Southwark Falls Prevention & Management: discovery phase report

Social Care Digital Innovation Programme

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Health Innovation Network South London

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Executive summary

This report outlines the 'discovery phase' of a falls prevention and management project undertaken as part of the 'Social Care Digital Innovation Programme' (SCDIP), funded by NHS Digital.

The aim of the project was to explore potential digital solutions that could address some of the challenges faced by Southwark Council, residents and the wider health and care system in managing and preventing falls. During the discovery, Southwark Council and partners set out to gain a better understanding of the current falls system and the experience of users (both residents and staff).

Health Innovation Network (HIN) is the Academic Health Science Network (AHSN) for south London and was the chosen discovery partner. Together with the core project team, HIN conducted user-research with residents and people working in the system. This work took the form of interviews, focus groups, electronic surveys, workshops and 'in person' surveys.

Key Findings:

- Residents believed falls were an inevitable part of getting older and had little awareness of how to prevent falls from occurring in the future.
- Residents who had participated regularly in exercise in the past, were keen to continue this into later life. However, those that hadn't previously engaged in exercised expressed a lack of motivation to start in later life.
- Whilst some residents regularly used and liked technology such as tablets and smart phones they often required considerable help and support from family or friends.
- Conversely, some residents felt technology 'wasn't for them' and is not something they would consider trying.
- Staff working in the system described a gap in the knowledge base of some frontline staff and felt it important both care and non-care staff had an increased understanding and awareness of the risk and prevention of falls as well as reporting.
- There are various agencies in the borough providing high quality services relating to the prevention and management of falls. However, communicating across multiple agencies, using different IT systems was a challenge.
- Falls prevention work needs to start much earlier and be 'everyone's business'.

The team used the feedback and intelligence to identify three broad areas for development that could be supported by a digital solution. These were: (1) Maximising the use of existing data; (2) Identifying technologies to address individual risk factors; and (3) Utilising digital tools for training, awareness and navigation. Through a process of prioritisation, the core team decided to focus on the third area 'digital tools for training, awareness and navigation. Colleagues from HIN explored the digital marketplace for emerging technologies designed for these purposes and identified a number of concepts and tools which were then presented to stakeholders at a workshop. Participants in the workshops were asked to review and score each solution, considering potential benefits, costs and deliverability. The chosen solution was a risk stratification and action planning tool designed by a company called Safe Steps. The app-based tool was already in use in care homes in North-West England and had shown some promising results. The proposal for Southwark was to co-design a community version of the app for use by staff working in residents' own homes. The feedback helped to frame subsequent conversations with Safe Steps and led to the identification of specific development areas such as a Carers Companion App and an automatic referral function. The findings from the discovery phase and a proposal for implementation were presented to the Local Government Association (LGA) and NHS Digital in October 2019.

Following a successful application process the core project team secured funding to develop and implement the chosen solution described above. This is an exciting opportunity for all relevant stakeholders to shape, design and test an innovative digital solution to falls prevention and management across both Southwark and Lambeth.

Context

Falls have a devastating impact on a person's life. They cause distress, injury, loss of confidence, loss of independence and can lead to isolation, depression and mortality. They also put significant pressure on our health and care system.

Southwark's over-65 population is predicted to rise by 40% over the next 10 years. This will put increasing pressure on our health and social care system unless we improve approaches to the prevention and management of common conditions. As a preventable health issue which affects about a third of over-65s annually and which accounts for half of all accident related hospital admissions, falls management and prevention is an area where we can make significant system-wide savings and improve outcomes for our residents (Public Health England 2019).

Over the past three years Southwark has seen local investment in this area through an improved offer of Strength and Balance services, Telecare and Reablement pathways. This has resulted in some improvement in rates and outcomes. However, Southwark recognise it needs to go further to have a meaningful impact.

In April 2019 Southwark Council was successful in securing funding from the Social Care Digital Innovation Programme (SCDIP). The aim was to explore "**how the prevention and management of falls in Southwark could be improved to reduce the impact on residents and the wider health and social care system**". The following report is an analysis and summary of the information collected during the discovery phase.

The London Borough of Southwark

Home to some 312,000 people, Southwark is a patchwork of communities: from leafy Dulwich in the south, to bustling Peckham and Camberwell, and the rapidly changing Rotherhithe peninsula. Towards the north, Borough and Bankside are thriving with high levels of private investment and development. Yet other areas continue to be affected by high levels of deprivation, resulting in poorer health outcomes for residents.

Just over half of Southwark's residents are White, a quarter Black and a quarter Asian, mixed or other ethnicity. The ethnic diversity of the borough varies markedly across age groups and the population under 20 is much more diverse than other age groups, with a similar proportion of young people from White and Black ethnic backgrounds. According to the 2011 census, 39% of Southwark residents were born outside the UK, showing that Southwark is both ethnically and culturally diverse.

The population of Southwark is growing rapidly, with projections suggesting there will be an additional 63,000 people in the borough by 2026. Over the coming decade Southwark's population is predicated to grow older, with the largest relative increase in those aged between 60-69. Population growth is set to take place across almost all parts of the borough, with the largest increases expected in redevelopment areas around Old Kent Road, South Bermondsey and Elephant and Castle.

While there has been significant regeneration in Southwark in recent years, the borough remains one of the most deprived in the country. Southwark is the 40th most deprived of 326 local authorities in England and ninth most deprived out of 32 local authorities in London. Two in five Southwark residents live in communities ranked in the 20%[1] most deprived areas nationally. By contrast, only two in one hundred residents live in communities considered the least deprived nationally. Deprivation has an important impact on health, which is clearly exemplified by the differences in life expectancy across the borough. Women living in the most deprived areas in Southwark live on average 5.5 years less than their lesser deprived neighbours. For men the discrepancy is even larger at 9.5 years and this gap has been widening over time.

Social Care Digital Innovation Programme

The LGA in collaboration with NHS Digital grant funded 12 councils (in England) to deliver digital innovation in social care projects. The selected projects are varied and range from new assistive technology to data analytics to predict demand[2].

Through this fund the 12 successful councils have been supported to use the principles of service design to generate new ideas to improve social care, seeking innovative uses of digital technology to enhance service user's experience and/or enable better service planning and commissioning. As part of the programme the LGA ran two workshops for the project teams to come together in the north and south of England to facilitate ideas and support the development of the projects.

The core project members included an Occupational Therapy Advanced Practitioner in Telecare an External Funding Lead from Southwark Council, a Programme Manager from Integrated Care at Guy's and St Thomas' and Project Managers from Health Innovation Network.

[1] Our Borough, 2018: public health summary for Southwark. London Borough of Southwark. Published 18 May 2018
[2] https://www.local.gov.uk/our-support/our-improvement-offer/care-and-health-improvement/informatics/local-investment-programme

The aims of the discovery phase

Funding was split into two phases: a discovery phase (April to September 2019) and an implementation phase (December 2019 to December 2020). During the discovery phase, councils were supported to explore and understand the needs, behaviours and experiences of residents including those who receive formal and informal care, social care providers, health partners and the voluntary sector. The information and learning gathered from the discovery phase will be used to generate detailed proposals for the implementation phase[3].

The 2019-21 programme aimed to:

- use principles of service design to address social care problems differently
- develop collaborative, innovative and person-led solutions to social care problems
- measure the benefits, share learning and practice to encourage wider action.

Engagement Activities

As the chosen discovery partner, HIN undertook a series of activities to understand the current falls pathway and how the system works as a whole. We wanted to understand the needs, behaviours and experiences of a diverse range of stakeholders in relation to their experience of the prevention and management of falls in Southwark.

We asked:

- What happens when someone falls?
- How do services respond and interact with residents? How do they link with each other?
- How great is the awareness of risk factors and the preventative actions and services that can be utilised (from the perspective of both residents and staff working in the system)?
- What are the attitudes towards technology? What technology are people confident in using? What are they aware of and willing to try?

Only views from people living, working or caring for someone in the borough of Southwark were included. The engagement exercises were conducted over a four-month period. Following this, all information was assimilated and analysed by the HIN before being presented to an expert stakeholder group.

[3] https://www.local.gov.uk/our-support/our-improvement-offer/care-and-health-improvement/informatics/local-investment-programme.

Table 1 Engagement activities and their purpose

Activity	Purpose
Service mapping workshop	To create a visual representation describing the current landscape of services involved in the prevention and management of falls in Southwark and how they relate to one another.
Health and Social Care stakeholder survey (electronic)	To gain an understanding from a range of professionals working in health and social care on current falls service provision, the use of technology and how the system works as a whole.
Health and Social Care professional interviews	Building on the stakeholder survey, a number of teams and individuals provided in-depth insights into the current provision of falls services, what is going well and where there might be opportunities to innovate and improve.
Focus groups	To explore residents' beliefs, thoughts and experiences around falls, physical activity and exercise and technology. This was done in partnership in Age UK and Southwark carers.
Surveying residents at a local supermarket	To capture the experiences, beliefs and opinions of Southwark residents who were deemed to be at low risk of falling.
Persona mapping	To understand the needs and goals of a person at high and low risk of falling, ensuring solutions, products and services are developed based upon these.
In-depth interview with a Southwark resident	One resident participated in an in-depth interview. This was an opportunity to sense check the persona mapping work and ensure this truly reflected the views and experiences of people.
Attending a Tenants Residents Association meeting	To explore residents' (of all ages) beliefs, thoughts and experiences around falls, physical activity and exercise, and technology.

Persona mapping

Personas are used to map the personal, lived experience (or journey) of a service user or group of service users who share similar characteristics. They do not map specific services or systems, instead they create reliable and realistic representations of key stakeholder journeys. This is particularly helpful when trying to meet the needs of a broad range of stakeholders. Personas are a useful way to develop solutions, products and services based upon the needs and goals of the users. These representations are based on qualitative and quantitative research and help to focus decisions by adding a layer of real-world consideration to the conversation. Additionally, they can help uncover gaps and identify opportunities. They offer a quick and inexpensive way to test and prioritise assumptions and ideas when it is not possible to engage with the full range of end users.

Personas were used as part of this discovery to represent and understand the experience of people at high risk and low risk of falling. Figure's 1 and 2 demonstrate these two user journeys.

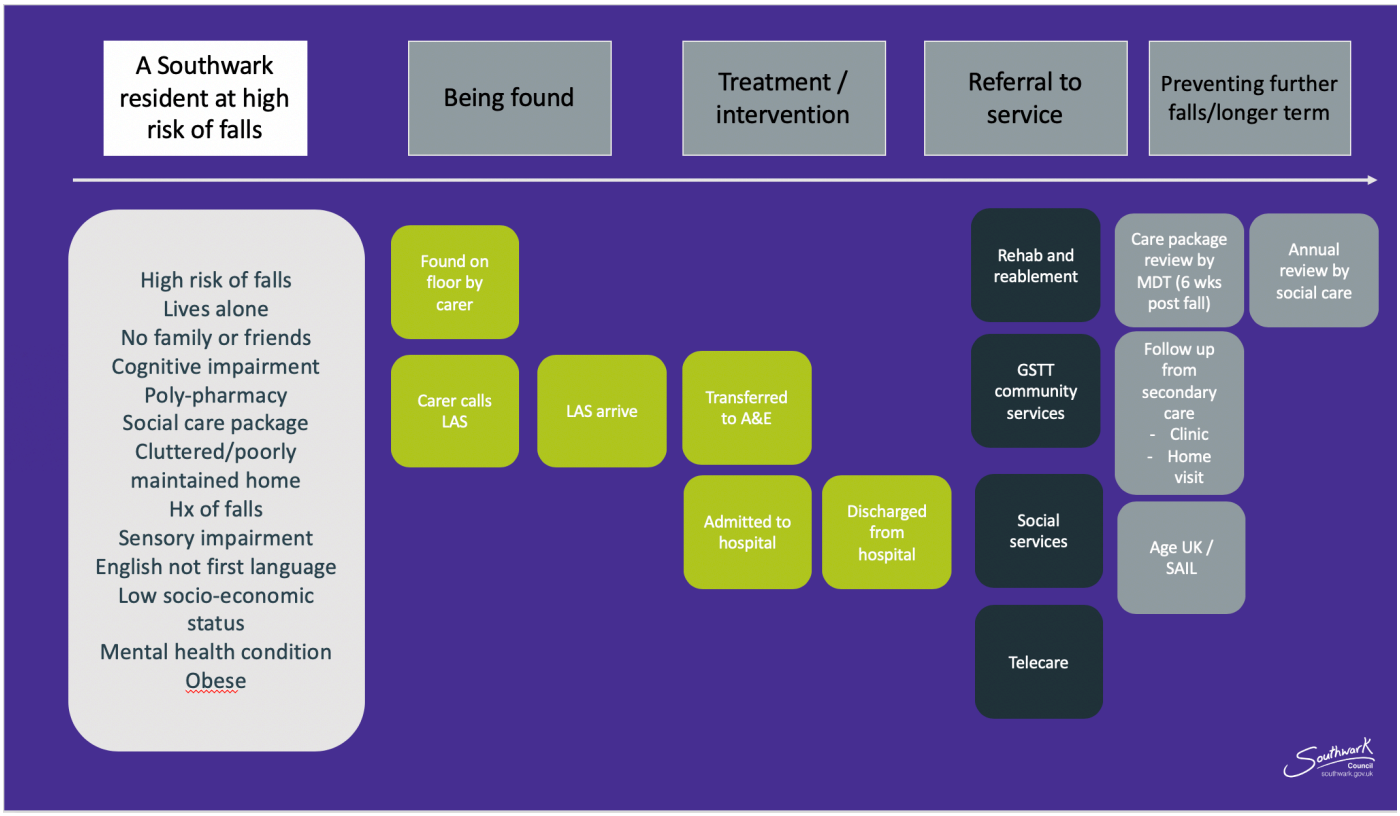


Figure 1 A schematic of the journey of a Southwark resident at 'high risk' of falling

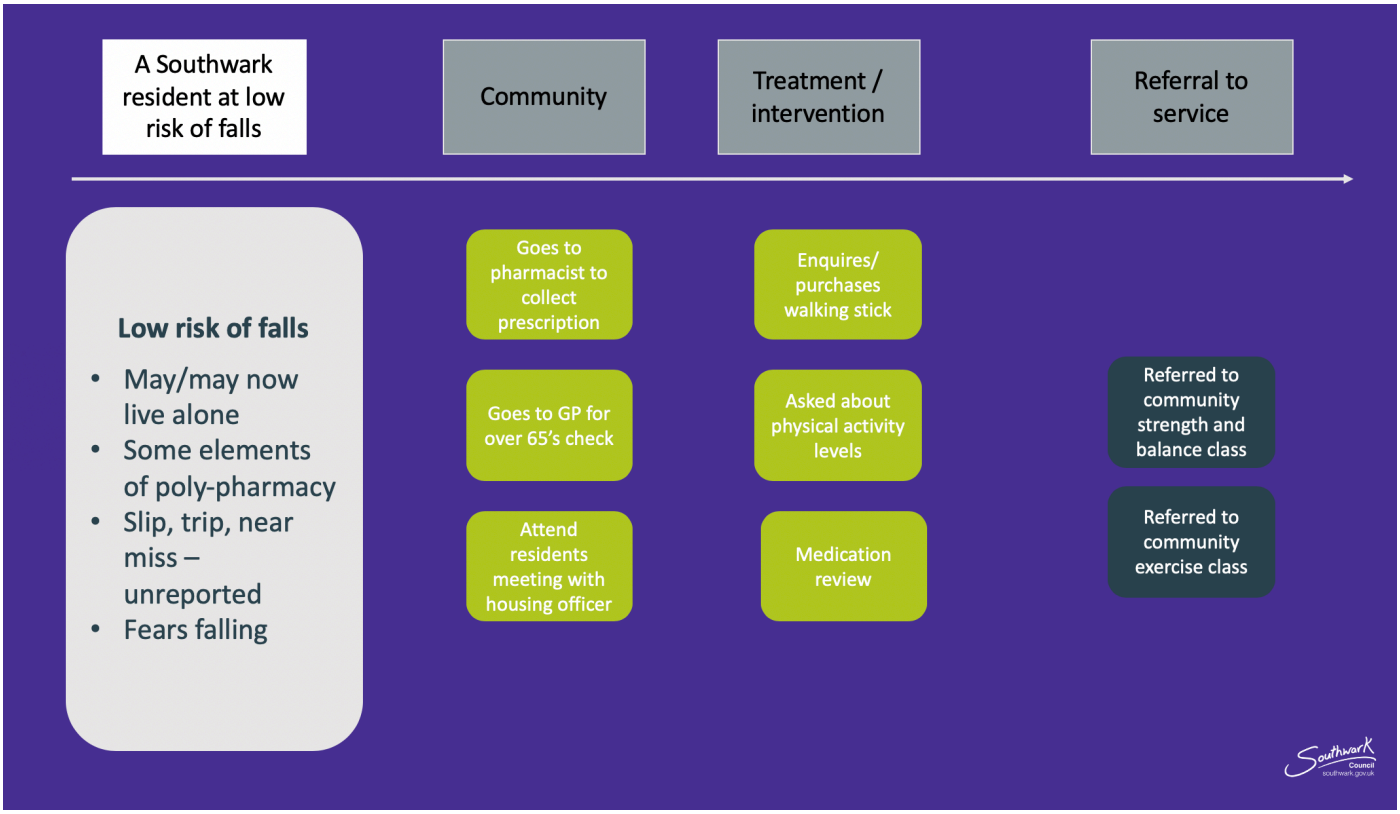


Figure 2 A schematic of the journey of a Southwark resident at 'low risk' of falling

Seeking the views of Southwark Residents

Focus Groups

During the discovery phase, focus groups were conducted. Two focus groups were held at the Age UK Yalding Healthy Living Centre, they aimed to capture the views and experiences of Southwark residents. One of the focus groups was held with a Black Elders group. The final focus group was held at Southwark Carers. Southwark Carers is a charitable organisation which aims to support people in caring roles.

The aim of the focus groups was to understand how often, and the type of falls people experienced, their thoughts and beliefs about falling and their views towards technology (specifically health-related technology). Following the focus groups, both sessions were transcribed and analysed by HIN team members.

Survey of Local Residents – Morrisons supermarket and Bells Gardens Tenants and Residence Association

Bells Gardens Tenants and Residents Association

We were invited to attend a committee meeting at the Bells Gardens Tenants and Residents Association (TRA) in Peckham. We heard from members about a successful petition for an outdoor activity area, comprising of outdoor gym equipment to exercise on, which had been implemented and was in current use. The TRA committee is formed of people of different ages all living within Bells Gardens. Many of the residents present at the meeting were not over 65 years of age.

Survey of Local Residents – Morrisons supermarket, Peckham

Southwark residents who were independent and at low risk of falling were also sought out and approached to participate in a short survey. The survey was conducted on a weekday morning in July, in the foyer of a local supermarket. The aim of the survey was to understand participants experiences of falling, using technology and physical activity/exercise. A total of five residents gave written consent to participate in the survey.

The key findings are summarised in the box below:

Key findings:

- Older adults believe falling is an inevitable consequence of ageing
- Residents have limited awareness of falls risk factors and preventative measures
- Exercise is not a common feature of an older adults' lifestyle, especially if they had not participated in formal exercise earlier in their lives
- Technology usage and confidence in using technology varies significantly between residents.
- Often residents required support from friends and family to use technology

Seeking the views of Health and Social Care Professionals

Service Mapping Workshop

On the 30 April 2019, 18 stakeholders representing several organisations attended a workshop. Organisations included:

- Southwark Council
- Southwark Clinical Commissioning Group
- Age UK
- Guy's and St Thomas' NHS Foundation Trust
- Health Innovation Network

Participants were asked to work together to map services and activities relating to the phases of the falls pathway (what is happening currently, not what people thought should be happening); pre fall, fall and post fall. Information was collected on post-it notes and flip chart paper, photographs were taken. Attendees worked in groups discussing 'what is going well/not going well in the current system, what digital technology is in place/might there be an opportunity to use'. This information can be seen below in Table 2.

Table 2 Opportunities, challenges and technology discussed and captured during the workshop

Opportunities
• *Greater opportunity to share information and referrals* • *Cross-boundary working* • *Assessment of patients who have fallen and the reasons why e.g. people who are not conveyed to hospital by London Ambulance Service* • *Early prevention and reducing repeat falls* • *Awareness raising of falls risk* • *Better links between service (e.g. strength and balance and health management post fall)*
Challenges

• *Reaching the most vulnerable people to provide information to reduce the risk of falls* • *Working together as a system and having effective pathways with timely access and co-ordination across services.* • *Unaware of existing services / falls teams* • *Making people aware of their risk of falling* • *Communication / co-ordination between teams, especially on discharge from hospital* • *Engaging patients and limited referral options* • *Lack of follow up after equipment is issued* • *Care providers not following care plans and/or alerting adult social care to a change in needs, cognition or function* • *The environment e.g. no lift in block of flats – people then use stairs when unsafe*	
Technology	***New digital technology***
• *Telecare - pendent alarms* • *Key safes* • *Bed/chair sensors*	• *Birdie* • *MySocial* • *Sparko*

Following the workshop, members of the HIN team analysed the data, removing duplicated information and grouped information into themes. The information was then translated into two schematics (appendix 1 and appendix 2). The schematics were checked for accuracy by professionals throughout the remainder of the discovery phase and updated as needed. During the workshop we also asked participants to identify key stakeholders who were absent but who could help us to further understand the pathway and staff experience. The schematics demonstrated a plethora of services operating in Southwark with varying degrees of integration and collaboration.

Electronic surveys and in-depth interviews with Health and Social Care Professionals

Prior to the initial stakeholder workshop, a number of experts working in falls prevention and management services across Southwark were invited via email to participate in an electronic survey. The survey asked participants to outline the services they work for, the challenges they perceive with the current falls prevention and management services, opportunities for improvements and digital technology in current use. Twelve participants responded to the survey from the following organisations and/or profession roles:

- Commissioners
- Team leader from Southwark Monitoring Alarm Response and Telecare Team (SMART)
- Public Health representative
- Clinical lead Community Rehabilitation and Falls Service
- Advanced Occupational Therapist
- London Ambulance Service representative
- Age UK Lewisham and Southwark representative
- General Practitioner
- Head of Community Nursing
- Housing Adaptations Team leader
- Domiciliary Care Provider
- Social Worker

The information collected from the electronic surveys assisted the team in both planning the workshop and deciding who it would be beneficial to interview. The interviews gave a deeper understanding of current service provision and facilitated discussion on ideas and opportunities for improvements with services. Nine Health and Social Care professionals were subsequently interviewed, the themes identified are summarised in table 3 below, with opportunities derived from what was heard.

Table 3 Themes and opportunities from health and care professional interviews

Theme	Opportunity
Digital technology Staff told us although some technology was actively being used by residents this was mostly limited to pendent alarms and assistive devices, which were issued/purchased following a fall. Technology could be used more pro-actively to prevent falls. Some of the challenges associated with technology included up-front and ongoing cost and uptake of tech amongst residents.	**Digital technology could be used more proactively to identify those at risk of falls**
Training needs Interviewees felt there was a gap in the knowledge base of some domiciliary staff/carers and felt it was important to ensure staff working with residents had an increased understanding and awareness of falls risk and reporting. This would enable earlier identification and therefore prevention in those at risk of falling. There was some indication that digital/online training could be beneficial.	**Digital tools/resources to support training and awareness of falls risk factors and preventative action.**
Systems There are challenges to working across the system, in a joined-up and coordinated way. The issue is exacerbated by issues such as, not being in the same physical location as other teams, lack of time and no shared IT systems. As such this can affect the quality, quantity and appropriateness of referrals.	**Improve referral processes and pathways and provide effective communication channels**
Data Challenges were conveyed about the reporting of falls, with subsequent gaps evident in the data. It was felt data provides a useful tool to understand the challenges and opportunities within and across the system.	**Agree on what baseline data for falls could be collected in Southwark. Once established this could feed into data modelling, prevalence and risk stratification tools.**
Workforce High staff turnover can result in capacity issues as well as gaps in experience, knowledge and skill set.	**To standardise the knowledge base of all staff working in falls prevention and management.** **Use a portable digital passport to record and measure training** **Dedicated roles/posts for falls within organisations in the system to improve care planning and contribute to the prevention of further falls.**

Summary

The prevention and management of **falls is a complex and challenging problem**. Service mapping helped to understand current service provision, how services are delivered and by whom. Although, there are many examples of high quality, evidence-based services such as strength and balance classes, these services are often delivered in silos without easy, clear ways of communicating with other services and organisations. The main challenges are multi-system, multi-service working, getting organisations that work together not just alongside each other. Furthermore, **residents find the system difficult to navigate** and are unsure of which service to access, how and when to do so, often leading to inertia.

The use of 'personas' helped us understand users' experiences and needs. By designing solutions for those most and least at risk of falls we can design a solution to meet a broad range of needs. Personas also helped us understand where there are gaps in current service provision and opportunities to enhance residents' experiences, using digital technology.

Focus groups and in-depth interviews helped us to identify common themes from a diverse range of Southwark residents. **Falls were seen as an inevitable consequence of ageing by most residents we spoke to**. They were unaware of self-management strategies which could help prevent a fall or reduce their risk of further falls and instead looked to external factors such as uneven pavements and litter in the streets to explain their falls. Furthermore, many residents and their carers described a sense of embarrassment around falling. **Falls led to a loss of self-confidence and independence**, increasing their reliance on friends, family and carers to help them complete activities of daily living such as shopping and catching a bus.

We found **digital technology is highly acceptable to some residents** (with support from others) **and completely not to others**. There is large variation in uptake and use. Those using technology welcome further innovations. However, often those who were not using technology dismissed the opportunity to incorporate it into their lives.

Exercise is integral in the management and prevention of falls. **Residents who have been active throughout their lives are much more likely to seek opportunities to continuing exercising**. However, **those who have not engaged in exercise are unlikely to change these behaviours**. For many older adults' activities of daily living are perceived as 'keeping active' e.g. walking and doing their own shopping. Despite being physically active it is noted from speaking with professionals these activities do not necessarily improve strength and balance and thus may not reduce the overall risk of a person falling.

Translating the discovery into solutions

Approach and methodology

The HIN's Technology team undertook a series of activities to understand the opportunities for digital innovation in falls prevention and management in Southwark.

The explorative activities involved the following stages:

1. Using the system maps and 'personas' produced during the discovery, we explored the potential use of technology throughout the pathway:
    - We reviewed digital falls prevention strategies in other councils, particularly those involved in the Social Care Digital Innovation Programme (e.g. Stockport, Essex, Wirral)
    - We explored digital technologies designed to address specific risks associated with falling e.g. polypharmacy, cognitive impairment
    - We reviewed initiatives supported by other AHSN's (e.g. East Midlands and Kent Surrey Sussex AHSN) around falls prevention and care for older people (e.g. Technology Integrated Health Management test bed).
    - We worked with informatics teams to understand data available around falls, risk factors and causes
    - We explored where Southwark already had falls related technologies in place
2. Based on this, we agreed three broad areas of focus for further exploration. Within these themes, we explored specific technologies, and assessed their level of potential benefit (in terms of population size and impact), 'deliverability', and estimated costs.
3. After filtering down the list of possibilities to a shortlist, we spoke to a small number of technology developers/providers to understand more about their product, costs, and interest in partnering with Southwark.

Findings

After reviewing the early findings, the project team decided to focus primarily on 'preventative' technology, rather than falls detection or post-fall support. The discovery had demonstrated a high standard of assistive technological solutions addressing the latter already in place in Southwark.

Three areas of focus

Based on the findings from the discovery and the subsequent decision to focus on preventative technology, we isolated three broad opportunity areas for digital in the Southwark falls system:

Below is a brief description and analysis of the feasibility of each of the three areas and an explanation as to why the core project team decided to focus on the **"Digital training/ Awareness/ Navigation"** area. A complete SWOT (strengths, weakness, opportunities and threats) analysis of each of these areas can be found in appendix 3.

1. Maximising the utilisation of existing data (rejected priority theme)

The SMART team have an emerging dataset of all the interactions between residents and SMART telecare services. An analysis of this dataset could shed light on the reasons why people fall, and causes of false activations of pendant alarms/sensors (i.e. where they are too sensitive or being used by residents who are isolated or lonely). Measures could then be taken to prevent additional falls (by addressing the risk factors recorded by the SMART team) and avoid unintentional/unnecessary activations (potential for replacing overly sensitive pendants/sensors or offering befriending services to residents).

However, this data set is restricted to the small subset of the population that is enrolled in the telecare service and therefore would not be fully representative of Southwark residents. Southwark only includes falls recorded at hospital emergency departments, so falls not requiring hospital care are not taken into account with reasons for falling not always being recorded.

Although the team believes that there is significant benefit in maximising the use of existing data, this was considered out of scope for the Social Care Digital Innovation Programme as:

- Developing a pan-Southwark dataset would go beyond the permitted timescale of the programme, as recording systems for falls not requiring care would need to be established and embedded
- An analysis of the SMART dataset would probably have a bigger impact on *management* than on *prevention*.

2. Technologies addressing individual risk factors (rejected priority theme)

Digital technologies could be used to address specific risk factors that emerged from the literature and the discovery phase: polypharmacy, muscle weakness, cognitive impairment, fear and anxiety.

- **Polypharmacy:** there is a well-established link between uncontrolled polypharmacy and risk of dizziness and/or disorientation, which can lead to falls. Existing digital solutions such as digital reminders or automated pill dispensers can help improve medication adherence and therefore reduce dizziness/disorientation risk. **The team decided not to explore this area further** as these technologies would only prevent falls indirectly and would only be effective where polypharmacy is the main risk factor.

- **Muscle weakness:** strength and balance exercise programmes are evidence-based interventions that have been shown to significantly reduce fall rates. Southwark has invested in expanded its service provision over the past 3-4 years, with a range of exercise providers in Southwark (including Age UK and GSTT). The discovery phase revealed engagement of exercise-reticent individuals, adherence and continuation of exercises after discharge, remain significant challenges.

  It was felt a number of digital solutions could help address these challenges. Apps and video-games providing feedback to residents on how they are performing their exercises could help complement face-to-face classes and allow people to continue exercising after being discharged from the service. These could be accompanied by virtual reality enhanced exercises or even "intelligent socks" that monitor pressure points in the feet, providing feedback on performance. However, with little evidence of increased engagement and adherence to exercise following implementation of these solutions and concerns about ongoing costs**, the team decided not to explore this area further.**

- **Cognitive impairment, fear and anxiety** are associated with an increased risk of falls. There are a number of apps and online tools to help reduce fear and anxiety and stimulate cognitive function. At present there is little evidence of effectiveness. In addition, a big proportion of older residents might not feel comfortable with these digital tools. **As a result, this option was not considered further.**

3. Digital Training, improving awareness and navigation – chosen priority theme

The third theme reflects two clear findings from the discovery phase:

1. There are a wide range of successful and highly valued falls related services across Southwark but challenges exist around the awareness, navigation and access to those services.

2. Many staff across the system have interactions with residents at risk of falls but there is not a standardised training programme or risk assessment process in place to support the identification and management of those residents.

3. **Training:** We investigated whether digitally-delivered falls training could be made available to Southwark staff, other local health and care staff and residents, using mobile devices. Key requirements discussed in team meetings (with a range of clinical and non-clinical staff) included:

    a) Ease of access: preference for bite-sized training modules that can be accessed remotely

    b) Interactivity: preference for training content to include frequently asked questions, interactive quizzes/ tests rather than long videos or text documents

    c) Auditability: a record of training completion to be available to a central team

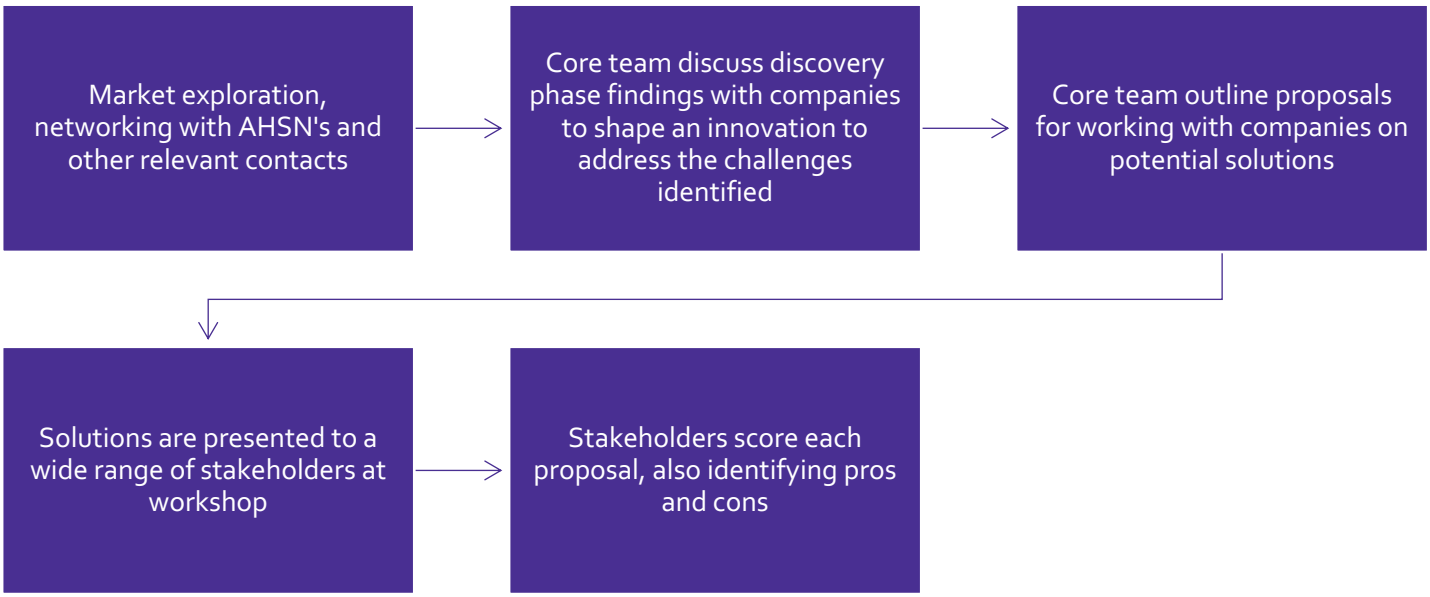
    d) Tailored: training content could be flexible and could be tailored to suit the needs of various groups, to reflect their level of experience and involvement in falls prevention.

4. **Service navigation:** The team were already aware of the concept and examples of service directories and other databases to aid service navigation. The team were particularly interested in exploring a more innovative approach to navigating various services both for staff and residents.

It is important to note all the information and solutions collected and reviewed as part of this discovery phase will contribute to potential areas of focus in future fall's strategies in Southwark.

Choosing the solution

An overview of company engagement and developing solutions



We explored the market for companies operating in the digital training, awareness and navigation arena and identified the following:

Agylia Care: A social enterprise that aims to support carers and improve the standard of care across the United Kingdom. Agylia Care produces "guides and videos to improve the skills of those delivering care, whether they are unpaid or professional carers.'"

Safe Steps: A company that has developed a digital product which centres around a falls risk assessment tool for use within care homes, which aims to reduce the number of falls.

We set up teleconferences with both companies to discuss the specific needs and opportunities highlighted by our discovery phase and the potential to co-design solutions to address these needs. Both companies expressed an interest in working with us. Following these discussions, we developed basic proposals to outline how we could work with each of the companies, these are explored below.

Agylia Care, this proposal focussed on providing falls related training modules for staff and unpaid carers. The concept would require users to have access to a device and feel confident enough to use it. The content would need to be tailored to meet the relevant needs of the user and include information about local services to aid navigation. Agylia were already partnering with 'Health&Care Videos' (a third-party company) on video content development so any partnership with Southwark would likely encompass the development of new video and training content.

For **Safe Steps**, the proposal involved adapting their app for use in a new setting. Safe Steps have built evidence of impact in care homes, but not elsewhere. The company were interested in exploring other settings for their app and had already conducted some initial research into what form this may take. Their existing product provides a tailored action plan following the risk assessment, however it does not allow for referrals to be made directly to relevant services. This was identified as another area for exploration, as it would support the awareness and navigation challenges identified during our discovery.

Introducing an alternative solution

Finally, in the spirit of collaboration a meeting was arranged with Essex County Council which was also working on a fall's prevention and management solution with SCDIP. During the meeting both teams shared their findings and potential digital innovations. Essex proposed an innovative pair of 'SMART' socks and accompanying app to improve adherence and patient activation, related to strength and balance exercise programmes. The core project team thought it was appropriate to add the socks to the above solutions for consideration based on discussions and shared learning from both discovery phases.

Stakeholder Event

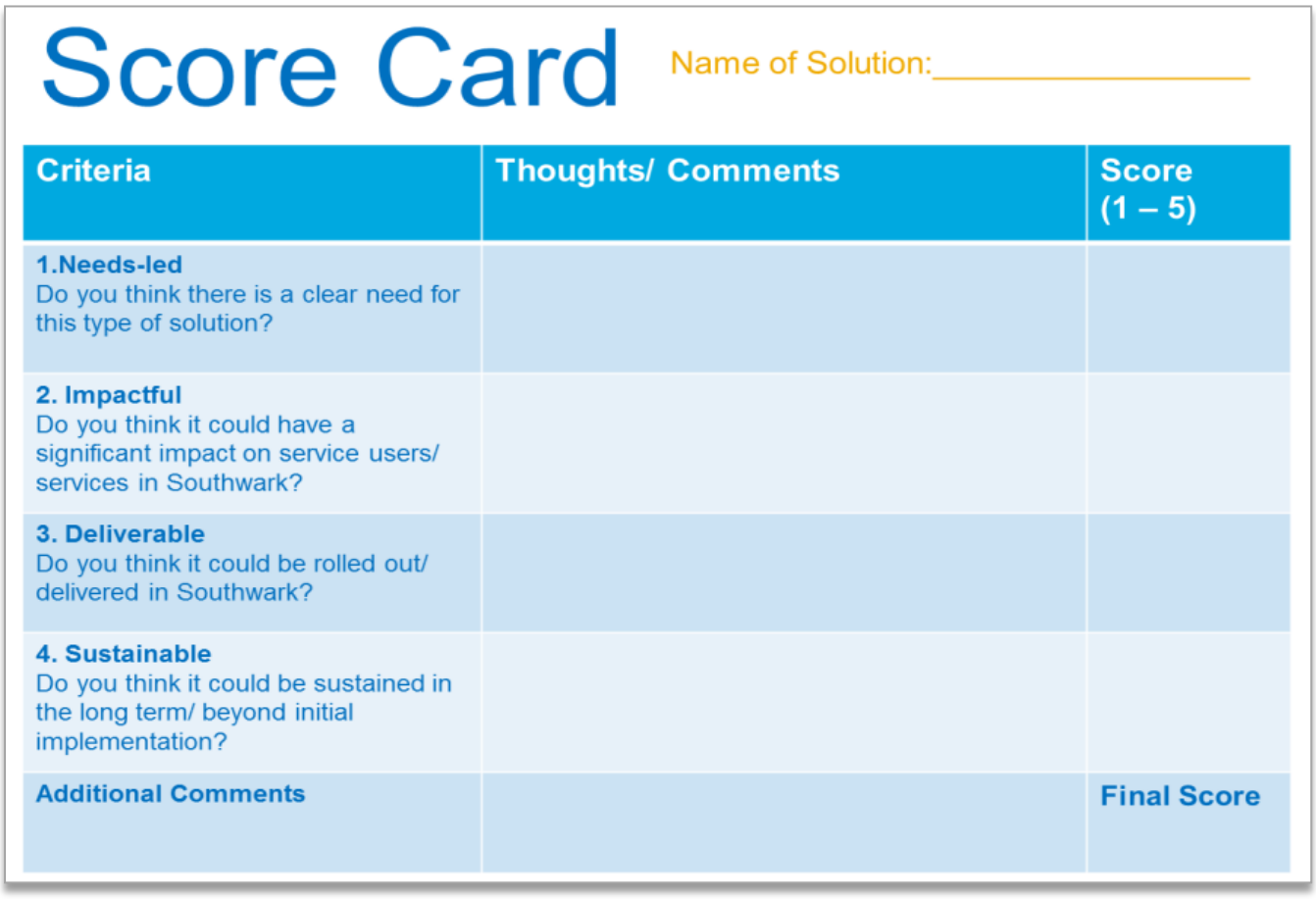
A workshop was held for key stakeholders to explore and further develop the proposed ideas. An invitation was sent to all the stakeholder groups identified during the initial mapping exercise and to additional groups identified during the discovery. Attendees included colleagues from Southwark Housing, the SMART Team, Telecare Specialist, Social Care, Commissioning, Public Health, Community Falls Team and the Head of Physiotherapy (Guy's and St Thomas' NHS Foundation Trust), Age UK and Southwark Carers. Some residents were invited but unfortunately did not attend.

The format and content of the workshop is described below.

Table 4 Format and content of the workshop

Item	Detail
Findings from discovery	The core project team presented the key insights, opportunities and themes that emerged during the discovery phase
Potential Solutions	Presentations to stakeholders on the three proposed innovations, 1- Agylia Care Digital Training Content 2- Safe Steps Risk Assessment and Action Planning Tool 3- SMART socks and accompanying app. Outlining the existing products (where applicable) and the suggested development areas
Feedback and development of potential solutions	Stakeholders were split into groups and considered each solution in turn. They discussed and recorded: • Pros - The good points/ potential benefits • Cons – Concerns or potential challenges • Who – The potential users/ services that could benefit • What – Ideas related to functionality/ features
Evaluation of potential solutions	Stakeholder groups rated each solution in turn using the score card that follows this table.

The score card overleaf was used to capture structured feedback from stakeholders in relation to the proposed solutions.



Score Card

Name of Solution:_____

Criteria	Thoughts/ Comments	Score (1 – 5)
1.Needs-led Do you think there is a clear need for this type of solution?		
2. Impactful Do you think it could have a significant impact on service users/ services in Southwark?		
3. Deliverable Do you think it could be rolled out/ delivered in Southwark?		
4. Sustainable Do you think it could be sustained in the long term/ beyond initial implementation?		
Additional Comments		**Final Score**

Figure 3 Example of the score card used in the stakeholder workshop

Following the workshop the core project team reviewed all feedback and score cards. An overall score was generated by taking an average of the scores assigned by the three stakeholder groups. **Proposal 1 'Agylia Care Digital Training'** & **Proposal 2 'Safe Steps Risk Assessment/ Action Plan Tool'** achieved almost identical scores (one point difference). The core project team discussed the two proposals and took the decision to pursue **Proposal 2** as it had the potential to address all three of the opportunity areas highlighted by the report including maximising use of data, training/ awareness and individual risk factors. The project team also felt that the development of 'digital training' could feed into an existing workstream that had a broader remit (i.e.not just falls). Feedback collected from the workshop on the 'SMART' socks was collated and shared with the Essex County Council project team.

Developing the proposal

The table below summarises the feedback from the stakeholder workshop on the **Safe Steps proposal**.

Table 5 Summary of stakeholder feedback

Pros/ Potential benefits	Cons/ Areas for consideration
• Consistency across assessments • Personalised action plans • Captures low and high risk individuals • Improved data capture and sharing via dashboard • Cost effective (based on available evidence) • Assigned 'ownership' of action plans • Evidence-based (and in-line with NICE guidance) • Learning and development	• Uptake/ usage • Time (to complete risk assessments and action items in plan) • Identifying suitable users • Information governance/ data sharing • Training requirements

• Teams already have the hardware (tablets/ phones) • Simple and Intuitive	

In addition to the feedback above, stakeholders also considered the 'Who' (potential users) and 'What' (features/ functionality). Discussion on the day highlighted a keen interest around enabling informal carers to have access to the app (with permission). The original Safe Steps app is designed for professional users in a care home setting and as such requires some clinical input to generate a risk score e.g. measuring a resident's blood pressure. For a community version of the app, stakeholders expressed strong support for carer access to include a form of risk management and follow-up. Stakeholders also advocated for an automatic referral function to link to relevant falls prevention services. These ideas helped to frame subsequent dialogue with the developers, during which work around developing a **Carers Companion App** and **Automatic Referral Function** were identified and agreed.

A number of key stakeholders and service leads participated in follow up calls with Safe Steps to discuss these ideas and to identify potential 'test' cohorts and service areas for prospective implementation. These discussions also contributed to the bid for additional funding to implement the proposal.

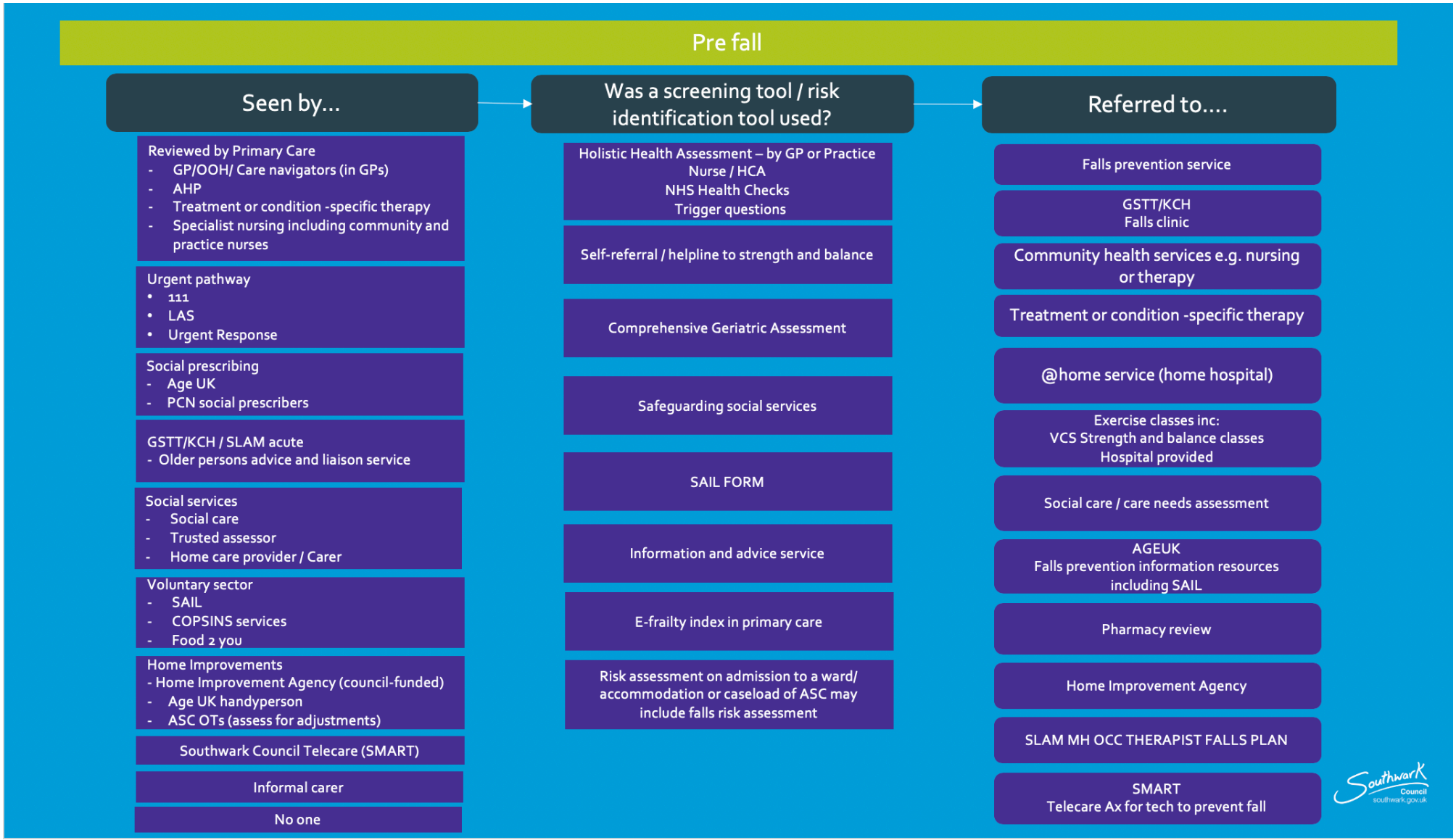
Key lessons and reflections from the discovery phase

Below is a collection of reflections expressed by both core project team members and the HIN at the end of the discovery phase.

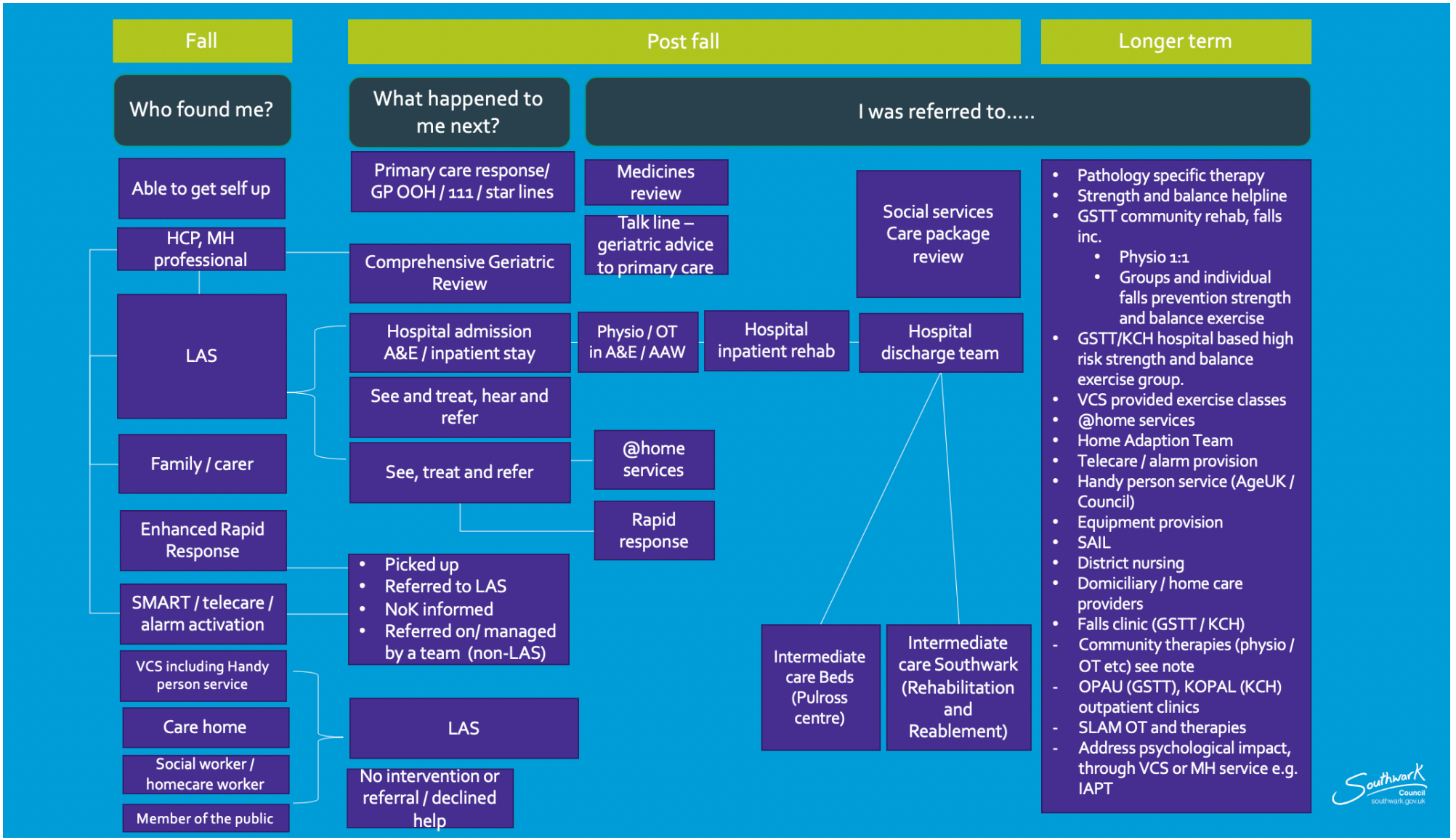
- Recognising the size of the problem you are exploring is important, it helps with prioritising research missions and ensures a deeper dive into the really important 'unknowns'
- It's essential to allow sufficient time to collaboratively explore and co-design potential solutions (not just consult on the problems). We managed to do some of this towards the end of our discovery but due to the size of the problem we did not engage all of the key stakeholder groups in all our work
- Ensure frontline staff are involved from the start as they often have the greatest insight into the 'as-is' position (from a staff perspective). We recognise that this was an area of weakness in our discovery. If we were to plan the discovery again, we would invest more time in developing our relationships and partnerships with some of the harder to engage stakeholders e.g. care home staff, agency workers and others. We would also engage with more social workers
- Use data insights early on to help identify areas of focus. We could have done this 'pre-discovery', this might have meant we entered the discovery phase with a narrower, more defined problem like other teams on the programme. Instead, we started with a whole systems piece which was possibly too ambitious for the timeframe and resources attached to this programme. Having said that we all agreed the resulting insight and intelligence gained is invaluable and contribute to a whole-system strategy.
- There was a significant gap in user-research related to clients with mental health conditions, their carers and relevant professionals. However, as outlined above, there was no capacity for further research as part of this programme but this should be acknowledged and addressed when using this report to inform future workstreams.
- It was felt the 'scoring' of the potential solutions at the stakeholder workshop worked well and helped to inform and shape the final proposal.

- The multi-agency partnerships brought many benefits, not least wide a range of perspectives and complimentary skills sets.

Appendix 1


Pre fall
Seen by...
Was a screening tool / risk identification tool used?
Referred to....
Reviewed by Primary Care
- GP/OOH/ Care navigators (in GPs)
- AHP
- Treatment or condition -specific therapy
- Specialist nursing including community and practice nurses
Urgent pathway
• 111
• LAS
• Urgent Response
Social prescribing
- Age UK
- PCN social prescribers
GSTT/KCH / SLAM acute
- Older persons advice and liaison service
Social services
- Social care
- Trusted assessor
- Home care provider / Carer
Voluntary sector
- SAIL
- COPSINS services
- Food 2 you
Home Improvements
- Home Improvement Agency (council-funded)
- Age UK handyperson
- ASC OTs (assess for adjustments)
Southwark Council Telecare (SMART)
Informal carer
No one
Holistic Health Assessment – by GP or Practice Nurse / HCA
NHS Health Checks
Trigger questions
Self-referral / helpline to strength and balance
Comprehensive Geriatric Assessment
Safeguarding social services
SAIL FORM
Information and advice service
E-frailty index in primary care
Risk assessment on admission to a ward/ accommodation or caseload of ASC may include falls risk assessment
Falls prevention service
GSTT/KCH
Falls clinic
Community health services e.g. nursing or therapy
Treatment or condition -specific therapy
@home service (home hospital)
Exercise classes inc:
VCS Strength and balance classes
Hospital provided
Social care / care needs assessment
AGEUK
Falls prevention information resources including SAIL
Pharmacy review
Home Improvement Agency
SLAM MH OCC THERAPIST FALLS PLAN
SMART
Telecare Ax for tech to prevent fall
Southwark Council
southwark.gov.uk

Appendix 2


Fall
Post fall
Longer term
Who found me?
What happened to me next?
I was referred to.....
Able to get self up
HCP, MH professional
LAS
Family / carer
Enhanced Rapid Response
SMART / telecare / alarm activation
VCS including Handy person service
Care home
Social worker / homecare worker
Member of the public
Primary care response/ GP OOH / 111 / star lines
Comprehensive Geriatric Review
Hospital admission A&E / inpatient stay
See and treat, hear and refer
See, treat and refer
Picked up
Referred to LAS
NoK informed
Referred on/ managed by a team (non-LAS)
LAS
No intervention or referral / declined help
Medicines review
Talk line – geriatric advice to primary care
Physio / OT in A&E / AAW
Hospital inpatient rehab
Hospital discharge team
@home services
Rapid response
Social services Care package review
Intermediate care Beds (Pulross centre)
Intermediate care Southwark (Rehabilitation and Reablement)
Pathology specific therapy
Strength and balance helpline
GSTT community rehab, falls inc.
Physio 1:1
Groups and individual falls prevention strength and balance exercise
GSTT/KCH hospital based high risk strength and balance exercise group.
VCS provided exercise classes
@home services
Home Adaption Team
Telecare / alarm provision
Handy person service (AgeUK / Council)
Equipment provision
SAIL
District nursing
Domiciliary / home care providers
Falls clinic (GSTT / KCH)
Community therapies (physio / OT etc) see note
OPAU (GSTT), KOPAL (KCH) outpatient clinics
SLAM OT and therapies
Address psychological impact, through VCS or MH service e.g. IAPT
Southwark Council
southwark.gov.uk

Appendix 3

Focus area 1: **Maximising the utilisation of existing data**

Strengths • Builds a better understanding of the 'at-risk' population, with benefits for individuals (i.e. guiding specific interventions) and population level (guiding service design) • Already have SMART dataset (and others) as a starting point	**Weaknesses** • Would initially only cover people already known to council (i.e. via SMART or other) • Linking with other datasets likely to be challenging • Many gaps in falls related data
Opportunities • Possibility of scalability across the South East London Sustainability and Transformation Partnership (STP).	**Threats** • Future STP plans may involve integration of social and health data. Possible risk of duplication? • Information governance around personal data

Focus area 2: **Technologies addressing individual risk factors**

Polypharmacy

Strengths • Defined population, meaning intervention can be targeted • Products available 'off the shelf' • Relatively easy to deliver	**Weaknesses** • May be a small population • Indirect link to falls • May require user to have tech devices
Opportunities • Broader benefits (outside of avoiding falls) of improved adherence	**Threats** • Information Governance + safety – may require knowledge of patient's medication

Strength and Balance

Strengths • Large number of products/systems which provide digital coaching. • Relatively easy to deliver • Existing link between strength exercises and reducing falls	**Weaknesses** • Cost depends on model of delivery (home vs community) • May require the user to have tech devices • Unclear whether the solution needs to be digital • Qualitative data suggesting negative attitudes towards exercise
Opportunities • Reduce resources required to deliver 'standard' exercise classes?	**Threats** • Potential increase in falls if people exercise unsupervised?

Cognitive Impairment

Strengths	Weaknesses
• Defined population, meaning intervention can be targeted	• Lack of evidence for effectiveness • Unclear whether this approach needs to be digital • May require the user to have tech devices
Opportunities	**Threats**
• Detection of changes in behaviour? Flag deteriorating patients?	

Focus area 3: **Digital training, improving awareness and navigation**

Strengths	Weaknesses
• Wide reach, given staff will interact with most people at need • May have preventative benefits • Maybe able to use 'off the shelf' solutions	• Hard to measure direct impact on falls • May be challenging to mandate among agency workers • Digital "falls-risk factor assessment": logging doesn't 'guarantee' accuracy • May require good internet connection
Opportunities	**Threats**
• Maybe able to use 'digital log' to build dataset (see previous slide) • Possibility of scalability across South East London.	• Knowledge retention