone who is a potential falls risk and ensure they are referred to the most appropriate service and, where possible, will action or resolve the falls risk.
- **Integrated care pathway** – All those who are identified to have timely access to a seamlessly integrated local care pathway and access to a wide range of services which is both equitable and timely
- **Single point of contact** – All agencies agree a single point of access with agreed referral criteria
- **Increased falls awareness** – it is vital that there is an increased awareness of how to prevent falls within the community and in areas of service delivery by improving the environment in which those at risk are living

## 6.3 OBJECTIVES

The objectives are to:

- Ensuring safer living environments for older people either living at home, in sheltered accommodation and care homes
- Ensure safer hospital environments for older people, along with reducing risk of falls whilst in hospital
- Improve activity levels and mobility for older people in the community
- Ensure systems for improving the safety or medication in relation to preventing falls
- Encourage active healthy living amongst older people
- Ensure all staff have access to relevant falls prevention information and training
- Reduce the number of specific injuries associated with falling
- Support people who have a fear of falling
- Improve screening and treatment of osteoporosis with access to bone density scanning by the education and importance of the treatment and management of the condition, along with prevention for the early identification of Osteoporosis within primary care
- Develop health promotion activities
- Ensure high quality treatment and rehabilitation services

## 6.4 LOCAL TARGETS

- A reduction in hospital admission rates due to falls by 10% by 2019-20 from the base line data of 2016-17
- A reduction in the rate of hip fractures as a result of a fall by 10% by 2019-20 from the base line data of 2016-17
- A reduction in the number of falls in care homes by 10% by 2019-20 from the baseline data of 2016-17
- A reduction in patient falls within acute settings by 10% by 2019-20 from the baseline data of 2016-17

## 6.5 KEY OUTCOMES

- Reduced falls and associated injuries and fractures
- Universally adopted falls pathway
- Coordinated risk assessment
- Improved partnership working
- Have an embedded pathway for effective prevention and rehabilitation services
- Increased number of falls prevention interventions within the community for service users



# CURRENT FALLS PROVISION ACROSS SOUTH TEES

# CURRENT FALLS PROVISION ACROSS SOUTH TEES

The aim of the currently commissioned CCG Falls Prevention Service via South Tees Trust is “to reduce falls and injuries related to falls in people aged 65 years and over, with key objectives to achieve this vision:

- A. Reduce the number of falls in people aged 65 years and over
- B. Reduce the number of injuries related to falls
- C. Reduce the risk of older people falling in the home and hospital
- D. Reduce the impact of falls for individual patients”

There are some capacity and resource issues with the South Tees CCG commissioned Falls Prevention service, due to an increase in demand, resource and staffing issues, along with a growing aging and frail population.

Upon evaluation of the contracted service it was identified that the current service had become reactive to older people falling and that, in many cases, older people were not being given access to the service until they had incurred two falls. This increased the likelihood of older people being frailer by the time they were seen by the service and an increased likelihood of requiring longer term care needs and, ultimately, reducing their overall quality of life.

This created an opportunity to review the currently commissioned service, along with an evaluation of all services, across multiple agencies, with a view to develop a system wide approach to falls prevention to people aged over 65 in South Tees.

Mapping of our current Falls Prevention across all agencies, against NICE guidance is provided in appendix 2a. It is clear that there are some opportunities to enhance our approach to falls prevention from the gaps in our provision.

Appendix 2b shows the value of the services across South Tees which are providing Falls Prevention across all agencies. The total value of Falls Prevention across South Tees is in excess of £2 million across Health & Social Care, along with VCS organisations and Cleveland Fire Brigades Safe and Well Visits.

Whilst there is a considerable spend on falls prevention across all organisations, appendix 2c illustrates the return on investment both for the organisations, and the individual. This has been taken from Public Health England, A return on investment tool for the assessment of falls prevention programmes for older people living in the community



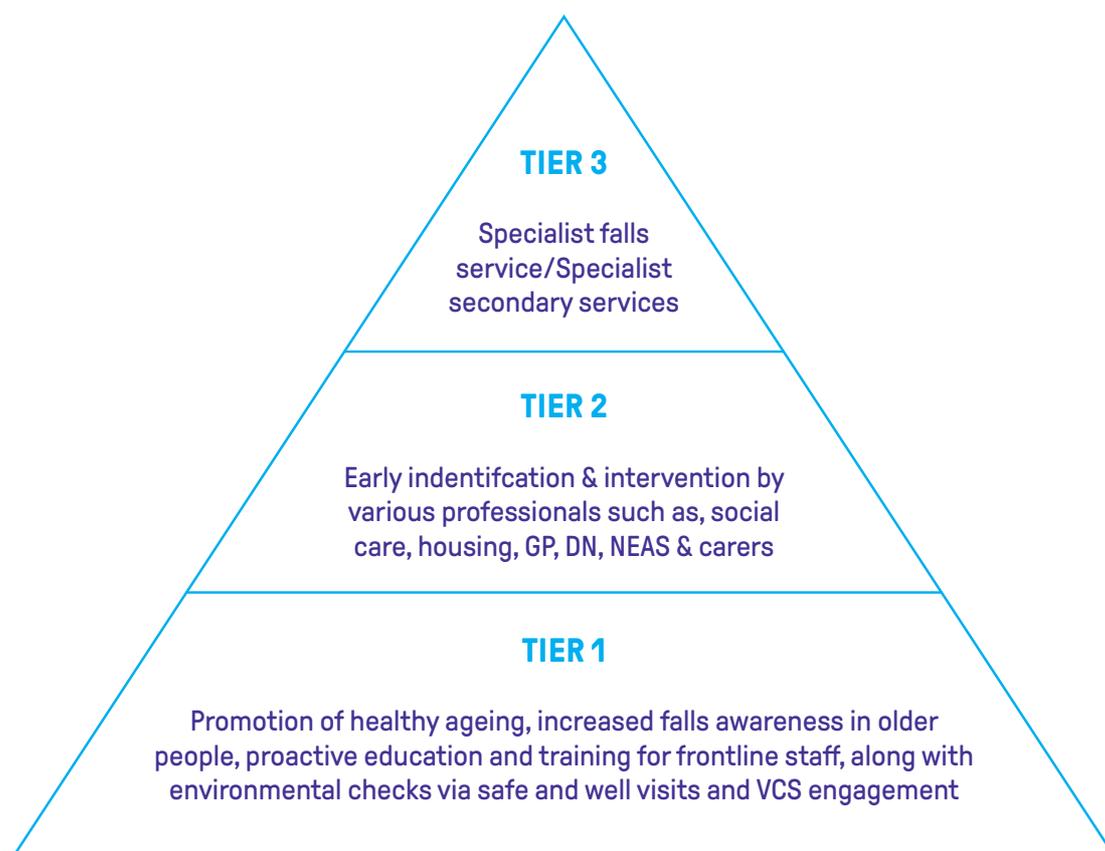
# FUTURE MODEL FOR FALLS PREVENTION

# FUTURE MODEL FOR FALLS PREVENTION

This strategy for Falls Prevention across South Tees will identify gaps in the current service provision, planning for gradual expansion of those components that are already in place so that the NICE recommendations are implemented.

It is proposed there is a tiered approach to falls prevention in South Tees with three levels of service provision, across multiple agencies. This will ensure a maximum number of people benefit from falls prevention information, support and guidance. It will also ensure only complex cases will be referred to specialist clinics and more people are seen in the community.

**This is illustrated below:**



## Tier 1

This is the foundation of the whole system approach to falls prevention and management and key in increasing falls awareness and prevention. It includes the following:

- Increased health promotion in healthy ageing for older people, this is linked to the public health messages and services to support older people. This should be reinforced by any professionals coming into contact with older people such as social care, OT's, Physio's, housing, GP's, voluntary sector, district and practice nurses etc... This should include the message that falls do not need to be an inevitable aspect of ageing, along with the two key health related behaviours for healthy ageing, which are maintaining adequate nutrition and physical activity – aerobic, strength and balance
- Falls prevention work in the community from a wide range of professionals such as Middlesbrough Council and Redcar and Cleveland Council housing providers, links with Cleveland Fire Brigade's Safe and Well visits, handyman services, leisure services, public health's community based strength and balance training, pharmacists recognising medication risks etc....

Underpinning this intervention, there is a key need for older people to confidently talk about falling and understand that there is no stigma in falling as we get older. Many older people feel their loved ones will view them as becoming less dependent and as a result, do not talk about their falls. By public engagement and looking at staying steady and remaining active, it will help reduce the stigma attached to people discussing their falls. This will be reinforced with a clear and consistent public message across all organisations.

## Tier 2

This involves early identification and management of falls through community based activities:

- Older people coming into contact with professionals and organisations which have a health and care as part of their remit should be asked routinely about falls.
- Regular case reviews in primary care and offering appropriate intervention
- Risk assessment of fallers in various settings such as GP practices, within the home, care homes, acute hospitals and other community settings
- Require medical treatment after a fall
- Demonstrate gait and balance problems without any other presenting issues

There are a large number of primary care consultations carried out with older people, including care homes and at home which presents as a significant opportunity for case finding. Given that not all older people who fall may need to be transported to an acute setting or present at primary care, it is key that we ensure other services are alerted to a fall taking place and are able to respond effectively. This will involve the ambulance service, home carers, district nurses, sheltered accommodation housing warden, telecare, voluntary sector employee, pharmacist and Care Home Education Visiting and Support Service (CHESS), to name but a few.

In the first instance, where possible, the cause of the fall will be identified and measures put in place to reduce/prevent further falls. An example may be that a pharmacist may trigger a medication review or a GP refer to optometry or a housing officer may ensure proper lighting is introduced to a badly lit property.

This would trigger therapeutic and practical interventions that could significantly reduce the future risk of falls. For example, assessment by a physiotherapist could lead to a targeted strength and balance training programme while occupational therapist interventions might include adaptations that allow the faller to remain independent in their own homes.

This stage should include wider use of the Falls Risk Assessment Tool (FRAT) to identify individuals at a higher risk of falls and fractures. This should be carried out by a suitably qualified member of staff and would act as the decision making element of the pathway.

## Tier 3

This tier is linked to the specialist assessment and mainly focuses on complex cases that require specific input. It includes a referral to the falls service for multifactorial assessment for those who:

- frequently fall
- fall after a loss of consciousness
- fall as a result of a complex medical issues

and offering various forms of treatment and specialist interventions or referrals onto specialist services, such as syncope, elderly care, cardiology or audiology clinics.

It is vital that each of these stages are integrated into all aspects of health and social care delivery in South Tees, ensuring that all professionals “Make Every Contact Count”. This will enable workforce at every level with the knowledge and skills to offer health chats and signpost to appropriate services. We must ensure that everyone understands that they have a role to play in public health service delivery. The health and social care workforce is South Tees’ greatest asset and ensuring that we harness the skills of the workforce across organisational boundaries and settings provides a large scale opportunity to improve health and reduce inequalities.

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# IMPLEMENTATION OF THE STRATEGY

# IMPLEMENTATION OF THE STRATEGY

In order to support the above model and its principles, an integrated falls pathway will be developed. Additional work will need to be undertaken to develop protocols, workforce and any service redesign.

There will be a need to re-establish the falls steering group, made up of cross agency representation. The steering group will have responsibility for ensuring the successful implementation of the integrated falls prevention strategy and associated pathways, along with monitoring the successful outcomes achieved by this new model of working.

Any gaps or capacity issues within the pathway that are identified will be reported to the falls steering group for consideration.

In development of an integrated falls pathway, the following needs to be taken into consideration:

- The possibility of creating a central or shared referral point to facilitate access and manage demand
- Full use across all identified services of an agreed falls assessment tool
- Systems in place to support case findings
- Close working with commissioners to ensure that new providers, such as domiciliary care or residential providers, have effective policies and procedures in place to manage falls
- Clarity of the educational needs of the workforce
- Systems in place to clearly identify the need for a medication review
- Re-establish a falls register and ensure that information is maintained and communicated with relevant partners
- Agree monitoring and evaluation framework which is robust and meaningful data.

The implementation of this strategy will be supported by the integration team. They will ensure that all key stakeholders are engaged, along with facilitating the redevelopment of the Falls Steering Group. The overall intention is that the group will be responsible for the ongoing development and implementation of the strategy, but will be supported during the embedding period. Terms of reference will be drawn up with clarity for all partners on their equal roles and responsibilities, along with accountability for the successful implementation of the strategy.

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# GOVERNANCE ARRANGEMENTS & PERFORMANCE FRAMEWORK

## 10.1 GOVERNANCE ARRANGEMENTS

This strategy will be managed by the falls steering group. This should be a multidisciplinary group made up of representatives from all key stakeholder organisations. This will also include a link with areas such as multi morbidity and frailty.

South Tees Single Health and Wellbeing Board will be responsible for signing off and monitoring the strategy, and will receive quarterly performance updates.

It is also recommended that there is a named strategic or commissioning lead for falls and bone health.

## 10.1 PERFORMANCE FRAMEWORKS

An Evaluation Framework will be developed to support the success of the impact falls strategy across South Tees and will be carried out by the Falls Steering group. The framework aims to bring together a range of performance measures that can be applied across a number of services including Health, Social Care, voluntary and independent sector.

### **Aims**

- To reduce the number of falls of people living in South Tees that result in an emergency admission to hospital
- To reduce the severity of fall related injuries in people living in South Tees

## Objectives

1. To build capacity of the Falls Prevention service in South Tees
2. To engage with the local community in the development of local falls prevention services and related action plans.
3. To achieve planned and shared responsibility for falls prevention addressing the following components:
  - i. Education/awareness
  - ii. Exercise/balance programs
  - iii. Referral and reporting
  - iv. Risk assessment
4. To implement local action plans to reduce the number of falls and fall related injuries of people living in South Tees.

## Objective 1

To build the capacity of the Falls Prevention service in South Tees

Strategies	KPI	Targets	Measuring the impact
Establish & maintain Falls Prevention Steering Group	<ul style="list-style-type: none"> <li>▪ Regular attendance and participation at meetings</li> <li>▪ Partnership development in program delivery</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monthly operational meetings re-established by April 18</li> <li>▪ All stakeholders involved</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meeting minutes – ongoing</li> <li>▪ Qualitative feedback from members - ongoing</li> </ul>
Establish and maintain a South Tees performance group	<ul style="list-style-type: none"> <li>▪ Regular attendance and participation at meetings</li> <li>▪ Partnership development in program delivery</li> <li>▪ Agreed process for data collection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Report to single health and wellbeing quarterly</li> <li>▪ All stakeholders involved</li> <li>▪ Shared data collection by October 18</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meeting minutes – ongoing</li> <li>▪ Qualitative feedback from members – ongoing</li> <li>▪ Quarterly update on performance</li> </ul>
Steering group to collate best practice options for local plans	<ul style="list-style-type: none"> <li>▪ Completion of best practice options</li> <li>▪ Options adopted and delivered at a local level</li> </ul>	<ul style="list-style-type: none"> <li>▪ Collected by October 18</li> <li>▪ Commissioned plans by Dec 18</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meeting records</li> </ul>
Increase service providers awareness and understanding of falls prevention issues through targeted awareness raising programme	<ul style="list-style-type: none"> <li>▪ Awareness program developed</li> <li>▪ Awareness program implemented</li> <li>▪ Evaluation of service providers knowledge</li> </ul>	<ul style="list-style-type: none"> <li>▪ Complete by July 18</li> <li>▪ Initial sessions booked</li> <li>▪ Minimum attendance agreed</li> <li>▪ Mapped out key agencies by order of priority for upskilling and targeted approach</li> </ul>	<ul style="list-style-type: none"> <li>▪ Survey service providers post program about changes in knowledge and behaviour</li> <li>▪ Follow up survey on changes in practice</li> </ul>

## Objective 2

To engage with the local community in the development of local falls prevention services and related action plans

Strategies	KPI	Targets	Measuring the impact
Service user representation on falls steering group	<ul style="list-style-type: none"> <li>Ensure engagement and inclusive of service users</li> <li>Develop and implement a wider communication plan</li> </ul>	<ul style="list-style-type: none"> <li>Minimum of 2 service user reps on the steering group</li> <li>Work with existing groups to develop consultation plan Dec 18</li> </ul>	<ul style="list-style-type: none"> <li>Minutes of meetings</li> <li>Qualitative feedback from service user representatives</li> </ul>
Create supportive environment for service user representatives – VCS/Community group/Health watch	<ul style="list-style-type: none"> <li>Each service user representative will be given a background briefing and induction</li> <li>Each service user representative to have service provider mentor</li> <li>All service providers to receive a background briefing</li> <li>All service user representatives feel confident/comfortable to contribute freely at meetings</li> </ul>	<ul style="list-style-type: none"> <li>Completed as part of joining</li> <li>Allocated at point of joining</li> <li>Completed on induction</li> <li>Complete quarterly review with service users</li> </ul>	<ul style="list-style-type: none"> <li>Minutes of meetings</li> <li>Survey of service user representatives – including intermittent review</li> <li>Survey of service providers – intermittent review</li> <li>Survey of service providers – intermittent review</li> </ul>

## Objective 3

To achieve planned and shared responsibility for falls prevention addressing the following components:

- i. Education/awareness
- ii. Exercise/balance programs
- iii. Referral and reporting
- iv. Risk assessment

Strategies	KPI	Targets	Measuring the impact
Facilitate interagency partnerships	<ul style="list-style-type: none"> <li>▪ All key stakeholders involved in steering group</li> <li>▪ Key stakeholders including community representatives contributing time/resource to implementing the falls review and strategy</li> </ul>	<ul style="list-style-type: none"> <li>▪ All stakeholders to be engaged and invited</li> <li>▪ All to agree at establishment of the implementation group</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minutes of meetings</li> <li>▪ Progress reports on implementation of the falls strategy</li> <li>▪ Evaluate and document any changes in practice and the impact they have</li> </ul>
Implementation of local action plans	<ul style="list-style-type: none"> <li>▪ Agreement by all parties to local action plan</li> <li>▪ Local action plans to be implemented</li> </ul>	<ul style="list-style-type: none"> <li>▪ Agreed through Single Health and Well Being-Board</li> <li>▪ Implementation by April 18</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minutes of meetings</li> <li>▪ Feedback from members</li> <li>▪ Evidence of implementation of action plan</li> </ul>
Local action plan containing strategies to address: <ol style="list-style-type: none"> <li>i. Education/awareness</li> <li>ii. Exercise</li> <li>iii. Referral &amp; reporting</li> <li>iv. Risk assessment</li> <li>v. Environmental factors</li> </ol>	<ul style="list-style-type: none"> <li>▪ Local action plans include strategies to address each of the five key components</li> <li>▪ Local action plan and strategy to include evaluation framework to assess:               <ol style="list-style-type: none"> <li>i. Enhanced education awareness</li> <li>ii. Increased number of exercise programs or increased access and participation rates to existing programs</li> <li>iii. Enhanced referral and reporting by service providers</li> <li>iv. Increased use of risk assessment</li> <li>v. Reduced impact of environmental factors</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Action plan agreed through Single Health and Well Being Board with relevant timescales</li> </ul>	<ul style="list-style-type: none"> <li>▪ Content of action plans – Review and provide feedback as required</li> </ul>

## Objective 4

To implement local action plans to reduce the number of falls and fall related injuries of people living in South Tees

Strategies	KPI	Targets	Measuring the impact
Local steering group to implement education/awareness programs for service providers and communities	<ul style="list-style-type: none"> <li>Education/Awareness strategies implemented by adopting best practice models</li> <li>Participation rate in education/awareness events</li> </ul>	<ul style="list-style-type: none"> <li>Complete by September 18</li> <li>Rate to be agreed</li> </ul>	<ul style="list-style-type: none"> <li>Survey service providers awareness and practices comparing pre and post intervention</li> <li>Survey of service user experience</li> </ul>
Local steering group to facilitate development of new exercise/balance programs or increased awareness of target population to existing programs	<ul style="list-style-type: none"> <li>Increased number of exercise/balance programs available across South Tees</li> <li>Reduce health inequalities by replicating the same exercise programs in Redcar that public health currently operate in Middlesbrough</li> <li>Increased participation rate to existing program</li> <li>Sustainability of exercise programs</li> <li>Increased number of referrals to exercise programs</li> <li>Improved strength/balance of participants</li> </ul>	<ul style="list-style-type: none"> <li>Increase to six 15 week sessions per year</li> <li>12 people attending each session</li> <li>Provide evidence of outcomes</li> <li>5% increase in referrals to exercise</li> <li>10% increase in the number of people with improved strength/balance</li> </ul>	<ul style="list-style-type: none"> <li>Public health exercise data</li> <li>Survey participants</li> <li>Review existing and new exercise and balance programs on a regular basis to identify outcomes</li> </ul>
Facilitation of enhanced referral & reporting mechanisms using the Falls Risk Assessment Tool (FRAT)	<ul style="list-style-type: none"> <li>Number of service providers using FRAT for falls</li> <li>Number of interagency referrals via FRAT</li> </ul>	<ul style="list-style-type: none"> <li>20% increase in the number of providers using FRAT for falls</li> </ul>	<ul style="list-style-type: none"> <li>Pre and post service evaluation to establish impact of the intervention.</li> </ul>



# APPENDICES

# APPENDIX 1A

## Summary

Compared with benchmark: Better (Green), Similar (Yellow), Worse (Red), Lower (Blue), Higher (Purple), Not Compared (Grey)



Export table as image

Indicator	Period	Middlesboro		Region England		England		
		Count	Value	Value	Value	Worst/Lowest	Range	Best/Highest
2.24i - Emergency hospital admissions due to falls in people aged 65 and over	2016/17	433	1,971	2264	2114	3,306		1,284
2.24ii - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Persons)	2016/17	180	1,125	1119	993	1,668		612
2.24iii - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Male)	2016/17	79	1,040	913	814	1,659		463
2.24iv - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Female)	2016/17	101	1,191	1300	1152	1,816		712
2.24v - Emergency hospital admissions due to falls in people aged 65 and over - aged 80+	2016/17	253	4,424	5584	5363	8,390		3,146
4.14i - Hip fractures in people aged 65 and over (Persons)	2016/17	154	725	643	575	854		365
4.14ii - Hip fractures in people aged 65 and over (Male)	2016/17	30	372	440	408	815		245
4.14iii - Hip fractures in people aged 65 and over (Female)	2016/17	124	962	785	693	1,004		447

## Similar Local Authorities– Admissions due to falls (over 65)

2.24i - Emergency hospital admissions due to falls in people aged 65 and over 2016/17 Directly standardised rate - per 100,000

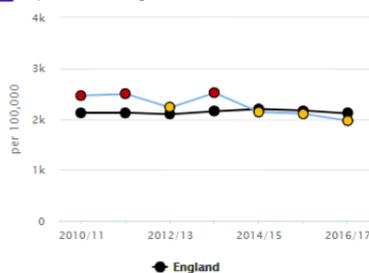
Area	Neighbour Rank	Count	Value	95% Lower CI	95% Upper CI
England	-	210,553	2,114	2,105	2,123
Halton	7	645	3,306	3,051	3,576
Knowsley	2	744	3,011	2,795	3,239
Salford	8	1,057	2,942	2,767	3,125
St. Helens	14	944	2,845	2,664	3,034
Kingston upon Hull	1	942	2,537	2,376	2,706
Sunderland	15	1,219	2,486	2,346	2,632
Gateshead	13	956	2,482	2,327	2,646
Oldham	11	867	2,478	2,316	2,650
Stoke-on-Trent	3	956	2,365	2,217	2,522
Sandwell	5	1,122	2,260	2,129	2,396
Wolverhampton	6	1,007	2,200	2,065	2,341
Tameside	10	774	2,143	1,994	2,300
Rochdale	4	715	2,126	1,973	2,289
Middlesbrough	-	433	1,971	1,788	2,168
Walsall	9	918	1,842	1,724	1,966
Hartlepool	12	313	1,805	1,609	2,018

Source: Hospital Episode Statistics (HES), NHS Digital for the respective financial year, England. Hospital Episode Statistics (HES) Copyright © 2017, Re-used with the permission of NHS Digital. All rights reserved. Local Authority estimates of resident population, Office for National Statistics (ONS) Unrounded mid-year population estimates produced by ONS and supplied to the Public Health England

## Trends– Admissions due to falls (over 65)

2.24i - Emergency hospital admissions due to falls in people aged 65 and over Middlesbrough Directly standardised rate - per 100,000

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Recent trend: --

Period	Count	Value	Lower CI	Upper CI	North East	England
2010/11	508	2,463	2,252	2,689	2,376	2,126
2011/12	518	2,494	2,282	2,721	2,402	2,128
2012/13	476	2,230	2,033	2,441	2,267	2,097
2013/14	529	2,516	2,304	2,742	2,154	2,154
2014/15	462	2,139	1,947	2,345	2,260	2,199
2015/16	453	2,109	1,917	2,315	2,257	2,169
2016/17	433	1,971	1,788	2,168	2,264	2,114

Source: Hospital Episode Statistics (HES), NHS Digital for the respective financial year, England. Hospital Episode Statistics (HES) Copyright © 2017, Re-used with the permission of NHS Digital. All rights reserved. Local Authority estimates of resident population, Office for National Statistics (ONS) Unrounded mid-year population estimates produced by ONS and supplied to the Public Health England

# APPENDIX 1B

## Summary

Compared with benchmark: ● Better ● Similar ● Worse ● Lower ● Similar ● Higher ○ Not Compared

Export table as image



Indicator	Period	Middlesboro		Region England		England		Best/Highest
		Count	Value	Value	Value	Worst/Lowest	Range	
2.24i - Emergency hospital admissions due to falls in people aged 65 and over	2016/17	462	1,627	2,264	2,114	3,306		1,284
2.24ii - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Persons)	2016/17	158	726	1,119	993	1,668		612
2.24ii - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Male)	2016/17	68	655	913	814	1,659		463
2.24ii - Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79 (Female)	2016/17	90	786	1,300	1,152	1,816		712
2.24iii - Emergency hospital admissions due to falls in people aged 65 and over - aged 80+	2016/17	304	4,239	5,584	5,363	8,390		3,146
4.14i - Hip fractures in people aged 65 and over (Persons)	2016/17	141	498	643	575	854		365
4.14i - Hip fractures in people aged 65 and over (Male)	2016/17	38	313	440	408	815		245
4.14i - Hip fractures in people aged 65 and over (Female)	2016/17	103	620	785	693	1,004		447

## Similar Local Authorities- Admissions due to falls (over 65)

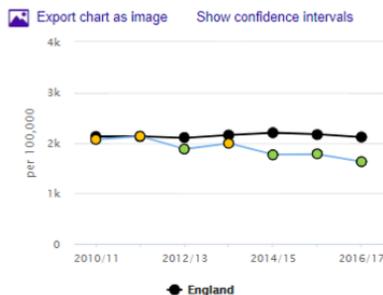
2.24i - Emergency hospital admissions due to falls in people aged 65 and over 2016/17 Directly standardised rate - per 100,000

Area	Neighbour Rank	Count	Value	95% Lower CI	95% Upper CI
England	-	210,553	2,114	2,105	2,123
Wirral	5	2,022	2,939	2,811	3,070
St. Helens	6	944	2,845	2,664	3,034
Barnsley	14	1,232	2,818	2,662	2,980
North Tyneside	3	1,088	2,725	2,564	2,892
Dudley	12	1,650	2,617	2,491	2,747
Sefton	11	1,658	2,529	2,408	2,655
Sunderland	4	1,219	2,486	2,346	2,632
Doncaster	15	1,382	2,485	2,355	2,620
South Tyneside	10	634	2,149	1,984	2,324
Plymouth	7	981	2,072	1,943	2,206
Darlington	8	419	1,991	1,804	2,192
Rotherham	13	946	1,962	1,839	2,092
Hartlepool	2	313	1,805	1,609	2,018
Stockton-on-Tees	9	602	1,796	1,655	1,947
Redcar and Cleveland	-	462	1,627	1,481	1,783
North East Lincolnshire	1	429	1,354	1,228	1,489

Source: Hospital Episode Statistics (HES), NHS Digital for the respective financial year, England. Hospital Episode Statistics (HES) Copyright © 2017. Re-used with the permission of NHS Digital. All rights reserved. Local Authority estimates of resident population, Office for National Statistics (ONS) Unrounded mid-year population estimates produced by ONS and supplied to the Public Health England

## Trends- Admissions due to falls (over 65)

2.24i - Emergency hospital admissions due to falls in people aged 65 and over Redcar and Cleveland Directly standardised rate - per 100,000



Recent trend: -

Period	Count	Value	Lower CI	Upper CI	North East England
2010/11	519	2,068	1,891	2,256	2,376
2011/12	540	2,129	1,951	2,319	2,402
2012/13	494	1,878	1,714	2,053	2,267
2013/14	532	1,991	1,824	2,168	2,154
2014/15	489	1,770	1,616	1,935	2,260
2015/16	498	1,774	1,621	1,938	2,257
2016/17	462	1,627	1,481	1,783	2,264

Source: Hospital Episode Statistics (HES), NHS Digital for the respective financial year, England. Hospital Episode Statistics (HES) Copyright © 2017. Re-used with the permission of NHS Digital. All rights reserved. Local Authority estimates of resident population, Office for National Statistics (ONS) Unrounded mid-year population estimates produced by ONS and supplied to the Public Health England

# APPENDIX 2A

	<b>NICE recommendations</b>	<b>Current provision</b>
<b>1</b>	Period case finding from a healthcare professionals and private sector housing officers.	<p>Across South Tees, there is no proactive case finding being undertaken for those at risk of falls.</p> <p>This is due to the system being reactive and not proactive and the requirement that a person has two falls or more before a referral is generated to the specialist team.</p>
<b>2</b>	Use of 'Get up and go test' to assess gait and balance	Not being used locally in assessment of risk of falls after a lack of take up by stakeholders and partners.
<b>3</b>	Falls clinics: Full evaluations for those who have required medical attention after a fall, or who have abnormalities of gait and/or balance, or who fall frequently	Falls assessment are done in people's homes as opposed to a clinic environment. This was deemed to be more effective and appropriate for the needs of the patient.
<b>4</b>	Exercise programmes: Successful programmes are typically of more than ten weeks duration with the evidence of benefit being strongest for balance training (with Tai Chi a promising, but, as yet, unproven method). Exercise needs to be maintained and sustained benefit.	<p>Public health in Middlesbrough are providing a wide range of exercise classes for over 65's aimed at reducing falls risks.</p> <p>3 Chair based exercise classes per week 2 Tai Chi classes but increasing to 3 due to demand 4 further specialist classes for conditions such as COPD, MS &amp; Parkinson's</p> <p>There is a view to replicate this within Redcar and Cleveland with the successful merger of Public Health across South Tees.</p> <p>Falls Team provide 6 months of exercise (50 hours) using the Otago exercise programme model for all patients</p> <p>Age UK provide a weekly chair based exercise programme for 1st time fallers across South Tees.</p>
<b>5</b>	Environmental modification: This has greatest benefit when older patients at increased risk of falls are discharged from hospital. Evidence shows that environmental modification alone without other interventions has no proven benefit	<p>Cleveland Fire Brigade are delivering Safe and Well visits across South Tees which includes environmental risk factors, along with appropriate interventions or onward referrals to minimise falls risk within the home environment.</p> <p>Both Local Authority OT services provide home interventions to minimise falls risks, along with Staying Put agencies, Handy man services and housing providers.</p> <p>Home visits are completed for all patients who are referred to the falls team to ensure environmental risks are also addressed. Evidence based outcome measures are in place.</p>

	<b>NICE recommendations</b>	<b>Current provision</b>
<b>6</b>	Medications: Patients who have fallen should have their medications reviewed, modified or stopped as appropriate in the light of the risk of future falls. Particular attentions should be paid to older persons taking four or more medications and to those taking psychotropic medications.	Falls Team send letters to GPs requesting medication reviews.  There may be a need for systematic approach to medication review within GP practices.
<b>7</b>	Assistive devices: Assistive devices (bed alarms, canes, walkers, hip protectors etc) are effective elements of a multifactorial programme. Hip protectors do not reduce the risk of falling but the evidence supports their use to prevent hip fractures in very high risk individuals	Hip protectors are recommended when appropriate within the Falls Service.  Bed alarms and other telecare devices are considered as part of coping strategies following a fall and the Falls Team have strong links with Staying put/ Connect and Home call.  Walking aids and other pieces of equipment are provided by physios and OTs following assessment and clinical reasoning in line with guidance.
<b>8</b>	Cardiovascular intervention: Cardiac pacing should be considered for older people with cardiac-inhibitory carotid sinus hypersensitivity who have experienced unexplained falls	This service is operated within James Cook University Hospital however the Falls Team are unable to refer into the service, but rather refer to the GP and ask them to refer.
<b>9</b>	Visual interventions: Patients should be asked about their vision and, if they report problems, their vision should be formally assessed, and any remediable visual abnormalities should be treated. Those with poor vision are not only more likely to fall, they are also more likely to suffer	Visual acuity is assessed by the Falls Service.  From primary care and other health professionals cases are referred to opticians.  The current recording systems can not account for referrals from opticians, ophthalmology or sensory loss into any falls prevention service but further investigation should be undertaken.
<b>10</b>	Footwear interventions: Although there seem to be no experimental studies relating falls to footwear, some trials report better balance and reduced sway through improved footwear	Footcare assessments are undertaken by the Falls Service & referrals are made to podiatry and orthotics as required.  Fire Brigade Safe and Well visits will discuss the need for appropriate footwear.  Podiatry assessment is by referral to podiatry clinic.  Public Health have provided a slipper exchange to people aged 65 and over.
<b>11</b>	Oral and written information should be available for those at risk of falling and their carers	Various forms of falls prevention information is available from a wide range of sources.  There is a lack of consistency and interagency links between agencies to promote falls prevention. Local booklet is available for all areas to use Information is limited on minimising falls risks as a method of self-care.

	<b>NICE recommendations</b>	<b>Current provision</b>
<b>12</b>	Maintenance of basic competencies among health professionals dealing with those at risk of falling	<p>There is currently no formalised training around falls prevention being carried out by the Falls Prevention Service. This is primarily due to the service capacity and demand issues and the service being reactive rather than proactive.</p> <p>Falls training is mandatory for inpatient and community staff at South Tees – this is via e-learning. Falls also a component of frailty training.</p> <p>Falls Team provided training to fire brigade to upskill fire officers to carry out Safe and Well visits</p> <p>CHESSE scheme are providing training to care home staff on a number of key issues with a strong focus on falls.</p> <p>NEAS is providing some limited training on falls prevention in care homes which has been accessed in South Tees, although it is optional.</p> <p>Middlesbrough LA has a specific care home OT resources who is proactively training and upskilling care home staff.</p>

	<b>NICE/RCP requirements on osteoporosis</b>	<b>Current provision</b>
<b>13</b>	Implementation of treatment guidance following the selective case finding approach	<p><b>Osteoporosis Service</b> review fragility fractures in Middlesbrough/Redcar &amp; Cleveland area. Patients over the age of 50 with fragility fracture undergo bone health assessment and intervention as necessary (DXA/Lifestyle and diet advice/treatment/referral to other services).</p> <p><b>Falls Service</b> also completes an osteoporosis screen and identify patients to the osteoporosis service where necessary (patient sustained fragility fracture/ concerns treatment/advice) or highlight fracture risk using FRAX to G.P surgery for review.</p>
<b>14</b>	Provision of DXA (bone densitometry) scanning	DXA scanning is provided by James Cook University Hospital. The Osteoporosis Service refers for DXA at the JCUH site.
<b>15</b>	Housing intervention	Hazards within the home are assessed by staying put agency, along with housing providers. The Falls team assess home hazards and put interventions into place.

## APPENDIX 2B

Name of Organisation/Project	Area covered	Spending on Falls
South Tees CCG Commissioned Falls Service	South Tees	£350,000.00
Handyman & Adaptation Team	Redcar and Cleveland	£460,000.00
Cleveland Fire Brigade	South Tees	£130,000.00
Thirteen Housing Group	Middlesbrough	£600,000.00
Coast & Country Housing	Redcar and Cleveland	£390,000.00
Public Health Exercise Programme	Middlesbrough	£18,000.00
CHES Scheme - BCF pilot - 25%	South Tees	£20,000.00
NEAS Falls Training - Care Homes	South Tees	£10,000.00
Age UK - First time fallers	South Tees	£2,600.00
Staying Put Agency (staffing) - 10%	Middlesbrough	£37,600.00
Disabled Facilities Grants (adaptations) - 10%	Middlesbrough	£149,778.00
Handyperson Service (staffing) - 30%	Middlesbrough	£48,720.00
Minor Adaptations (equipment) - 30%	Middlesbrough	£30,900.00
Telecare (equipment) - 60%	Middlesbrough	£32,000.00
OT Care Homes (staffing) - 100%	Middlesbrough	£32,000.00
Fire Brigade (equipment) - 100%	Middlesbrough	£12,500.00
<b>Total spend</b>		<b>£2,324,098.00</b>

<b>Middlesbrough Community Groups</b>	<b>Service offered</b>	<b>Value</b>
Polton Allstars	50+ male walking football & female 14-25yrs	£1,020.00
Health through activity (Htag)	constituted group	£1,940.00
Lunch bunch	constituted group	£1,400.00
West Middlesbrough Walkers & Strollers	walks and strolls plus 2 days out for longer walks	£1,100.00
BOLO	zumba/indian dance	£1,680.00
Stainton Healthy Exercise	chair based exercise	£625.00
North Riding Football Association	walking football	£1,900.00
easterside active for life	sport coach and equipment	£600.00
TVCCC	Tai Chi sessions	£2,000.00
aapna	equipment and transport	£1,244.00
aapna	equipment and transport	£1,888.00
C'Land Alzheimers Residential Centre Ltd (Cleavearc)		£4,000.00
Tees Valley Walking Football Club		£1,840.00
Ormesby Table Tennis Club – dementia club		£5,000.00
TEESSIDE STROKE CLUB		£900.00
EASTERSIDE ACTIVE for LIFE		£270.00
Senior Over 50s		£500.00
<b>Total spend</b>		<b>£27,907.00</b>

# APPENDIX 2C

## Return on Investment of Falls Prevention Programmes

### Interventions Costs and Savings

There are 3 programmes where there was evidence of cost-effectiveness – Falls management exercise (FaME), Otago strength and balance exercise and home assessment and modification. Home assessment and modification has the highest return on investment, followed by Otago exercise and then FaME.

The total cost for implementing the programmes for the specified target populations are shown below. These costs are based on a series of pre-defined unit costs and assumptions regarding the implementations. The tables present the total discounted costs, both on the target population and on a per person basis. The third column presents the difference between the intervention and usual care, with a positive value indicating the intervention causes an overall increase in costs and a negative value indicating a cost saving.

Impact on costs (by total population):

	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
Intervention costs	£333,414	£0	£333,414	£662,927	£0	£662,927	£20,823	£0	£20,823
Primary/secondary care costs	£1,146,751	£1,406,760	-£260,009	£1,389,228	£1,887,551	-£498,323	£171,270	£223,541	-£52,271
Social care costs	£301,733	£370,146	-£68,413	£365,533	£496,652	-£131,119	£45,065	£58,818	-£13,754
<b>Total</b>	<b>£1,781,898</b>	<b>£1,776,906</b>	<b>£4,992</b>	<b>£2,417,689</b>	<b>£2,384,203</b>	<b>£33,486</b>	<b>£237,158</b>	<b>£282,359</b>	<b>-£45,202</b>

Impact on costs (per person):

	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
Intervention costs	£222	£0	£222	£222	£0	£222	£247	£0	£247
Primary/secondary care costs	£764	£937	-£173	£764	£937	-£173	£2,035	£2,656	-£621
Social care costs	£201	£246	-£46	£201	£246	-£46	£535	£699	-£163
<b>Total</b>	<b>£1,187</b>	<b>£1,183</b>	<b>£3</b>	<b>£1,187</b>	<b>£1,183</b>	<b>£3</b>	<b>£2,818</b>	<b>£3,355</b>	<b>-£537</b>

The following table shows the financial benefit of each intervention per person and the benefit to cost ratio. The figure is presented as a ratio with the return for every £1 invested shown. If the return (the number on the left of the ratio) is lower than £1 then this indicates there is a net loss. Alternatively, if the return is higher than £1 then there is a net gain on the initial investment. For example, home assessment and modifications show £3.17: £1.00, which indicates that for every £1.00 spend on the intervention there is a return of £3.17, which equates to benefits of £2.17.

	FaME	Otago strength & balance exercise	Home Assessment & Modification
Financial benefits of Intervention	£219	£419	£784
Benefits to cost ratio	£0.99 : £1.00	£0.95 : £1.00	£3.17 : £1.00

### Societal Costs Savings

The following table presents the impact of the interventions and usual care on quality of life, as measured by quality-adjusted life years (QALYs). One QALY is equal to 1 year of life in perfect health. A higher QALY score indicates that the intervention is having a positive impact on the quality of life of users, thus improving their overall outcomes. The increase in return on investment occurs because interventions also has a positive and quantifiable impact on quality of life, which can then be monetised. Therefore, the societal benefit to cost ratio is also presented, in which benefits are classified as the number of additional QALYs generated by the intervention plus the cost savings from the intervention. To allow inclusion, QALYs are converted to money using a value of £60,000 per additional QALY.

Impact on quality of life:

	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
Total QALYs	4257	4250	7.14	4251	4237	13.79	236	234	1.45
QALYs per person	2.8349	2.8301	0.0048	2.8305	2.8213	0.0092	2.8001	2.7829	0.0172
Value of QALYs per person	£170,094	£169,809	£285	£169,832	£169,281	£551	£168,003	£166,973	£1,031

	FaME	Otago strength & balance exercise	Home Assessment & Modification
Societal benefits of Intervention	£504	£970	£1,815
Benefits to cost ratio	£2.27 : £1.00	£2.20 : £1.00	£7.34 : £1.00

## Falls-Related Costs and Savings

The tables presents the numbers of falls and the primary and secondary care costs for all possible events relating to a fall if no intervention is done and when an intervention is in place which, based on evidence reduces the number of falls. Also the care costs relating to falls in the older population. This specifically focuses on costs relating to new admissions to a care home following a fall. Although some of the interventions are cost to benefit neutral, the savings across the NHS and local authority are significant.

Cost breakdown by falls-related event, total population:

Event	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
GP visit	£6,982	£8,566	-£1,583	£8,459	£11,493	-£3,034	£1,043	£1,361	-£318
Ambulance call-out	£54,749	£67,163	-£12,414	£66,326	£90,117	-£23,791	£8,177	£10,673	-£2,496
A&E visit - no admission	£17,856	£21,904	-£4,049	£21,631	£29,391	-£7,759	£2,667	£3,481	-£814
A&E visit - admission	£10,705	£13,132	-£2,427	£12,969	£17,621	-£4,652	£1,599	£2,087	-£488
Hospital inpatient - non-hip	£584,058	£716,485	-£132,426	£707,556	£961,360	-£253,804	£87,231	£113,853	-£26,623
Hospital inpatient - hip	£383,578	£470,549	-£86,971	£464,685	£631,369	-£166,685	£57,288	£74,773	-£17,484
<b>Total</b>	<b>£1,057,929</b>	<b>£1,297,799</b>	<b>-£239,870</b>	<b>£1,281,625</b>	<b>£1,741,350</b>	<b>-£459,725</b>	<b>£158,004</b>	<b>£206,227</b>	<b>-£48,223</b>
<b>Social care cost</b>	<b>£301,733</b>	<b>£370,146</b>	<b>-£68,413</b>	<b>£365,533</b>	<b>£496,652</b>	<b>-£131,119</b>	<b>£45,065</b>	<b>£58,818</b>	<b>-£13,754</b>

Number of falls-related events, total population:

Event	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
Total falls	1,934	2,373	-439	2,348	3,184	-836	289	377	-88
Serious falls	387	475	-88	470	637	-167	58	75	-18
Serious falls requiring a GP visit	197	242	-45	239	325	-85	30	38	-9
Serious falls requiring an ambulance call-out	236	289	-54	286	388	-102	35	46	-11
Serious falls requiring an A&E visit	309	380	-70	376	509	-134	46	60	-14
A&E attendances requiring admission	108	133	-25	131	178	-47	16	21	-5
Admissions that are due to hip fractures	75	92	-17	91	123	-32	11	15	-3
Admission due to non-hip fracture	34	41	-8	41	55	-15	5	7	-2
No. of patients newly transferred to a care home	10	5	5	13	6	6	2	1	1

Cost breakdown by sector (excluding intervention costs), total population:

Sector	FaME			Otago strength & balance exercise			Home Assessment & Modification		
	Intervention	Usual care	Difference	Intervention	Usual care	Difference	Intervention	Usual care	Difference
<b>NHS</b>	<b>£1,168,977</b>	<b>£1,434,025</b>	<b>-£265,048</b>	<b>£1,416,154</b>	<b>£1,924,135</b>	<b>-£507,981</b>	<b>£174,590</b>	<b>£227,874</b>	<b>-£53,284</b>
<b>Local authority</b>	<b>£279,507</b>	<b>£342,881</b>	<b>-£63,374</b>	<b>£338,608</b>	<b>£460,068</b>	<b>-£121,460</b>	<b>£41,745</b>	<b>£54,486</b>	<b>-£12,741</b>

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