

Foundations

The Social Value of aids and adaptations provided by Home Improvement Agencies

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Foreword

Calculating social value or showing a return on investment usually involves complicated algorithms that can leave you wondering. With this report we wanted to take a different approach - to look at 4 stories of ordinary people who are disabled by their home, and the difference that adaptations can make to their lives. Each story has a sliding doors moment, where they are supported to make changes to their home or not.

So, I'm very pleased to introduce you to Rachel, Arthur, Shirley, Tony, Mohamed and Nazia. They're not real, but their stories are - based on case studies provided by Home Improvement Agencies across England.

By comparing their lives over the years that follow we also show how an investment in home adaptations and Home Improvements Agencies can create extraordinary savings elsewhere in the system.

Of the hundreds of thousands of people who received a Disabled Facilities Grant in the last few years, many will have remarkably similar stories. Their health and wellbeing will have improved, and they will be using fewer health and social care services. That's a win-win.

Paul Smith

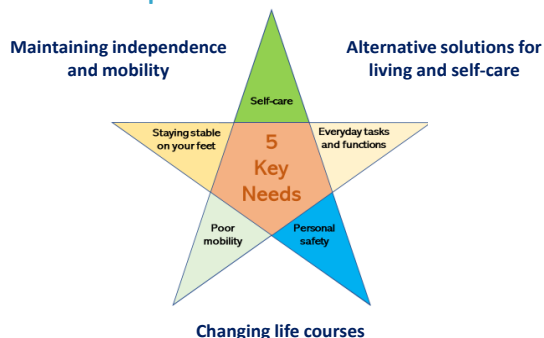
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Executive summary

Home adaptations meet needs in five areas



They bring benefits for people in five ways

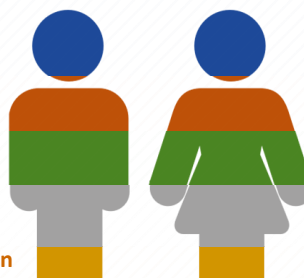
Mental wellbeing

Maintaining purpose and personal identity

Physical wellbeing

Financial assistance

Knowledge and information



Lives changed – illustrating the value brought



Rachel

Single retired woman.
£141k saving over 4 years giving 146x payback.

Mohamed and Nazia

Young couple with a disabled son.
£1.32m saving over 20 years giving 5x payback.



Arthur

Single man with kidney failure.
£100k saving over 4 years giving 1.75x payback.

Shirley and Tony

Couple with husband retired disabled.
£305k saving over 13 years giving a 41x payback



This research explores the stories of the people helped by Home Improvement Agencies to find, fund, and use adaptations to their homes. Enabling them to stay in the homes they love, in the areas and near to the people they know is hugely valuable at human level. However it is all the more essential when accessible properties are not being constructed quickly enough to meet the needs of a growing older and disabled population, nor is it economically sensible to construct afresh when needs can be met at lower cost in the houses which are already built and occupied.

Those stories show five key needs being met, time and time again. Through these we see families, couples and individuals maintaining their independence and mobility, finding new solutions for everyday living that make tasks around the house simpler and less of a burden. In some cases we can see significant changes in life course: a downward spiral of incapacity turned around, or a debilitating accident, otherwise just a matter of time before it happened, now avoided.

Those changes, little or great, are experienced by people at five levels. They are given knowledge and information about how to adapt their homes, and their ways of living, to make them more comfortable and suited to their needs. They are guided to the financial assistance necessary to fund the adaptations, or are helped to find cost-effective solutions if they are not eligible for grant support. They see improvements in mobility, wider physical health and wellbeing. These all have a significant effect on independence and self-respect, and enable people to maintain greater degrees of purpose and identity. Last but not least, they find themselves less fearful, less isolated, and feel safer.

The financial benefits emerge from our exploration of blended case studies presented as four personas with their individual storylines. Even with an evaluation of just some of the cost benefits, and a restriction of the evaluation period to one over which outcomes can be reasonably predicted, cost benefits are felt which all show strong improvements. Some of these are enjoyed by the person themselves, but many fall to the public services that support them should their needs escalate.

*Whichever way you look at it, **home adaptations bring real value.***

1. Introduction

Foundations, the national body for Home Improvement Agencies (HIAs) in England, has commissioned this study and its report in order to demonstrate the impact that can be achieved through the provision of support, advice, aids and adaptations to people by HIAs in the UK. These agencies support a wide range of people across all age groups, both in families and those living alone, in need of assistance due to their age, physical or mental disabilities, or illness.

HIAs bring two key elements. Firstly they provide client-centred support delivered in a person's own home with the expertise to know how to make physical changes to that person's home. Secondly they are able to advise people when and how to apply for Disabled Facilities Grants (DFGs) that are available to fund specific repairs, improvements and adaptations to their homes.

The changes made to homes with the assistance of HIAs enable people to live safely in their home environment, which is comfortable, familiar and where many say that they most want to live. For many the alternative to establishing the ability to stay safely living in their own home is to move to a residential care setting, away from their loved ones and living to the schedule of others as opposed to their own. Whilst these alternatives are well established, for the vast majority the desire is to remain in their own home or acute care.

“For people given a terminal diagnosis, currently 84% of people over 75 die in hospital or residential care, despite two thirds saying they would like to die at home surrounded by the people and things they love.”¹

Considering previous work in this area

Notable work that has already been done, and which we take into account in this study is:

- **Northumbria University Newcastle and Centre for Ageing Better's report: 'Primary research with practitioners and people with lived experience – to understand the role of home adaptations in improving later life'².**

This report focuses on what it is that leads people to seek the help of HIAs and adaptations, and explores the barriers to acquiring home adaptations. It finds many outcomes similar to those which we have identified through our work, such as maintaining mobility, completion of everyday tasks, reduced likelihood of falls and maintained, or increased, confidence.

We have looked to build upon this in our work by exploring how the outcomes are delivered, and placing values against some of them. We have also sought to widen the lens used by including adaptations and HIA interactions with people of all circumstance and age rather than limiting it to older people.

¹ Phillipa, F. and Ramsey, M., 2015

² Bailey, C. et al. 2018

- **Outline costs from Housing Associations' Charitable Trust's (HACT) Social Value Bank³**

This work identifies costs, from which it is possible to attempt to value the impact that can be had in the housing sector, and as such they touch upon home adaptations. We were able to use some of these outline costs to inform our evaluation. However, in evaluating Foundations' personas we have been able to be more specific about costs and make assumptions that we feel create a more accurate picture of the potential impact, whilst also providing the due emphasis upon both storylines and the Theory of Change and the wider impacts for the recipients of HIA assistance.

The structure of this report

This report follows the same structure we used in developing our research. Our methodology is explained in **section 2**.

Section 3 explains our understanding as to how adaptations meet people's needs. This came from speaking with HIA case workers, Occupational Therapists (OTs) and other professionals that form part of, or interact with, HIA delivery. We then build on those discussions by developing stories of change around the four personas that Foundations have already researched and developed. Through this we have identified five key needs, shown in the diagram on the right.

For each of these needs there are both a series of more detailed needs, and matching outcomes – the changes made in people's lives by adaptations - which we map out using a Theory of Change - one for each of the five areas of need.

In **section 4** we outline the personas as blended case studies drawing on experiences of HIAs with real service users. We explain the outcomes achieved and needs met for those people, developing these into timelines which illustrate the stories of these typical customers with and without adaptations.

In this section (section 4) we go on to evaluate the impact of those identified outcomes. The use of personas enables us to pin costs and savings to key points in their lives as illustrations of particular cases. In doing this we are able to draw out financial benefit for various stakeholders, while at the same time keep the individual at the centre of the study and recognise the impacts that are evident but to which it is not possible to allocate value.

In **section 5** we comment on the recent white paper on home adaptation by MHCLG, and in **section 6** we summarise our findings.



³ Available at: [Social Value Bank | HACT](#)

2. Methodology

The aim of this report is to understand the social value delivered through HIAs and the drivers of that social value. The development of a Theory of Change for the five key needs, and an overarching Theory of Change, underpins our approach to social value.

Our research was undertaken over the period October 2020 – December 2020. In the course of the work we have explored with Foundations the ways in which HIAs contribute to the lives of their customers and the social impact that is generated as a result of the change facilitated. The work follows a structured process:

- Explore the evidence base by exploring and understanding the beneficiary cohort and the categories of impact, evidenced in selected documents and prior research, data from Foundations, and by interviews with senior team members at Foundations
- Through workshops with HIA staff develop our understanding of the needs of the beneficiaries, and the outcomes that match to them to develop a Theory of Change, building on Foundations' four personas, and developing these out into more detailed storylines. This draws on and is reconciled to the evidence in the Northumbria University study.
- Examine the adaptations' part in delivering those outcomes
- Summarise the causative link in the form of one or more Theories of Change, focusing on the outcomes and impacts arising
- Evaluation of those outcomes and impacts distinguishing between the:
 - Monetary gain where there is a direct monetary effect equivalent to a cash gain to a stakeholder
 - Cost saving to public services: where there is a potential resource saving that can be financially quantified for the government e.g. from reduced benefits or savings on healthcare costs
 - Impacts that are not easily quantifiable in financial terms.

3. How adaptations can meet the needs of customers

In the process of this study we have identified five key needs found by HIAs to apply to people whose houses they adapt. Each of these key needs is explored in detail within this section, both in the ways in which a HIA can assist a person in meeting needs in those areas and also the impact that is achievable as a result:

- **Staying stable on your feet:** many people struggle to move around their homes confidently and safely.
- **Poor mobility:** this is an essential element of a person maintaining their independence both inside and outside of their homes.
- **Personal safety:** the peace of mind that they are safe from harm in addition to the reassurance that should something happen, there are measures in place to limit the potential impacts.
- **Everyday tasks and functions:** maintaining independence in everyday living with confidence and pride.
- **Self-care:** the ability to look after oneself and maintaining personal hygiene with dignity and without the risk of injury.



If these needs are met, not only are there primary outcomes in terms of physical security and wellbeing, but there are also secondary outcomes – the ‘and so I can...’ For example: outcomes are achieved from increasing or maintaining a person’s **independence**, **social connections** are preserved or enhanced when they might otherwise be in decline and a person’s sense of **purpose** can be preserved or increased as a result of enabling them to do what they want and within their own home.

The five needs are identified by developing the stories we were told around interventions made by HIAs, and from these and literature we have reviewed (notably the joint report by Northumbria University Newcastle and Centre for Better Aging⁴).

We have seen that informed choice is central to delivering benefit in each of the areas of need and the support for this choice is a key role played by HIAs. The impact of the relationships built through HIAs, and in particular their case workers, means there are some benefits that straddle all needs, such as the benefits of informed choice that comes from full awareness of the options that are available to them in order to achieve an outcome that is person-centred, and specific, to that individual.

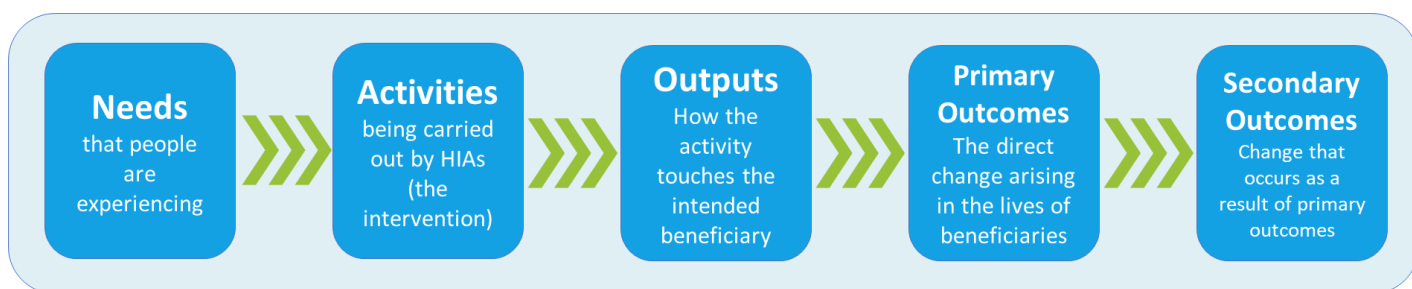
Within this section a Theory of Change map will be presented for each of these five key needs. After each we comment upon some of the main findings that are identified from it. These Theory of Change maps were developed with the workshop groups, and were then tested with them to ensure they have captured the right interpretation of the experiences and evidence encountered. Within each of the thematic areas of need in the

⁴ Bailey, C. et al. 2018

star above, we categorise the more detailed needs into five types, being those consistently occurring based on the information emerging from the research. The structure here has also been informed by the Five Pillars of Wellbeing model used in the *Value of a Social Tenancy* model around social housing⁵. These are:

- Knowledge and information ...to understand what will help and how to get it
- Physical wellbeing ...to be more healthy, mobile and physically independent
- Mental wellbeing ...to be less stressed, less worried, and more positive
- Maintaining purpose and personal identity ...in relationships and in themselves
- Financial assistance ...to get the adaptations funded

Theories of Change are designed to be read from left to right across each separately coloured row, as set out in the diagram below. The terms used are expanded-upon in the glossary in the appendices to this report.



In constructing the Theories of Change, we have treated as “activities”:

- The selection of relevant fitting and adaptation;
- Sourcing and securing the funding to make this happen; and
- Supporting the occupier in any changes to their habits and living styles that are necessary to gain the advantage from it

We have made three fundamental assumptions in the process of creating these Theories of Change about the individuals and families who receive the support and help of HIAs:

1. They want the adaptation or change that it made to their home
2. They understand how to use it (either through pre-existing knowledge or through guidance by the HIA)
3. Once installed, the individual does make use of the adaption to therefore achieve the intended outcome.

From our research there are good reasons to suggest that these are reasonable assumptions across the range of situations covered by the adaptations, but they are nevertheless key to delivering the gains envisaged in specific cases.

With that in mind, we now look at the Theory of Change for those for whom staying stable on your feet is an issue.

⁵ Clifford, J. et al (2020)



Staying stable on your feet: Outcomes associated with not tripping and falling in your home

Needs	Activities	Outputs	Primary Outcome	Secondary Outcome
Knowledge and information What help is available to them	Hospitals, GPs and OTs make referrals coming to HIA – or self-referral Home visit to understand customer needs and offer person-centred response HIAs can give general advice on: <ul style="list-style-type: none"> Schemes to help with adaptations, improvements or repairs Case workers building relationships and explaining options	Home visits Telephone contacts with HIAs Telephone contacts with caseworkers	Customer gains the correct aids and adaptations that will help them The HIA is aware of the customer and their need for support.	The secondary outcomes detailed for the four rows below this are also secondary outcomes stemming from Knowledge and Information .
Physical wellbeing Help with stability within the home	Provision of equipment Demonstration of equipment Training in how to use equipment Rearranging storage so that customers do not have to stand on steps (or other) to access food and other necessities	Grabrails Stairlifts Walking frames Grabbers Other home adaptations as needed	Customers better able to move around their home Reduced risk of tripping and falling in the home Maintained/increased physical fitness and mobility	Reduced need for medical intervention for trips/falls
Mental wellbeing Confidence that they won't fall within their home	Relationships and trust are built with the customers (and their families) to coach and support them as they grow used to the adaptations that could be made to their homes.	Coaching / support sessions	Reduced anxiety related to tripping/falling in the home Increased confidence from being able to do everyday tasks Reduced stress and anxiety related to changes in the home or cost of changes (compared to managing the process themselves)	Improved mental wellbeing for customers Reduced stress and worry for family/friends
Maintaining purpose and personal identity Confidence to maintain your life	Range of activities already mentioned facilitates meeting this need	Outputs above support maintaining purpose and identity	Increased/maintained sense of independence Increased/maintained ability to leave home safely to participate in valued activity	Customers stay in own home for longer Reduced early entry into care due to trips/falls Customers have less need for local authority/agency care
Financial assistance	Helping customers to understand their situation and be realistic in managing expectations (including timeframes) <ul style="list-style-type: none"> Advice on the scale and cost of any works and securing funding Help with contracts and documentation Local authority funding processes 	Contacts made where financial advice provided Financial information provided Grants applied for	Customers take up financial assistance where necessary Customers' decisions about taking up adaptations are not affected by financial considerations More customers take up adaptations because they are able to meet the cost	Aids and adaptations are accessible to all – self-funded or through grants etc.

Main Findings: Staying stable on your feet

- **Maintaining and building confidence**
 - The occurrence of a fall can result in a loss of confidence in one's own stability from which it is hard to recover. It can be the trigger for withdrawal from social circles, a growing immobility and more.
 - Confidence in one's stability means that movement is not restricted around the home, which means, for example, that the individual is more able to carry out tasks to keep the home clean and tidy.
 - The building of confidence means that a person is more likely to do more and also try more new things. They are more inclined to leave the house to visit friends or perhaps engage in some exercise to keep themselves fit. Success in trying out new things helps to build confidence further and people can continue to push boundaries, carrying out tasks and engaging in activities as they please.
 - Consistent movement is also key to preserving a person's fitness and muscle tone, which will further increase their stability and independence. It can also contribute to something like a fall not happening at all, which prevents the need for a period of recovery that can also lead to speedier muscle wastage due to prescribed inactivity.

- **Small adaptations can generate significant outcomes**
 - Adaptations such as grabrails and stairlifts are relatively cheap, and simple to fit, but they are key to a person staying stable on their feet and therefore can enable many of the secondary outcomes that come about from a person feeling more confident.

- **Maintaining normality for a person is key to a sense of purpose and personal identity**
 - Normality means being able to continue with the tasks and activities that are important to an individual. A lack of confidence can lead to an inability to do what they feel is important and therefore can change a person's perception of themselves. Retaining a sense of normality is itself a confidence booster.
 - A sense of purpose can be found in these activities so if they are no longer confident enough to be able to do them, that purpose reduces. This can have a negative effect on a person's mental health, potentially leading to serious depression.

- **The HIA is key to knowing what can be done and how it can be funded**
 - The knowledge held by the HIA and the case workers mean that the individual does not find choice and funding to be barriers. Without their input, the individual could continue to struggle without help, leading to the problem intensifying.
 - Many people may have an idea of what changes they could make but have no way of knowing how to go about putting them in place. Discussions with the case worker could bring about better, longer-term, solutions and also allay any fears around the cost of adaptations because the HIA can help them to apply for DFGs and other funding.

The second Theory of Change focuses on mobility - access to and around the home.

Mobility: Outcomes associated with access to and around the home

Needs	Activities	Outputs	Primary Outcome	Secondary Outcome
Knowledge and information What is available to them	Hospitals, GPs and OTs make referrals coming to HIA – or self-referral Home visit to understand customer needs and offer person-centred response HIAs can give general advice on: <ul style="list-style-type: none"> • Schemes to help with adaptations, improvements or repairs • Alternative housing options • How to complete forms for local authority grants • Legal entitlements Case workers building relationships and explaining options Demonstration of different adaptations by case workers, design team etc.	Home visits Telephone contacts with HIAs Telephone contacts with caseworkers Types of advice given	Customer gains the correct aids and adaptations that will help them The HIA is aware of the customer Customer makes an informed decision about adaptations to their home or moving to a more suitable home	The secondary outcomes detailed for the four rows below this are also secondary outcomes stemming from Knowledge and Information .
Physical wellbeing Maintaining/improving independence through enabling everyday tasks	Provision of appropriate adaptation and support around It Demonstration of equipment Signposting to LA handyman services	<ul style="list-style-type: none"> • Wet rooms • Walk-in showers • Hoists • Building extension • Door widening • Ramps • Stairlifts 	Customer able to move around more of their home without assistance from another person Reduced risk of injury due to lack of adaptations in the home	Reduced risk of family / carer injury due to lack of adaptations in the home
Mental wellbeing Maintain independence and control within the home	Occupational therapists, care workers and architects all work with the customer to empower them to make choices that meet their needs Relationships and trust are built with the customers Use of technology to facilitate meetings, contact and awareness	Contacts between customer and key professionals	Reduced frustration related to lack of mobility in the home Reduced stress and anxiety related to changes in the home or cost of changes (compared to managing the process themselves) Increased confidence as mobility increases	Improved wellbeing for family as a result of more balanced family dynamic Improved wellbeing for customer as a result of increased mobility
Maintaining purpose and personal identity Family dynamics and relationships	Range of activities already mentioned facilitates meeting this need	Outputs above facilitate maintaining purpose and identity	Increased/maintained sense of independence to manage on their own Increased/maintained independence for families/carers Increased ability to participate in valued activities Balanced family dynamic returns as caring responsibilities reduced Maintained family relationships (eg parental relationships with siblings)	Customers stay in own home for longer Reduced need for paid carers in the home Reduced isolation for customer and family
Financial assistance	Helping customers to understand their situation and be realistic in managing expectations (including timeframes) <ul style="list-style-type: none"> • Advice on the scale and cost of any works • Help with choosing reputable and reliable contractors • Monitoring contractors' performance • Help with contracts and documentation • Local authority funding processes 	Contacts made where financial advice provided Financial information provided Grants applied for	Customers take up financial assistance where necessary Customers' decisions about taking up adaptations are not affected by financial considerations More customers take up adaptations because they are able to meet the cost	Aids and adaptations are accessible to all – self-funded or through grants etc.

Main Findings: Mobility

- **Small compromises in mobility quickly spiral**
 - The preservation or increase of mobility requires regular exercise and movement. If this is not taking place then the level of mobility quickly dwindles. This leaves the person even less capable of movement, and mobility spirals downwards.
- **Lack of mobility effects mental health as much as physical health**
 - The mental health implications of immobility are stark and can combine dangerously. For example, declining mobility can lead to a person not leaving their home, which means that they are not able to see their friends at regular venues such as a church, mosque or social group, which leads to them feeling isolated and alone and they eventually become depressed.
- **Maintaining or increasing independence is a key element of personal pride and identity.**
 - A lack of mobility can lead to a reliance upon others, whether this is to make sure that everyday tasks are completed or purely to help them move around. Many people find great pride in being independent so finding themselves reliant on the help of others can be a source of shame and embarrassment, potentially leading them to withdraw from friends and family, becoming reclusive and lonely and increasing the potential for self-neglect.
- **Support from family and friends as mobility reduces can become more onerous.**
 - Informally caring for someone can take up a lot of a person's time and it can be hard to fit it within already busy schedules. However, people want to look after and make sure those that they care about are looked after so they will make time.
 - Reducing mobility will slow people down and therefore it will take longer to support them.
 - Making time will therefore come at the expense of other things in their lives like caring for their children, or their work. This can create feelings of conflict and guilt within the person and for a form of balance to be achieved which is often a point at which formal care is called upon from a Local Authority.
 - The act of caring for someone also places a physical strain upon the person doing the caring. This is especially true in the case of the individual with poor mobility, because they are unable to carry their own weight, making them unstable and ultimately passing that weight onto the person helping them. Often people will be helping loved ones in and out of bed, the bath or up and down stairs. This presents significant risk of the caring person injuring themselves, regularly lifting a heavy weight in an awkward manner or increasing the risk of a fall. In the case of an older couple where one is caring for and helping the other, they themselves are not physically fit to be carrying out these tasks which further increases the risk of them hurting themselves.
- **The role of the HIA is not just to facilitate adaptations, it can also open the door for other services**
 - The relationship between the HIA case worker and the individuals give the individuals access to knowledge and information that they may not otherwise have. Case workers are able to suggest solutions that people are not aware are possible, for example an occupational therapist may be able to make small changes to

how a person lives and carries out tasks help them to move better, increasing mobility. Caseworkers may lever in additional community and voluntary services.

The third Theory of Change focuses on personal safety, including the ability to get help quickly if it is needed.

Personal Safety

Needs	Activities	Outputs	Primary outcomes	Secondary outcomes
Knowledge and information What is available to them	Hospitals, GPs and OTs make referrals coming to HIA – or self-referral Home visit to understand customer needs and offer person-centred response HIAs can give general advice on: <ul style="list-style-type: none"> • Schemes to help with adaptations, improvements or repairs • How to complete forms for local authority grants • Legal entitlements Case workers building relationships and explaining options	Home visits Telephone contacts with HIAs Telephone contacts with caseworkers	Customer gains the correct aids and adaptations that will help them The HIA is aware of the customer Customers make informed decisions	The secondary outcomes detailed for the four rows below this are also secondary outcomes stemming from Knowledge and Information .
Physical wellbeing Maintaining/improving independence through enabling everyday tasks	Provision of appropriate adaptation and support around it	Stairlifts Pull cords Smart home / virtual assistance Trip sensor technology Building extensions	Increased access to emergency assistance Increased likelihood of timely intervention in case of injury Reduced risk of injury related to unsafe home environments	Reduced risk of medical complications from delayed assistance Reduced A&E visits
Mental wellbeing Confidence of personal safety and reassurance that if anything does happen measures are in place	Occupational therapists, care workers and architects all work with the customer to empower them to make choices that meet their needs Direct support to use new technologies (eg smart homes, virtual assistance, voice recognition technology)	Contacts between customers and key professionals	Customers feel safer at home Reduced anxiety about personal safety Reduced anxiety about disruption caused by adaptations Increased confidence about using new technology	Improved mental wellbeing from safety in the home Reduced stress and worry for family and friends
Maintaining purpose and personal identity	Range of activities already mentioned facilitates meeting this need	Outputs above facilitate maintaining purpose and identity	Customers feel better able to carry out everyday tasks for themselves (knowing that emergency help is available if something goes wrong) Customers feel more confident to access other forms of technology that might assist them	Family feel more able to go out and let customer be on their own, knowing that emergency assistance is available Family dynamics become more balanced Reduced early entry into care Reduced need for paid care in the home
Financial assistance	Helping customers to understand their situation and be realistic in managing expectations (including timeframes) <ul style="list-style-type: none"> • Advice on the scale and cost of any works • Help with choosing reputable and reliable contractors • Monitoring contractors' performance • Help with contracts and documentation • Local authority funding processes 	Contacts made where financial advice provided Financial information provided Grants applied for	Customers take up financial assistance where necessary Customers' decisions about taking up adaptations are not affected by financial considerations More customers take up adaptations because they are able to meet the cost	Aids and adaptations are accessible to all – self-funded or through grants etc.

Main Findings: Personal safety

- **Increased access to emergency assistance means that the likelihood of further medical complications is reduced**
 - Technologies such as careline and personal alarms, trip or fall sensors form part of a safety net that mean that should someone fall, then family (as emergency contacts) and emergency services are notified as quickly as possible and can attend to help the person.
 - Something like a fall, that leaves the individual unable to get themselves up from the floor, can lead to serious implications as well as undermining their confidence. If the person is unable to get up and unable to notify anyone of their situation they can be there for a long time. This is especially true for an older person who is more likely to be in the home alone. As a result dehydration, confusion and hyperthermia are a real risk, in addition to the untreated effects of any injury during the fall. The risk is heightened further if the person has hit their head and is then unconscious, or they have cut themselves during the fall and are losing blood.
- **Safety – moving around, letting people in with a key safe or door entry, and being able to get help when needed - makes the individual and their friends and family more confident which helps independence**
 - The provision of a safety net increases confidence and therefore the individual feels enabled to carry of living undeterred by the fear of falling. This is beneficial to the wellbeing of both the individual and their family and friends who do not need to worry for the individual. They can be reassured by the fact that should something happen, help will come.
 - Confidence means that the individual is more willing to continue moving around, no longer fearful, and carry out tasks for themselves. This exercise is essential to preserving mobility and muscle tone for the individual and therefore further reducing the risk of a fall occurring at all.
- **The HIA is key to working out what are the best protections to put in place**
 - The HIA is able to advise upon the best protective and reactive measures to put in place. This is especially important for those who are reluctant for any adaptation to impact upon the aesthetic of their home or who do not want obvious signs of their perceived fragility on show. Such aspects might make the person reluctant to use the help when others were visiting, or reluctant to have it positioned well within reach. The HIA and case worker are able to use their knowledge to reassure people that the technology can be subtle whilst still providing the protection they need. By explaining the adaptation well to the homeowner, any reluctance they were expressing can be dealt with.
- **Technology plays a key role in confidence of personal safety, which has the potential to increase its impact in the future as new technologies emerge and access to it is increased**
 - Many of the adaptations or protective measures involve relatively new technologies (such as sensors connected to a helpline and emergency services). It enables them to achieve more support and protection than more traditional solutions. As more technologies are developed, become cheaper and more accessible in their usability, the way they are used can create a bigger safety net for people. For example a fall or trip sensor that works when outside of the home and that does not need to be within a certain radius of a base would enable more people to leave their home alone with confidence.

The fourth Theory of Change focuses on an ability to undertake everyday tasks and functions.

Everyday tasks and functions

Needs	Activities	Outputs	Primary Outcomes	Secondary outcomes
Knowledge and information What is available to them	Hospitals, GPs and OTs make referrals coming to HIA – or self-referral Home visit to understand customer needs and offer person-centred response HIAs can give general advice on: <ul style="list-style-type: none"> Schemes to help with adaptations, improvements or repairs How to complete forms for local authority grants Legal entitlements Case workers building relationships and explaining options	Home visits Telephone contacts with HIAs Telephone contacts with caseworkers	Customer gains the correct aids and adaptations that will help them The HIA is aware of the customer Customers make informed decisions	The secondary outcomes detailed for the four rows below this are also secondary outcomes stemming from Knowledge and Information .
Physical wellbeing Maintaining/improving independence through enabling everyday tasks	Provision of adaptations/aids that assist everyday tasks or facilitate desired activities:	Grabbers Shoe horns Grab rails Magnifiers Adapted kitchen equipment (eg modified grips) Other small adaptations	Customers are better able to carry out everyday tasks Maintained/increased mobility/strength/manual dexterity from carrying out everyday tasks Improved nutrition from being able to prepare meals/drinks more easily Reduced risk of injury from over-straining or using inappropriate equipment Reduced pain from chronic conditions	Physical health maintained/improved Reduced medical complications from poor nutrition Reduced medical complications from chronic pain
Mental wellbeing Confidence in carrying out tasks important to them	Occupational therapists, care workers and architects all work with the customer to empower them to make choices that meet their needs Relationships and trust are built with the customers Use of technology to facilitate meetings, contact and awareness	Contacts between customers and key professionals	Increased confidence from carrying out everyday tasks Increased/maintained energy levels Reduced frustration from limited mobility/strength/manual dexterity	Improved wellbeing for customer Improved wellbeing for family/friends
Maintaining purpose and personal identity	Range of activities already mentioned facilitates meeting this need	Outputs above facilitate maintaining purpose and identity	Increased ability to maintain home independently Increased participation in valued activities Increased sense of independence Balanced family dynamic returns as caring responsibilities reduced	Family better able to participate in valued activities Reduced isolation Reduced early entry into care Reduced need for paid care in the home
Financial assistance	Helping customers to understand their situation and be realistic in managing expectations (including timeframes) <ul style="list-style-type: none"> Local authority funding processes 	Contacts made where financial advice provided Financial information provided Grants applied for	Customers take up financial assistance where necessary Customers' decisions about taking up adaptations are not affected by financial considerations More customers take up adaptations because they are able to meet the cost	Aids and adaptations are accessible to all – self-funded or through grants etc.

Main Findings: Everyday tasks and functions

- **Getting the basic everyday tasks done in our time is key to maintaining self-respect and identity**
 - Being able to look after your home and yourself contributes significantly to a person's self-respect and their perception of themselves.
 - Independence builds confidence and can mean that a person is able to stay in their own home for longer. If they are able to keep their home safe and clean there is less concern from stakeholders such as the person's GP or the Local Authority, who might otherwise start to feel that a formal care plan or ultimately a move into a care home may be required.
- **Nutritional health (and hydration) is maintained**
 - An essential everyday task is preparing food and drink. If a person is unable to do this, through immobility meaning that they cannot get to their kitchen or reach into cupboards or declined dexterity, then their ability to eat and drink is impacted.
 - There are longer-term effects of poor nutrition and hydration (especially for elderly people or those with chronic medical conditions), including confusion, inactivity and loss of mobility, increased risk of falls, pressure sores and skin conditions and an increased risk of stroke.
 - Tiredness, a side effect of, poor hydration and nutrition can lead to less activity and therefore decreased mobility over time due to less movement and exercise being carried out.
- **Reliance on family or carers is reduced, providing opportunity for the return of balanced dynamic in relationships**
 - Enabling a person to carry out everyday tasks for themselves can be a trigger for a reduction in the need for care and support from family and friends. This reduced reliance can mean that the relationship can have balance returned to it, where, for example, it may have become a cared for/carer relationship as opposed to mother/daughter. For the relational wellbeing of both people this is positive as they are more able to see each other purely to enjoy one another's company as opposed to carrying out a specific task.
 - Additionally, for the cared for individual, this can mean they no longer feeling that they are burdening the person who has been caring for them, which can often be the case.

The fifth, and final, Theory of Change focuses on self-care, and in particular washing.

Self-care: Outcomes associated with being able to wash yourself

Needs	Activities	Outputs	Primary Outcome	Secondary Outcome
Knowledge and information What is available to them	Hospitals, GPs and OTs make referrals coming to HIA – or self-referral Home visit to understand customer needs and offer person-centred response HIAs can give general advice on: <ul style="list-style-type: none"> Schemes to help with adaptations, improvements or repairs Alternative housing options How to complete forms for local authority grants Legal entitlements Case workers building relationships and explaining options Demonstration of different adaptations by case workers, design team etc.	Home visits Telephone contacts with HIAs Telephone contacts with caseworkers	Customer gains the correct aids and adaptations that will help them The HIA is aware of the customer and their need for support. Customer makes an informed decision	The secondary outcomes detailed for the four rows below this are also secondary outcomes stemming from Knowledge and Information .
Physical wellbeing Maintaining/improving independence through enabling everyday self care tasks	Provision of appropriate adaptation and support around it	<ul style="list-style-type: none"> Wet rooms Walk-in showers Bath-rails Bath-boards Hoists 	Customers can wash themselves with reduced assistance Reduced risk of injury from getting into/out of baths	Reduced medical intervention as a result of injuries
Mental wellbeing Maintain or regain pride associated with privacy and self care	Occupational therapists, care workers and architects all work with the customer to empower them to make choices that meet their needs Relationships and trust are built with the customers	Contacts between customers and key professionals	Customers can wash themselves when they want – increased agency and reduced frustration Reduced stress and worry associated with having a shower or bath Reduced embarrassment at lack of privacy	Improved wellbeing for customers Improved wellbeing for family carers
Maintaining purpose and personal identity	Range of activities already mentioned facilitates meeting this need	Outputs above facilitate maintaining purpose and identity	Increased ability to go out and socialise when they want (not reliant on paid/family carers to help get ready) Balanced family dynamic returns as caring responsibilities reduced. Increased sense of control of own lives	Reduced early entry into care Reduced need for paid care in the home
Financial assistance	Helping customers to understand their situation and be realistic in managing expectations (including timeframes) <ul style="list-style-type: none"> Advice on the scale and cost of any works Help with choosing reputable and reliable contractors Monitoring contractors' performance Help with contracts and documentation Local authority funding processes 	Funding is received where applicable Financial stress of installation relieved	Customers take up adaptations where otherwise may not have, as it does not negatively impact them financially.	Aids and adaptations are accessible to all – self-funded or through grants etc.

Main Findings: Self-care

- **Larger adaptations, such as wet rooms, enable people to stay in their homes for longer as opposed to entering care**
 - A main reason why many people leave their home and move into a care setting is because their home is no longer suitable to their needs. For example, someone who requires a wheelchair to move around can struggle to find a way to get up and down stairs in order to reach the only bathroom in the house.
 - An adaptation, such as extending the downstairs of their house to incorporate a wet room that they are able to use fully independently means that they would be able to stay in their home.
 - A person's home is key part of their identity: for some, it is where their family is and they would not want to leave and live without them and for others, it is where they have lived for a very long time, holding all of their memories and somewhere to which they are very attached.
 - Making these adaptations work for the person is quite nuanced. For an older person experiencing declining steadiness and mobility, it's about getting safely to the bathroom, perhaps getting upstairs in a stair lift, and then manoeuvring themselves safely and comfortably in and out of the shower or wet room. For a younger disabled person reliant on a wheelchair this may mean an extension to the house, with enough room to move from the wheelchair to wash safely and without help.
- **Enabling independent self-care allows people to care for themselves with dignity and privacy**
 - Requiring the help of others, whether it be family or formal carers, to clean oneself can be a source of shame and embarrassment for many. It is something that people want to be able to do for themselves and on their own terms, as opposed to having to wait for help to arrive.
- **Maintaining personal identity and self-respect underpins the continuation of positive social contacts**
 - If an individual is unable to keep themselves clean they are less likely to want to socialise with their friends and family, and, sadly, vice versa. Their personal hygiene, compounded by the concerned reaction of others, impacts upon their personal pride and they may be reluctant to ask for help. This type of shame can lead to them withdrawing from social groups and eventually becoming lonely and with only minimal contact.

4. Where's the value: looking at Foundation UK's four personas

Separate to this study, Foundations has developed four personas designed to represent four regularly encountered customers and circumstances with which HIAs interact. The Foundations' personas are broadly representative of the HIA customer base and their selection or delineation is based on quantitative evidence⁶. They are detailed enough to give a flavour of the person and their description goes beyond the immediate requirements of organisations engagement; giving a glimpse of the person behind the facts. They have been sense-checked with HIA practitioners.

1. **Rachel** (aged 78)
2. **Mohamed & Nazia** (a couple in their 30s with two young sons, one of whom has learning difficulties and requires a wheelchair)
3. **Arthur** (aged 65)
4. **Shirley & Tony** (a couple aged 53 and 58)

Within this section is a summary of each of the four, whilst the detailed personas can be found in Appendix D.

In developing the Theories of Change in section 3 above, our work built upon these personas in our workshops with HIA case workers to bring about key points for each persona:

- The current situation
- Barriers to assistance
- Which of the HIAs activities could help
- What is the potential impact.

It was clear in developing these in this setting that the personas genuinely represented frequently encountered exemplars of need and solution, so together can be used to explain the range of support that HIAs bring.

Each persona has then been storyboarded into a timeline of what their future could look like, examining two different streams: one in which the HIA has been able to assist them and one where HIA interaction has not occurred, or has occurred later on. The activities and outcomes are discussed in boxes along the timelines, which also explains the impact this has on the person and the people important to them. At points along the timelines there are cost tickets highlighting cost that are incurred as decisions are made. For each stream, long term implications are shown at the end alongside a total figure of costs incurred.

In the following pages each persona is introduced, and the story is developed into how the HIA interacts and proposes solutions. This leads into the comparative timeline, which is then commented upon, and some key lessons drawn from it. In each timeline a duration has been chosen that fairly reflects a period over which the likely outcomes can be confidently mapped and described. The duration selected is shown under the name box in the top right-hand corner of each.

It is clear from these timelines that the potential cost implications of inaction are far more expensive than even some of the more costly adaptations that a HIA might make. We believe that the potential costs which are avoided, or lessened, by the intervention of HIAs, that keep people living in their homes for longer, therefore represent cost savings to stakeholders such as Local Authorities and the customers themselves.

⁶ [Foundations](#)

The calculations behind these costs are detailed in Appendix C of this report.

Rachel (aged 78)



The current situation:

Rachel is an independent older woman who enjoys maintaining her home and keeps up a busy social life as well. She is beginning to struggle with arthritis and hypertension, and these are beginning to make it harder for Rachel to keep her home the way she likes. However, she does not view these as debilitating - just a natural part of aging - and something she is determined won't stop her living and enjoying her life.

Barriers to assistance:

The main barrier to Rachel receiving assistance is her strong sense of independence and determination to have control over her life and her home. Equally, in not seeing her arthritis and hypertension as debilitating, her attitude is that she does not need any help. She feels that she is still capable of pushing on herself.

This makes initial engagement with Rachel challenging for a HIA and it may take something like a suggestion from a friend or an incident, such as a fall, to encourage her to open up to contact and to realise that with help, her life can be improved.

Which activities could help:

Initially Rachel would benefit from speaking to the HIA's case worker to build trust with them.

Grabbers will help her to carry out daily tasks around the home as it will mean that her arthritis won't affect her grip.

The case worker could also arrange for the LA handy-man service to help with some of the larger maintenance tasks around the house, that Rachel hasn't been able to tackle.

What is the potential impact:

Rachel's home is kept in the way that she desires, maintaining her **sense of identity** and potentially encouraging her to have guests over to socialise – remaining **connected**.

Rachel has a sense of **purpose and pride**, at being able to keep her home to the standard she wants by herself.

Rachel Case Study

4 years timeline

Key
— = HIA intervention
— = Without HIA intervention

Rachel is an independent elder woman, who enjoys maintaining her home and keeps up a busy social life as well. She is beginning to struggle with arthritis and hypertension, and these are beginning to make it harder for Rachel to keep her home the way she likes. However, she does not view these as debilitating, just a natural part of aging, and something she is determined won't stop her living and enjoying her life.

1 Rachel thinks that she does not need assistance. She refuses any offer of help - believing that changes to her home will be ugly and therefore impact on how she views her home and her pride in it.

2 Rachel's begins to struggle to keep her home clean and in a way that she feels comfortable letting her friends come to visit. She begins to refuse friends and family coming to visit and her relational wellbeing suffers as a result.

The HIA make initial contact with Rachel but she is reluctant to make even the smallest of changes to her home and way of life.

2 The HIA's case worker works hard to build a rapport with Rachel and she begins to see how she can benefit from some minor adaptations.

3 Rachel begins with a handrail that will help her get in and out of her bath more easily and more safely, limiting the risk of her slipping and falling. This means that Rachel can continue to wash herself without the need for assistance from a carer, therefore preserving her from the sense of embarrassment that could come from depending on someone else.

4 Rachel is finding it harder to move around her home and make sure that it is clean and tidy as she likes it. She is also beginning to only leave the house when she has to, like for shopping, because she is becoming increasingly wary of tripping at her front door. This means that she is seeing her friends a lot less. Rachel doesn't have her friends to visit because she doesn't feel that her home is presentable and she doesn't leave home for fear of hurting herself.

3 When trying to clean her home, Rachel falls over and hurts her knee and she takes herself to A&E.

4 In addition to the physical impact of the fall, this also has a psychological impact on Rachel. She becomes anxious that she could fall over again. Rachel's family also worry about her being alone in her home, but Rachel stays stubborn and continues to refuse the help of adaptations.

5 Despite the adaptations, Rachel still struggles to be confident moving around her home and when trying to clean herself. She remains reluctant to have people come and visit her. She does not want to become a burden to her family, who have offered to come and help her around the home regularly so she instead successfully applies to the Local Authority for a home care provision, visiting morning and evening.

5 Rachel's knee takes a long time to heal, which further adds to her isolation. Her period of time resting means that she is exercising even less and she suffers muscle wastage.

6 The GP and Social Services both begin to voice concerns about her isolation, including her nutrition which is also suffering.

Long-term
 Rachel is able to stay in her home and live as she chooses. The good relationship that has been built between her and the case worker also means that should anything arise in the future she can trust that the best solution will be found. Rachel's continued movement around her home, carrying on cleaning and getting out to meet friends keeps her mobile and means that she retains her strength, reducing the risk of her falling over. She enjoys renewed contact with her friends who come to visit a lot more now that she has her renewed sense of pride about her home and how tidy she can keep it. She also feels a big sense of relief because she feels like she will not ever need formal help.

5 Rachel's relationship with the case worker means that she can approach them easily to begin a discussion about further help. They decide to install handrails both inside and outside of Rachel's home, in addition to a step being installed to her front door. The assistance of the handrails make it a lot easier for Rachel to move around her home safely and enables her to continue to keep her home clean and to her high standards - preserving her pride in her home.

9 For Rachel, losing mobility is hard for her to take as she can feel her independence slowly being lost. Her mental state begins to deteriorate but her family are able to reassure her.

8 Rachel's worry at falling over again means that she eventually decides to fit handrails in and outside her home, giving her a little more confidence. She also, after discussions with her family and friends, decides that she needs a level access shower so that she can be more confident washing herself again. Despite the better access, Rachel resents the 'ugly' shower and is reluctant to use it. To her the shower represents her reducing independence. The risk of falling remains as a result.

Long-term
 Rachel feels safer in the care home but feels restricted and like she has lost her independence, her family worry for her mental health as she is showing signs of depression, especially due to seeing that she is lonely, they are able to seek help for this via her GP.

10 Rachel's mobility continues to decline and this further impacts negatively on her health and fitness. She gives up her fight to stay living on her own and, after some persuasion from her worried children, accepts that she must move into a care home in order to feel safe.

NB: costs included for care homes do not take into account for the sale of the home to pay for the cost of a care home so this figure may be higher.

£972

£68

£904

£1,325.40

£18,250

£6,974

£99,343

£141,484

When evaluating Rachel's story, we have done so over a four year period. This is probably the maximum reasonable period over which we can have reasonable certainty, taking into account her age (78) compared to a natural life expectancy of 82.

What changes for Rachel:

Without valuing every single element of Rachel's future story, we can see a minimum likely cost saving of **£141,484** as against a cost of fitting adaptations of **£972**. These figures are stated before allowance for any sharing of the value of that improvement between the various parties involved in making it happen ("alternative attribution"), and assumes that Rachel uses the adaptation effectively so that it does genuinely stop her having a fall. Key features of the cost savings are:

- The costs for A&E attendance and other medical support to deal with the aftermath of a fall;
- The need to bring in home care support as she becomes less confident moving around her home.
- As she becomes more frail and less mobile she moves into a care home.

This cost analysis does not reflect the extent to which the valuing of her property or other savings, might be called upon to cover part or all her care costs.

Other key findings are:

- **Small adaptations can generate large savings and significant impact**
 - The largest saving comes from the avoidance of Rachel eventually moving into a care home. Through steps taken early in Rachel's green timeline, her physical condition is prevented from deteriorating to the point at which she needs such support.
 - The contrasting long-term pictures are very different because of this.
 - In the care home, Rachel is very unhappy because she feels that she has lost her home, and with it her independence. For someone like Rachel, who is attached to her independence and living by her rules, a care home can feel like a restrictive environment. Her family are aware of this but they and Rachel do not have another option due to Rachel's immobility and therefore inability to care for herself safely.
 - By being able to stay in her home as her mobility and therefore independence are maintained, Rachel's outlook is far better. The most important elements to Rachel are her independence, her home and her social life – all three of which help to maintain her sense of purpose and are enabled by the small adaptations early in her timeline.
- **The impact of a fall is greater than just the physical pain and difficulty**
 - The physical impact of a fall is significant, both in cost to the NHS to treat Rachel and the pain and subsequent recovery that Rachel experiences. Rachel's mobility suffers because of this, especially whilst she recovers, which is also when she will experience muscle wastage and regression due to inactivity.
 - However, the most profound impact comes from the loss in confidence Rachel feels because of her fall. Feeling less confident means that Rachel does less around the home, as well as leaving home less. This reduction in her movement and exercise means that she loses mobility very quickly, which means she moves around even less and repeats the cycle. Additionally, as less is done around the home, Rachel's pride in her home is lost, and as this continues, she is less likely to want to host people at home. This is compounded by the fact that her decreasing mobility means she is not confident leaving her home either, so her social interactions are severely limited, leaving her feeling lonely and isolated.

Mohamed and Nazia (a couple in their 30s with a young family)

The current situation:

Mohamed and Nazia both work full time and have two children, aged 10 and 7. Their eldest, Nadeem, has learning difficulties and is a wheelchair user. Their culture is very important to the couple and it influences every element of their way of life, including the way they care for their children.

The family rent their home from a registered provider (a social landlord). They already receive some Local Authority assistance in the form of a transport service to and from school for Nadeem. Nadeem's bedroom and the bathroom are upstairs and Mohamed has to carry Nadeem so that he can get up and down the stairs. Nadeem is on the brink of his teenage years so this is something that will become increasingly challenging over time as he gets bigger.



Barriers to assistance:

Mohamed and Nazia are unable to make any changes to their home without having already secured their landlord's permission.

The family's way of life is important to them and as such they don't want to have anything forced upon them that will compromise that.

Which activities could help:

There are multiple ways in which the HIA could help this family. Many of these are focused around Nadeem and his wheelchair, and the obstacles it creates:

- Stair lift so that Mohamed doesn't have to carry Nadeem on the stairs
- Creation of a wet-room so that Nadeem can wash himself
- Adapting the home (even to the extent of an extension) so that Nadeem's bedroom is downstairs, reducing the occurrence of him needing to go upstairs
- Adaptions to the kitchen (e.g. a lowered surface area) so that as Nadeem gets older he is not reliant on his family to prepare food or drink

What is the potential impact:

Nadeem's **independence** is increased, particularly into his teenage years when this is very important. He grows in **confidence** as his reliance on others reduces and he doesn't see himself primarily as a wheelchair user.

As a result of Nadeem's increased **independence**, the rest of the family are relieved of some of their caring duties and are able to take back some time for themselves.

The **family dynamic** of carer/cared-for person is reduced and the family are able to enjoy more time together as a family without the barrier of Nadeem's wheelchair.

Mohamed & Nazia Case Study

20 years timeline

Key
● = HIA intervention
● = Without HIA intervention

Mohamed and Nazia both work full time and have two children, aged 10 and 7. Their eldest, Nadeem, has learning difficulties and is a wheelchair user, due to weakness in his legs but does maintain good strength in his upper body. Their culture is very important to the couple. The family rent their home from a registered provider. They use the LA provided transport service to and from school for Nadeem. Mohamed has to carry Nadeem so that he can get up and down the stairs. This is something that will become increasingly challenging over time.

1 Nadeem relies upon Mohamed to take him up and down the stairs and move him around the house because his wheelchair does not fit through all of the doorways. This is frustrating for Nadeem because he is reliant upon his dad to be able to do what he wants and when. Additionally, as Nadeem grows bigger this is becoming a greater physical strain upon Mohamed.

2 Mohamed hurts his back carrying Nadeem, Nazia is unable to help him and she calls an ambulance. Whilst Mohamed recovers, Nazia tries to help Nadeem but this proves hard, leaving Nadeem stuck in his room for much of the day.

3 The family's GP, Social Services and Mohamed and Nazia are concerned that if Nadeem fails to develop independence and life skills that he will need higher levels of care in adult life. He is in need of more physical activity to maintain muscle growth and develop as he grows, there is also concern that lifting and carrying him risks injury to his parents and becomes increasingly impossible as he becomes bigger.

4 The long-term aim is for Nadeem to be able to live and move around the house of his own volition. Initially a stairlift is installed so that Mohamed doesn't have to carry Nadeem up the stairs anymore.

5 Being alone in his room all day makes Nadeem feel increasingly lonely and angry and frustrated. His frustration boils over more and more often, with outbursts mostly aimed at his family. In one instance he throws his dinner plate at Nazia, leading to another trip to A&E and stitches. Despite attempts to understand, the relationships between Nadeem and his family are affected.

6 In reaction to Mohamed hurting himself, the family decide that professional help is needed and Local Authority carers are arranged to help Nadeem first thing in the morning and last thing at night. Nadeem will continue to need this help throughout his life. Whilst this relieves the physical strain upon Mohamed, for Nadeem he is limited even more than before as he has to wait for the carers to arrive to get into and out of bed, and finds himself at the mercy of the carers schedules.

7 As Nadeem continues to grow, so does his reliance upon the carers. He is also becoming increasingly isolated from both the family and his friends due to his immobility. In his teenage years, when he wants to be becoming more independent and social he is doing the opposite, this is something that begins to impact upon his mood.

1 The HIA case worker makes contact with the family and starts to build a picture of the needs of the family. Mohamed and Nazia are keen to engage because they can see how their situation could worsen if left unchanged for much longer.

2 It becomes clear that the main needs that are emerging centre around Nadeem's increasing need for independence and for the strain to be lifted from his parents in physically supporting him.

5 When speaking to the case worker, the family do discuss a potential move to a more suitable home. However, they make clear that they want to remain where they are due to every element of their life being in the locality. Both children have established friendship groups, both parents can get to their work easily and they also have family nearby.

6 The family can regain their own independence and not be worried about Nadeem needing their help. For Nadeem, he gains his independence. He does not want to have to rely on family for things such as washing himself or having to live to other people's schedules to do what he wants.

8 The transition into care is not easy for Nadeem and his outbursts continue. Nazia feels a large amount of guilt at having to put Nadeem into care and begins to receive treatment for depression.

8 The family continue with the same set-up for a while but the impact upon Nadeem is significant and he requires treatment for depression. The aggressive behaviour toward his parents becomes more regular and Nadeem also starts to self-harm.

Long-term
Nadeem settles into his care home but he requires a higher level of care than if he could care for himself more. Nazia's depression continues at Nadeem moving into the care home, affecting her relationship with Mohamed, her daughter and also her community, from whom she withdraws significantly out of shame. Nadeem's sister's behaviour improves but as she grows older she misses Nadeem. Nazia sees this, which compounds her depression. Nazia's depression impacts upon her work, taking an increased number of sick days and her ability to carry out her job is also noticeably impacted. Mohamed still suffers pain in his back occasionally and as he moves into older age he is scared of further damage.

Long-term
The family is able to stay in their home. Mohamed and Nazia are able to stay in their current jobs and their two sons can continue to attend the same schools where they are settled with their friends. The extension means that Nadeem can become more independent and is less reliant upon help from his parents. As he grows older and increasingly aware of his disabilities, his independence is something that he is extremely proud of and does not feel like a burden to the rest of his family. Nadeem's confidence and progress means that when he reaches the age of 21 he decides that he wants to move out in order to experience more independence. He moves into a shared, supported living placement that allows him the independence he feels he needs now that he is an adult.

7 As a way to stay in their home, the family work with their case worker to apply for major adaptations to their house. The case worker is also able to speak with the family's landlord to ensure that the adaptations can be made. They apply for and secure funding for doorways to be widened, to suit Nadeem's wheelchair, raised electrical sockets, lowered light switches and an extension to the home that will create a downstairs bedroom and wetroom for Nadeem to be able to live entirely on one level.

9 Mohamed and Nazia decide with Nadeem he needs more support than they are able to give him. He moves out of the family home and into a high dependency care home for young people.

£321,671

£45,088

£1,886

£1,612,358

£1,886

£689,89

£938,89

£18,250

£1,644,869

In evaluating Mohamed and Nazia's story, we have modelled the timeline over a 20 year period so as not to over assume benefits by looking at Nadeem's whole life. The 20 years allows us to see into his adulthood and the potential impact that can be seen but without going so far into the future where costs are increasingly hard to allocate accurately.

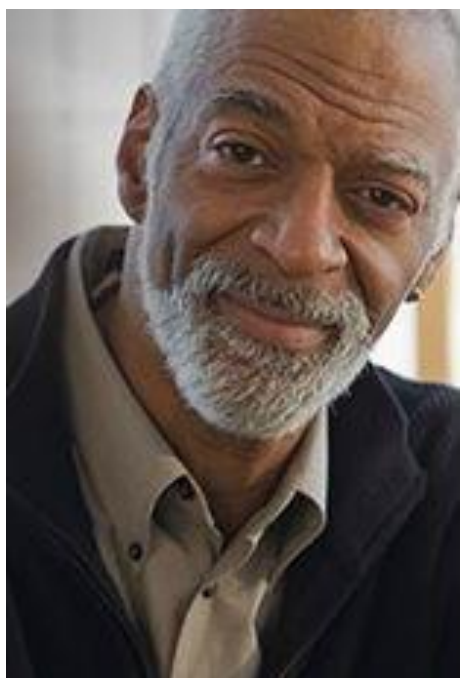
What changes for Mohamed and Nazia:

For Mohamed and Nazia's story, we can see a minimum likely cost saving of **£1,644,869** as against a cost of fitting adaptations of **£321,671** (including Nadeem's eventual entry into an independent living provision). These figures are stated before allowance for any sharing of the value of that improvement between the various parties involved in making it happen ("alternative attribution"), and assumes that the family use the adaptations effectively. Key features of the cost savings are:

- The costs for A&E attendance for Mohamed injuring his back and Nazia after a physical outburst from Nadeem;
- The need to bring in home care support for Nadeem twice a day;
- The move made by Nadeem into a high dependency care home.

Other key findings are:

- **Impact is amplified within a family unit and not restricted to the person with the primary need**
 - Looking at the dark blue timeline (without HIA intervention), Nadeem's immobility has a spiralling impact upon his ability to live independently and the quality of life he can expect as he grows older. Isolation, frustration and anger builds in loneliness and loneliness into depression.
 - Mohamed suffers the physical, and long-lasting, impact of trying to carry Nadeem up the stairs and the consequent back injury he must endure. For Nazia, she also suffers an injury but there is greater impact upon her mental wellbeing. She feels guilty about her son needing to enter formal care and this eventually leads to depression.
 - Nadeem's younger sister's mental state is impacted due to her becoming frightened of Nadeem's frustrated outbursts. She also gets confused and cannot understand why Nadeem receives more of their parents' time and attention.
- **Just as for the small scale, the impact of large scale adaptations is greater than the cost of putting them in place**
 - Although the extension to facilitate Nadeem's wet room is an expensive adaptation, it is the critical factor in him being able to continue to live at home where he can learn and develop best. Without this adaptation being made Nadeem would be more likely to need to enter a care setting far earlier, and therefore generate a far higher cost.
- **There are many more personal and relational impacts than those which we have evaluated, some of which do have financial consequences but for the sake of being conservative these have not been given a value at this stage.**



Arthur (aged 65)

The current situation:

Arthur is recently retired and lives on his own, having been divorced for ten years now. He has chronic kidney failure and needs dialysis three times per week.

Arthur has strong ideas about how his home should be, and has maintained and repaired his home himself. He also avoids engagement with other people, unless it is on his own terms.

Barriers to assistance:

The primary barrier is Arthur's attitude and unwillingness to engage. The practitioners will have to invest a lot of time in trying to earn Arthur's trust and convince him that they will be able to help to improve his life, empowering him to make an informed decision.

Which activities could help:

The primary activity, and reason for the referral, is for Arthur to be able to receive dialysis in his home.

Adaptations can be made around the initial need as well, for example ways in which his receiving of dialysis can be made more comfortable for Arthur. This could be simple things like decorating and purposing the room that the dialysis machine will be in, making it as comfortable and relaxing as possible for him.

Additionally, once they have Arthur's trust, it may be possible to introduce him to a partner agency that provides services such as befriending, as a way to increase his social interactions. That can open up many wider opportunities for him, should he choose to get involved in them.

What is the potential impact:

By installing the machine in his home, it makes the dialysis far less of a burden for him – especially as he requires it three times a week. It takes up far less of his time as he no longer has to attend the hospital and avoids the frustrating waiting around associated with hospital appointments. As a result, Arthur feels a greater **sense of control** over his health and the way he lives, reducing his stress and anxiety. His treatment feels less harsh and medical by having it in his home and in making the room in which it happens more suited to him improves this too.

Arthur Case Study

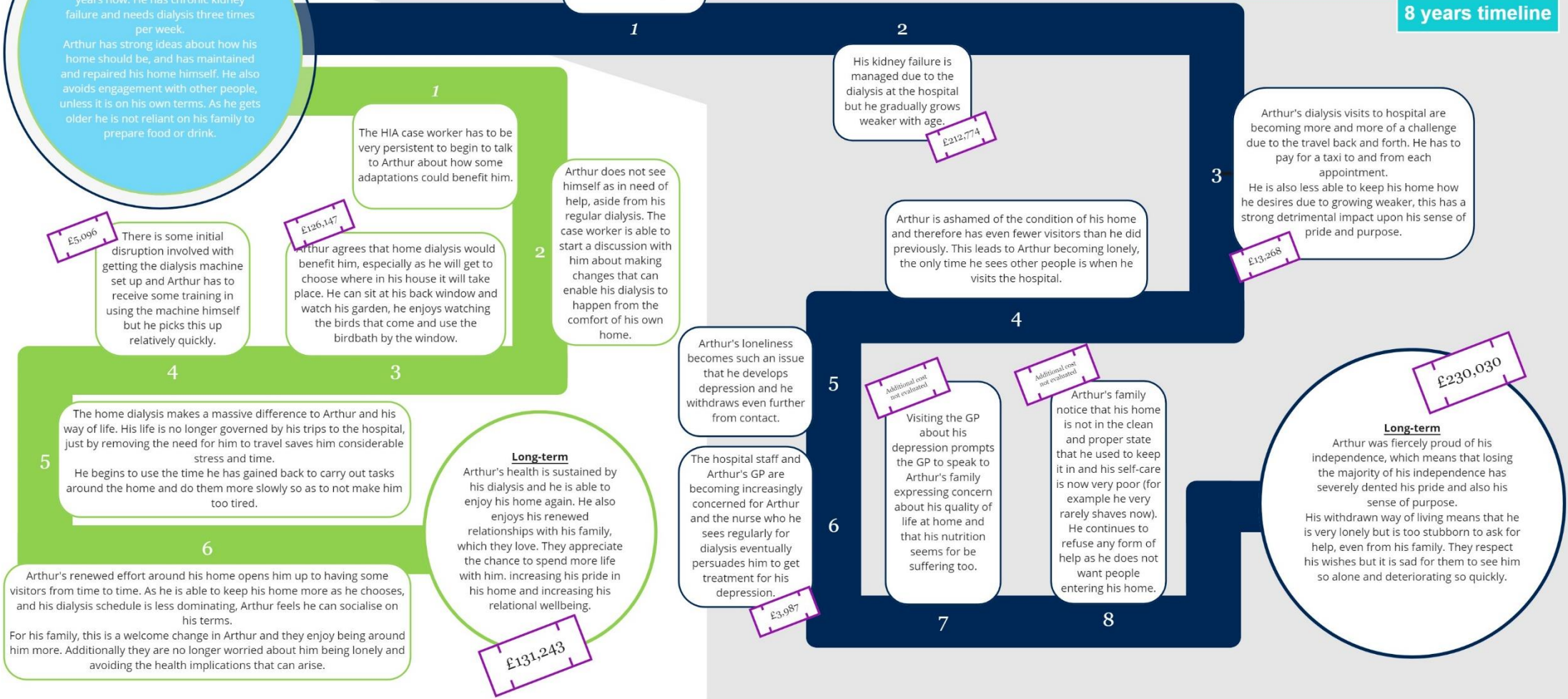
8 years timeline

Key

- = HIA intervention
- = Without HIA intervention

Arthur is recently retired and lives on his own, having been divorced for ten years now. He has chronic kidney failure and needs dialysis three times per week. Arthur has strong ideas about how his home should be, and has maintained and repaired his home himself. He also avoids engagement with other people, unless it is on his own terms. As he gets older he is not reliant on his family to prepare food or drink.

Arthur resists any approaches of help being offered and persists with attending hospital to receive his dialysis.



When considering Arthur's story, we have modelled the timeline over an 8 year period which is a representative estimated life expectancy for a person having suffered kidney failure and receiving dialysis. The average life expectancy of a person receiving dialysis is between 5-10 years⁷ so we have used 8 years as a timeframe within that range.

What changes for Arthur:

Without valuing every single element of Arthur's future story, we can see a minimum likely cost saving of **£230,030** as against a cost of fitting adaptations and the home dialysis which they enable, of **£131,243**. These figures are stated before allowance for any sharing of the value of that improvement between the various parties involved in making it happen ("alternative attribution"), and assumes that Arthur is able to use the home dialysis machine effectively and independently. The key to these cost savings are the difference between Arthur using a home dialysis machine himself as opposed to him having to visit hospital three times per week to receive his dialysis.

Other key findings are:

- **The persistent support and encouragement of the HIA case worker was key.**
 - It built Arthur's confidence, ensured that he both felt and was better informed about the decision and could see clearly the benefits to him of home dialysis. This linked with advice from his doctor and nurse to show that what was being suggested was also medically sound.
- **In Arthur's case the difference in cost relates to how his dialysis is delivered**
 - By delivering it at home it is more convenient and comfortable for Arthur and reduces the upheaval, challenge and time taken in travelling into the hospital. From the hospital's point of view it frees up some of their capacity to support other people since Arthur is becoming self-sufficient he does not need to take up professional medical time supporting him in his regular dialysis and this results in a halving of the overall regular costs.
 - In addition to the monetary saving, the positive impact upon Arthur's health of consistent and regular dialysis could result in him having an increased chance of a kidney transplant, if his doctors believed it to be necessary⁸. We have not included this in the monetary impact of Arthur's timelines in part due to his age which makes him an unlikely candidate for a transplant.
- **A relatively simple change can deliver both significant cost savings and better intangible outcomes for the homeowner**
 - The intangible impacts of Arthur being able to dialyse at home stem from the time he regains from no longer having to attend the hospital. He is able to use this time to bring his home to a point where he feels able to renew his relationships with his family, which has a profound impact both for Arthur and for his family.

⁷ National Kidney Foundation

⁸ National Kidney Federation



Shirley and Tony (aged 53 and 58)

The current situation:

Shirley and Tony are a married couple with a strong work ethic and active social lives. Shirley is 53 and works part-time in a large supermarket. Tony is 58 and was a HGV driver, but retired at 55 due to poor health.

They sold their 3-bedroom home when Tony retired, and they bought a two-bed bungalow, with an open plan living room/dining room. There are some unresolved repair issues in the property.

Tony now has poor mobility, and although the bungalow helps being on one level, he's struggling with the bathroom, as it has an over-bath shower.

Barriers to assistance:

Shirley and Tony's situation doesn't present much in the way of barriers, their forward-thinking decision to move from a house

into their bungalow suggests that they are proactive and would be open to changes that mean they can continue living as they choose.

Which activities could help:

A wet-room, or other alternative bath, so that Tony can wash himself more easily.

The home could benefit with the handyman service that many LAs have available and this would make the home more accommodating to them.

What is the potential impact:

Being able to wash more comfortably increases Tony's **independence** and **ability to socialise**, as well as his **confidence** that he won't hurt himself carrying out his personal care.

Shirley & Tony Case Study

13 years timeline

Key

- = HIA intervention
- = Without HIA intervention

Shirley and Tony are a married couple with a strong work ethic and active social lives. Shirley is 53 and works part-time in a large supermarket. Tony is 58 and was a HGV driver, but retired at 55 due to poor health. They sold their 3 bedroom home when Tony retired, and they bought a two-bed bungalow.

Tony now has poor mobility, and although the bungalow helps being on one level, he's struggling with the bathroom, as it has an over-bath shower.

Shirley and Tony are positive people and try to keep up the lives they enjoy despite it becoming increasingly hard as Tony's mobility lessens and with it, his independence over time.

For Tony, he is determined to keep trying to clean himself. He is especially determined because he and Shirley still want to enjoy entertaining their friends.

Shirley and Tony have been proactive and therefore engage quickly and enthusiastically with the HIA's case worker. They are scared of losing the life that they have together.

To further aid Tony's mobility, the couple also agree to installing handrails, inside and outside, and a step at their back door. This increases Tony's confidence, and he doesn't feel confined to "safe" parts of the home. In increasing Tony's confidence, this also increases the confidence of the family, reassuring them that he isn't at risk of falling and hurting himself.

Shirley and Tony's children still visit regularly but these visits are now more centred around spending time together as a family, as opposed to visiting alongside carrying out tasks for their parents around the home.

The new shower has a big impact for Tony, he is now able to wash as and when he likes, unassisted. He is no longer self-conscious of his personal hygiene when they have friends to visit.

Additionally, for Shirley this means that she does not need to help Tony, something which was getting increasingly hard due to his size in comparison to her strength.

Thirdly, for their children, they are far less worried about their parents putting themselves at risk now that Tony can be more independent.

Long-term
Shirley and Tony continue to enjoy their home and being able to host their friends and family. Their daughters both have children now and Tony feels very lucky to be able to contribute to them growing up. Shirley and Tony love babysitting and it gives Tony further incentive to stay mobile.

Tony's poor mobility makes showering very hard and eventually he falls trying to get out the shower. He is too heavy for Shirley to move him so she calls an ambulance, Tony spends 2 weeks in hospital recovering. This severely dents his confidence and also that of his family about Tony trying to look after himself.

The fall and injury limits Tony's mobility even further and he consequently begins to put on weight through lack of exercise.

Despite the family trying to help Tony to maintain his independence Shirley decides to give up work and become Tony's full time carer.

Shirley hurts her back trying to help Tony out of bed and has to visit A&E.

Shirley suffers ongoing back and knee problems which require a number of ongoing medical supports and are expected to reduce her long-term mobility.

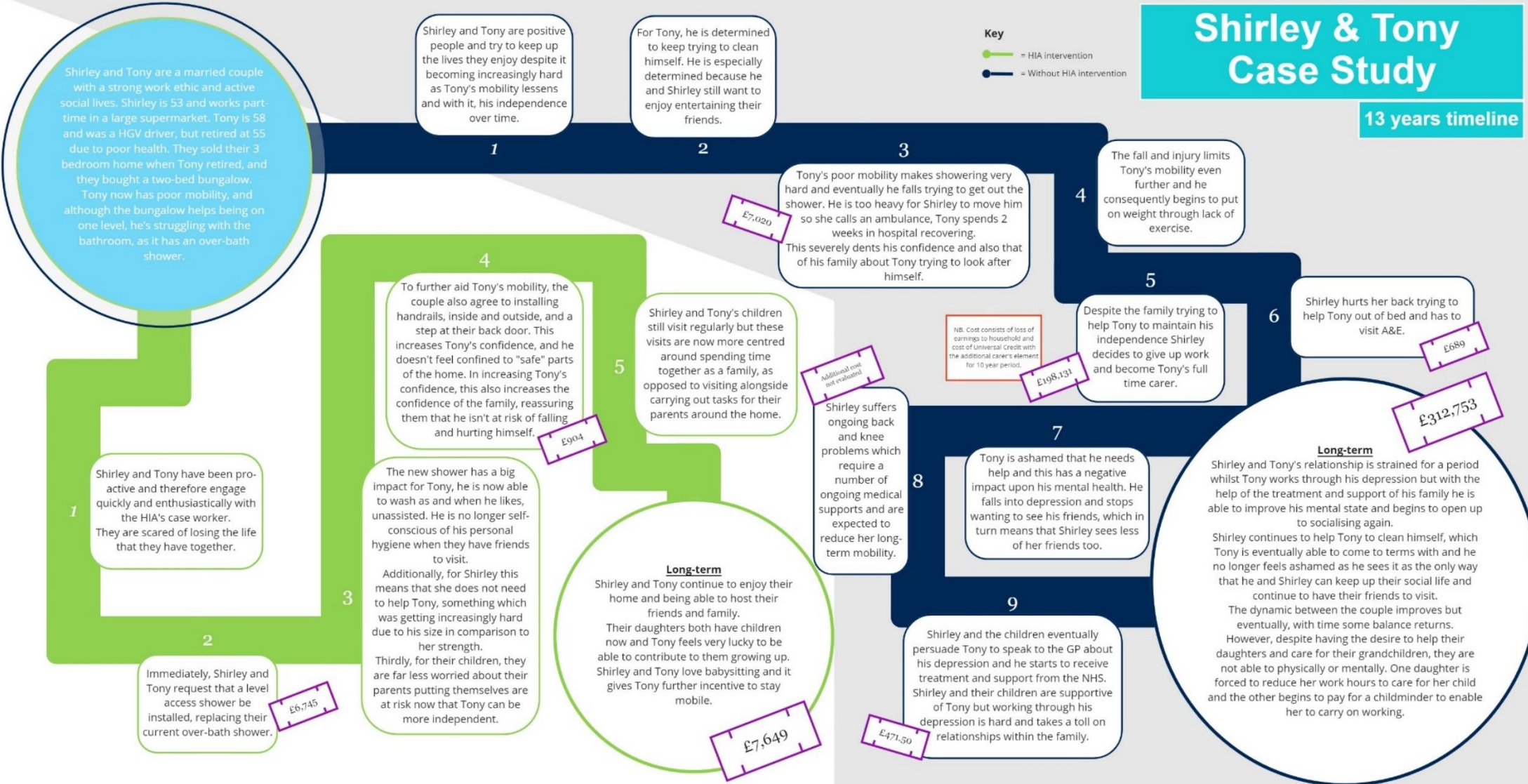
Tony is ashamed that he needs help and this has a negative impact upon his mental health. He falls into depression and stops wanting to see his friends, which in turn means that Shirley sees less of her friends too.

Long-term
Shirley and Tony's relationship is strained for a period whilst Tony works through his depression but with the help of the treatment and support of his family he is able to improve his mental state and begins to open up to socialising again.

Shirley continues to help Tony to clean himself, which Tony is eventually able to come to terms with and he no longer feels ashamed as he sees it as the only way that he and Shirley can keep up their social life and continue to have their friends to visit.

The dynamic between the couple improves but eventually, with time some balance returns. However, despite having the desire to help their daughters and care for their grandchildren, they are not able to physically or mentally. One daughter is forced to reduce her work hours to care for her child and the other begins to pay for a childminder to enable her to carry on working.

NB. Cost consists of loss of earnings to household and cost of Universal Credit with the additional carers element for 10 year period.



£6,745

£904

£7,649

£7,020

Additional cost not evaluated

£198,131

£471,50

£689

£312,753

In evaluating Shirley and Tony's story, we have modelled the timeline over a 13 year period so as to not over-inflate the numbers by looking at the whole of the rest of their lives. 13 years is the period of time until Shirley reaches retirement age at which point the couple's income situation will change again.

What changes for Shirley and Tony:

Without valuing every single element of Shirley and Tony's future story, we can see a minimum likely cost saving of **£312,753** as against a cost of fitting adaptations of **£7,649**. These figures are stated before allowance for any sharing of the value of that improvement between the various parties involved in making it happen ("alternative attribution"), and assumes that the couple use the adaptation effectively so that it does genuinely prevent falls and other injuries. Key features of the cost savings are:

- The loss of Shirley's earnings to the household when she gives up her job to care for Tony;
- The cost of Universal Credit, including the additional carers element, that Shirley receives upon giving up her job.

Other key findings are:

- **Compromises to mobility and independence for one occupier can have a significant impact on the wellbeing of the other, whether as carer or not**
 - For a couple like Shirley and Tony, if something happens to one then there will surely be an impact upon the other. From Tony's increasing immobility and his increased reliance upon support, Shirley first suffers physically when she injures her back trying to help Tony out of bed. Secondly, her mental wellbeing is negatively impacted by his descent into depression – and she does not see her friends to gain from their support because of Tony's reluctance to socialise. Thirdly, in giving up her job to become Tony's carer she experiences a shift in her personal identity and purpose.
- **Access to a conventional bath or shower may be a point of significant risk to someone unsteady on their feet or with a back injury**
 - The predominant adaptation along Shirley and Tony's green timeline is a level access shower. This is able to generate such significant impact because it is central to Tony's everyday life.
 - If this adaptation is not made then the likelihood of Tony falling at some point attempting to get in or out of their over-bath shower is very high and so are the consequences of the fall.
- **Loss of confidence significantly exacerbates the consequences of a fall**
 - If Tony was to retain his confidence after falling over, he would still attempt to move around and so exercise and maintain his mobility. Instead, as he loses his confidence, his mobility reduces and as a result he begins to put on weight, further reducing his mobility. It is the combination of these factors that lead to Shirley feeling she has no option but to leave her job and make sure she is at home to look after Tony – the lead generator of cost on their dark blue timeline.

- **Significant restriction on a person's ability to care for themselves can have a knock on effect in their mental health**
 - Personal care for oneself is a key element of how one sees oneself and how one perceives others see them. This personal image is a key driver of wellbeing and identity. As in Tony's case, not being able to clean and care for himself is a source of shame, embarrassment and eventually depression for him. This leads to him being reluctant to socialise and withdraw from his friendship groups.
 - His depression puts strain onto his relationship with Shirley and also due to Tony not wanting to socialise, Shirley's relational wellbeing also suffers as a consequence.
- **Wider family can also be heavily impacted**
 - Impact upon a person's wider family can often be invisible to everyone apart from those whom are impacted. We have been able to evaluate, and attribute a cost to, the impact of Shirley and Tony's inability to provide regular, informal child care to their grandchildren. On the dark blue timeline, one of their daughters is forced to give up their job completely, whilst their sibling must pay for a childminder instead. The costs associated with each of these actions (detailed at Appendix C), demonstrate the expensive choice that many parents are forced into around childcare and one that, in the case of Shirley and Tony, could be avoided.

5. Response to and comment on MHCLG's 'Research in Access to and Use of Buildings'

In the course of our research and evaluation, the Ministry of Housing, Community and Local Government (MHCLG) published 'Research into Access to and Use of Buildings', a report which consists of two parts: 'Part 1: The benefits of accessible housing' and 'Part 2: The effectiveness of current guidance for buildings other than dwellings'. The full report is available at: [Research into Access to and Use of Buildings \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Part 1 of this report shares some of its subject matter with our work. However, in focusing on purpose built or easily adaptable homes the report fails to give the necessary importance to the impact that can be achieved from enabling people to continue to live in the homes that they love and where they are most comfortable. Our research confirms the argument that keeping people from entering residential care where possible generates obvious savings to society. However, the argument made for moving to more suitable domestic premises misses the point that in a number of situations adapting their existing home may not only be possible but more appropriate because:

- Staying in the home you know and love, and where your community is around you, helps to maintain your identity and mental wellbeing
- The costs of adaptation may be significantly less than the costs of moving to a new home
- The rate of construction of new, accessible property cannot keep pace with increasing demand⁹.

The arguments around designing for accessibility and adaptability in the report are well made, and not inconsistent with the findings of our work. That report also comments on:

- The relatively low cost of adaptations in providing or enabling the independence of residents, which we have found to be a reason for making adaptations to their existing homes, and funding those out of public resources
- The significant savings to be gained from adaptations and the real avoidance of injury because of them – is consistent with our findings, which have illustrated these in detail
- The need to remove adaptations once the person that needs them has left that home, which we would observe is only the case if they are of a size, type and design which is not inclusive or universal: so it is not necessarily always the case
- The social consequences of the presence of adaptations making the home look clinical and institutional, as they label the person as needing them. This may be a reason for removing them after use (an argument made by that report), or it may be that
 - it is also a positive that people's needs are highlighted enabling friends and neighbours to be more forthcoming with support
 - as this report suggests, having the adaptations and being enabled by them may also be empowering
 - the answer to design that stigmatises the house is not to rip it out at the earliest opportunity but to redesign adaptations to be more inclusive, universal and aesthetically pleasing. Good design should work for all.

As this report has attempted to demonstrate, by placing individuals at the heart of the process, making the changes that will make a difference to **them** as opposed to what is deemed appropriate, HIAs and the adaptations they facilitate bring about far greater impact for those individuals. Whether that be through enabling them to stay living in a home where they have an established and fulfilling social network or helping them to continue to

⁹ Habinteg (Madaser et al.) 2020 noted that the proportion of accessible or adaptable homes scheduled to be built before 2030 fell from 32% of new homes to 29%. That is against a backdrop of over 400,000 wheelchair users living in premises not suitable for wheelchair use.

maintain their home so that they can continue to host guests and enjoy the company of family and friends, the impact upon mental and physical health, some of which it is not possible to quantify, must not be discounted.

6. Final Summary

Key observations across all areas of need

Looking across all of the areas of need examined, the following points stand out:

The role of the HIA is central to the success of an adaptation

We have identified that the two key points of interaction that a HIA has with customers fall into *Before* and *After* installation.

1. *Before*: empowering the customer with their full knowledge of the solutions to their needs. Many times this has been an adaptation of which the customer was not aware or had previously discounted due to a belief that it would negatively impact the aesthetic of their home, cost too much or be too disruptive to put in. HIA case workers are able to show them that this is often not the case and persuade them of the benefit that they will receive. Many customers are reluctant to make adaptations due to the perceived costs of purchasing and installing them. The HIAs extensive knowledge and experience means that they are able to help the customer apply for and secure funding for some, if not all, of the cost.
2. *After*: as has been mentioned in this report – in identifying the impact of adaptations, we have assumed that the customer is able to use their adaptation to its fully in order to benefit from it. This assumption is made because, through our conversations with Foundations, HIAs and other sector stakeholders, we have observed that HIAs' and OTs' relationships with their customers extend to supporting them once an adaptation is installed and provide training where needed. From this relationship, customers have a reliable and trusted advisor to whom they can turn if they have any further needs that emerge over time.

The link between confidence and mobility

Confidence and mobility are interlinked in the context of adaptations and they each feed the other. A person being confident in their mobility is going to move around more, exercising and improving their mobility and therefore increase confidence. From this there are numerous secondary outcomes that become more likely, for example confidence in mobility within the home can lead to an individual no longer feeling fearful of leaving their home either. Which enables them to continue increase or maintain their social interactions, visiting friends and attending activities which they would otherwise not be able to take part in.

Adaptations that increase mobility and therefore confidence can be relatively small and inexpensive, for example fitting an internal handrail costs roughly £104¹⁰ can be the trigger for the individual eventually not needing to enter a residential care home. To use the example of Rachel's timeline (page 23), the contrast between costs of minor, confidence-enabling adaptations and Rachel's eventual entry into care is stark. She receives adaptations at a cost of **£972**, whereas if these were not put in place her timeline is significantly more expensive: **£141,484**.

¹⁰ Combining the average cost including installation (£33) and the mean staff cost in process of provision (£71) of providing an internal handrail. Costs as listed in Mackintosh, S. et al. (2018)

The impact of independence is felt by the person in need and also those around them

As is evident across all four personas and their case studies, independence is a key element of a person’s sense of purpose and self-identity, and the loss of independence can have a monumental impact upon their wellbeing. What we observe in addition to this is that a loved one’s independence has a wider impact upon the wellbeing of the friends and family of that person.

The most powerful example of this is within Mohamed and Nazia’s case study and the independence of their son Nadeem. The relative independence that the HIA facilitates through making large-scale adaptations to the family home, has impact upon the whole family. To compare this to the potential timeline if there were to be no HIA intervention and Nadeem loses independence to the extent that the level of care he needs requires him to move into specialist care. Mohamed is injured and has long-term physical consequences of carrying his heavy son; Nazia is also injured but the largest impact is upon her mental state, feeling immense guilt at not being able to care for her son; and Nadeem’s younger brother is left confused and scared by his brother to the point that his behaviour at school changes drastically.

Independence is fundamental to the each of the five areas of need and if it is lost in one area the impacts can quickly spiral downwards to start to bring negative impacts in other areas also.

The cost of adaptations in relation to the value of the impact

The range of outcomes and minimum financial effects achieved in the four illustrative personas span a considerable range, as shown in the table below. They are all, however, strikingly positive from a financial perspective and show that appropriate home adaptations, well used, are not just life-changing in a human sense.

	Period illustrated	Cost with home adaptation	Cost without home adaptation	Ratio of illustrative costs
Rachel	4 yrs	£972	£141,484	146x
Mohamed and Nazia	20 yrs	£321,617	£1,644,869	5x
Arthur	8 yrs	£131,243	£230,030	1.75x
Shirley and Tony	13 yrs	£7,649	£312,753	41x

Our research indicates that the cost of a particular adaptation does not necessarily correlate to the amount of impact that can be achieved from it, or indeed the cost saving as a result. Largely this is because it is so dependent upon the person who will receive the adaptation and their situation. The contrasting illustrations for the personas of Rachel and Arthur are testament to this.

Essential to Rachel’s wellbeing is the ability to socialise with friends and family. A cheap set of adaptations avoid extremely costly events in Rachel’s later life. Rachel’s way of life is very different to Arthur’s, who is resolute and enjoys his own company. Aside from his dialysis he does not need any other adaptations to improve his wellbeing,



if it were not for his health condition he would not interact with the HIA at all and would therefore generate very little saving.

As such, we believe that the approach of the HIA must be to place the individual at the centre of their work. Each person is different in how they want to live their life and therefore place differing emphasis on certain elements. What is important to the individual must be the primary motivator for the HIA and how they seek to maintain, or increase, the individual's ability to do those things.

Appendix A: Glossary of key terms

Throughout this report we make reference to the Theories of Change that have been devised for the three age cohorts of Young People, Working Age Adults and Older Adults. These are shown in full on the following pages.

Within these tables, and throughout this report, we make reference to a number of terms which it is useful to understand the full definition under which they are used in this report. As such the following have been drawn from *Proposed approaches to social impact measurement in European Commission legislation and in practice relating to EuSEFs and the EaSI* report by the GECES (Groupe d'experts de la Commission sur l'entrepreneuriat social) subgroup on impact measurement – the full reference is available within this report's bibliography.

Inputs:	what resources are used in the delivery of the intervention.
Activity:	what is being done with those resources by the social enterprise (the intervention).
Output:	how that activity touches the intended beneficiaries.
Outcome:	the change arising in the lives of beneficiaries and others.
Impact:	the extent to which the change arises from the intervention.
Deadweight:	what changes would have happened anyway, regardless of the intervention.
Alternative attribution:	deducting the effect achieved by the contribution and activity of others.
Drop-off:	allowing for the decreasing effect of an intervention over time.
Framework:	a matrix of expected outcomes and sub-outcomes set within each major area of intervention.
Indicator:	a particular way of attaching a value to those outcomes and impact.
Intervention or Activity:	the work undertaken by a social enterprise that is directed towards the delivery of a social outcome for a given service-user or beneficiary group.
Social Impact:	The reflection of social outcomes as measurements, both long-term and short-term, adjusted for the effects achieved by others (alternative attribution), for effect that would have happened anyway (deadweight), for negative consequences (displacement) and for effects declining over time (drop-off).
Social Outcome:	social effect (change), both long-term and short-term, achieved for the target population as a result of the activity undertaken with a view to social change taking into account both positive and negative changes.
Theory of Change/Logic Model:	the means (or causal chain) by which activities achieve outcomes and use resources (inputs) in doing that, taking into account variables in the service delivery and the freedom of service-users to choose. It forms both a plan as to how the outcome is to be achieved and an explanation of how it has occurred (explained after the event).

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Appendix C: Calculations supporting the persona timelines

Rachel's timeline

GREEN TIMELINE			
Potential cost of preventative HIA assistance			£972.00
Adaptation	Cost	Staff cost	Total cost for adaptation
Handrail (internal)	£33.00	£71.00	£104.00
Handrail (external)	£49.00	£76.00	£125.00
Handrail to bath	£21.00	£47.00	£68.00
Step to front/back door	£563.00	£112.00	£675.00
			£972.00
DARK BLUE TIMELINE			
Potential avoided costs			£141,484.32
Event: Fall			
% of elderly who experience a fall within the year (65+)			30%
Cost of a fall			£4,418.00
			£1,325.40
Post event: LA home care provision			
Days per year			365
Assumed hours of care required per day			2
Median cost of home care per hour			£25.00
Assumed no. of years care required			1
			£18,250.00
LA Residential care home costs			
	Assumption	Calculation	Results
2 years of care (after a 3 year delay)			
Weeks in a year	52		
LA own-provision residential care for older people p/w (cost to LA)	£1,115.00		
Total annual cost		£57,980.00	
Discount rate	3.50%		
Delay prior to care commencing (years)	3		
Duration of care at this level (years)	2		
Annuity factor (including 5 year delay)		1.71	
			£99,343.82
Post event: Family care provision			
Weeks in a year			52
Carer's Allowance (35hrs p/w)			£67.25
Assumed no. of years care required (using life expectancy of 82)			4
			£13,988.00
Post event: adaptations to prevent repeated fall			
Adaptation	Cost	Staff cost	Total cost for adaptation
Fit handrail (external)	£49.00	£76.00	£125.00
Fit handrail (internal)	£33.00	£71.00	£104.00
Level-access shower	£5,599.00	£1,146.00	£6,745.00
			£6,974.00
Mental Health: depression			
Nat av % of people suffering from mental health issues			25%
More likely to suffer depression due to loneliness			3.4
Cost of treatment of depression for NHS p.a.			£943.00
Length of depression treatment ('three phase approach') years			2
			£1,603.10

Future Cost Discounting

Step 1 Delay everything by 3 years	0.902	
Step 2 Next 2 years	1.900	1.71
Assumptions		
Discount rate	3.50%	

We are assuming that for the first 3 years preceding the calculation, there is no care implemented.

Costs/Savings by Stakeholder**Green Timeline**

HIA	£972.00	
Total		£972.00

Dark Blue Timeline

NHS	£2,928.50	
Local Authority	£117,593.82	
DWP	£13,988.00	
HIA	£6,974.00	
Total		£141,484.32

Mohamed & Nazia's timeline

GREEN TIMELINE			
Potential cost of preventative HIA assistance			£321,671.96
Adaptation	Cost	Staff cost	Total cost for adaptation
Stairlift	£2,256.00	£654.00	£2,910.00
Extension for bedroom and wetroom downstairs	£40,498.00	£3,395.00	£43,893.00
Widening of doorways for wheelchair	£628.00	£341.00	£969.00
Raise electrical socket/lower light switches	£94.00	£132.00	£226.00
			£47,998.00
Low dependency supported living			
	Assumption	Calculation	Results
40 years of care (after a 11 year delay)			
Weeks in a year		52	
Average weekly cost of supported living residential setting (30 hours per week)	£1,010.00		
Total annual cost		£52,520.00	
Discount rate	3.50%		
Delay prior to care commencing (years)	11		
Duration of care at this level (years)	9		
Annuity factor (including 11 year delay)			5.21
			£273,673.96

Future Cost Discounting		
Step 1 Delay everything by 11 years	0.685	
Step 2 Next 9 years	7.608	5.21
Assumptions		
Discount rate	3.50%	

The entry to care is delayed until the age of 21. We are then modelling for the next 9 years of life in the supported living setting.

DARK BLUE TIMELINE

Potential avoided costs				£1,644,869.17
Mental Health: Nadeem depression				
Cost of treatment of depression for NHS p.a.				£943.00
Length of depression treatment ("three phase approach") years			2	
				£1,886.00
Mental Health: Nazia depression				
Cost of treatment of depression for NHS p.a.				£943.00
Length of depression treatment ("three phase approach") years			2	
				£1,886.00
Physical Health: Mohamed injury				
Cost of ambulance attendance				£242.00
Cost of taking the 999 call				£7.00
Cost per A&E visit (young and adult)				£689.89
				£938.89
Physical Health: Nazia injury				
Cost per A&E visit (young and adult)				£689.89
				£689.89
LA provision of home care costs				
	Assumption	Calculation	Results	
Assumed hours of care per day	2			
Days per year		365		
Median cost of home care per hour		£25.00		
				£18,250.00
High dependency care home				
	Assumption	Calculation	Results	
12 years of care as adult aged 18-30 (8 year delay whilst child)				
Weeks in a year		52		
Average weekly cost of supported living residential setting (100 hours per week)		£1,981.00		
Total annual cost			£103,012.00	
Discount rate		3.50%		
Delay prior to care commencing (years)		8		
Duration of care at this level (years)		12		
Annuity factor (including 5 year delay)			7.34	
				£755,948.18
9 years of care as child aged 11-18 (1 year delay)				
Adjusted cost of res. care for child with add. needs			£116,511.66	
Discount rate		3.50%		
Delay prior to care commencing (years)		1		
Duration of care at this level (years)		9		
Annuity factor (including 1 year delay)			7.35	
				£856,409.87
Presenteeism: Nazia's work impacted				
	Assumption	Calculation	Results	
2 years of impact of presenteeism during depressive episode (delayed until Nadeem entry to care)				
Assumed proportion of productive time lost due to presenteeism		17%		
Average per capita GVA in UK		23127		
Discount rate		3.50%		
Delay (years)		8		
Duration of absenteeism period (years)		2		
Annuity factor			1.44	
				£5,671.91

Future Cost Discounting		
Step 1 Delay everything by 8 years	0.759	
Step 2 Next 12 years	9.663	7.34
Assumptions		
Discount rate	3.50%	

We are delayed the entry into care by 8 years from the start of the timeline (aged 10) until Nadeem is 18 years old. And then modelling 12 years of life in care setting.

Future Cost Discounting		
Step 1 Delay everything by 1 years	0.966	
Step 2 Next 9 years	7.608	7.35
Assumptions		
Discount rate	3.50%	

Annual cost of care for child with additional needs adj. for RPI	
2012 cost to be adjust to 2020 cost	
Annual cost of residential care for child with additional needs	£105,552.00
2012 RPI	242.7
2020 RPI	293.1
RPI Uplift	0.104
Adjusted cost of res. care for child with add. needs	£116,511.66

Future Cost Discounting		
Step 1 Delay everything by 8 years	0.759	
Step 2 Next 2 years	1.900	1.44
Assumptions		
Discount rate	3.50%	

Absenteeism: Nazia's work impacted			
	Assumption	Calculation	Results
2 years of impact of absenteeism during depressive episode (delayed until Nadeem entry to care)			
No. of working days annually lost for people suffering anxiety, depression and stress		23.7	
Average per capita GVA in UK		23127	
Working days per year		248	£93.25
Discount rate		3.50%	
Delay (years)		8	
Duration of absenteeism period (years)		2	
Annuity factor			1.44
			£3,188.43

Future Cost Discounting		
Step 1 Delay everything by 8 years	0.759	
Step 2 Next 2 years	1.900	1.44
Assumptions		
Discount rate	3.50%	

Costs/Savings by Stakeholder		
Green Timeline		
HIA	£47,998.00	
Local Authority	£273,673.96	
Total		£321,671.96
Dark Blue Timeline		
NHS	£5,400.79	
Local Authority	£1,630,608.05	
Economy	£8,860.34	
Total		£1,644,869.17

Arthur's timeline

GREEN TIMELINE			
Potential cost of preventative HIA aided assistance			£131,243.37
Facilitation of home dialysis			
	Assumption	Calculations	Results
Annual cost of home based haemodialysis		£20,764.00	
Discount rate	3.50%		
Assumed no. of years care required (using a life expectancy of 8 years)		8	
Discount factor		0.759	
			£126,147.37
Set up cost and training of home dialysis			
One off set up cost of home dialysis		£5,000.00	
Clinical support worker nursing (community) per hour	£24.00		
Number of visits	2		
Duration of visits (hours)	2	£96.00	
			£5,096.00

Future Cost Discounting	
Discount rate	3.50%
Discount Factor for 8 years	0.759

We are assuming that dialysis enables Arthur to continue to live for a further 8 years.

DARK BLUE TIMELINE			
Potential avoided costs			£230,030.53
Continued dialysis in hospital setting			
	Assumption	Calculation	Results
Annual cost of hospital based haemodialysis		£35,023.00	
Discount rate	3.50%		
Assumed no. of years care required (using a timeline life expectancy of 8 years)		8	
Discount factor		0.759	
			£212,774.97
Effects of loneliness			
Depression			
More likely to suffer depression due to loneliness	3.4		x
National average of over 65s experiencing depression	25%		
Cost of treatment of depression for NHS p.a.	£943.00		
Annual cost		£801.55	
Discount rate	3.50%		
Assumed no. of years care required (using a timeline life expectancy of 8 years)		6	
Discount factor		4.97	
			£3,987.12
Cost of travel for dialysis appointments			
Assumed cost of taxi per trip	£7.00		
Number of trips per appointment	2		
Number of appointments per week	3		
Weeks in a year	52		
Annual cost		£2,184.00	
Discount rate	3.50%		
Assumed no. of years care required (using a timeline life expectancy of 8 years)		8	
Discount factor		0.759	
			£13,268.44

Future Cost Discounting	
Discount rate	3.50%
Discount Factor for 8 years	0.759

We are assuming that dialysis enables Arthur to continue to live for a further 8 years.

Future Cost Discounting		
Step 1 Delay everything by 2 years	0.934	
Step 2 Next 6 years	5.329	4.97
Assumptions		
Discount rate	3.50%	

Future Cost Discounting	
Discount rate	3.50%
Discount Factor for 8 years	0.759

Costs/Savings by Stakeholder	
Green Timeline	
NHS	£131,243.37
Total	£131,243.37
Dark Blue Timeline	
NHS	£216,762.09
Arthur	£13,268.44
Total	£230,030.53



Shirley & Tony timeline

GREEN TIMELINE

Potential cost of preventative HIA assistance				£7,649.00
Adaptation	Cost	Staff cost	Total cost for adaptation	
Level-access shower	£5,599.00	£1,146.00	£6,745.00	
Handrail (internal)	£33.00	£71.00	£104.00	
Handrail (external)	£49.00	£76.00	£125.00	
Step to front/back door	£563.00	£112.00	£675.00	
				£7,649.00

DARK BLUE TIMELINE

Potential avoided costs				£312,753.46
Tony falling over: injury, ambulance, A&E and hospital stay				
Cost of a fall				£4,418.00
Cost per A&E visit (young and adult)				£689.89
Cost of taking the 999 call				£7.00
Cost of ambulance attendance				£242.00
Average cost of non-elective hospital inpatient episode				£1,664.00
				£7,020.89
Visit to A&E for Shirley				
Cost per A&E visit (young and adult)				£689.89
				£689.89
Mental Health: depression				
Nat av % of people suffering from mental health issues				25%
Cost of treatment of depression for NHS p.a.				£943.00
Length of depression treatment ('three phase approach') years				2.00
				£471.50
Family full-time carer (Universal Credit)				
	Assumption	Calculation	Results	
Universal Credit standard amount (w/partner 1 or both over 25 y.o) per month		£596.58		
Universal Credit carer element additional payment per month		£163.73		
Months in a year		12		
Total annual cost			£9,123.72	
Delay prior to care commencing (years)	3			
Duration of time care required (years)	10			
Annuity factor (including 3 year delay)			7.501	
				£68,437.95
Loss of income due to Shirley becoming carer				
National Living wage (per hour)		£9.50		
Working hours per week		35		
Weeks in a year		52		
Annual earnings			£17,290.00	
Delay prior to care commencing (years)	3			
No. of years of lost earning potential (until woman retirement age - 67 y.o.)	10			
Annuity factor			7.50	
				£129,694.05

Future Cost Discounting	
Step 1 Delayed commencement of care (3 years)	0.902
Step 2 Next 10 years of life	8.317 7.50
Assumptions	
Discount rate	3.50%

Future Cost Discounting	
Step 1 Delayed commencement of care (3 years)	0.902
Step 2 Next 10 years until retirement age	8.317 7.50
Assumptions	
Discount rate	3.50%

Loss of income due to daughter taking on childcare		
National Living wage (per hour)	£9.50	
Working hours per week	17.5	
Weeks in a year	52	
Annual earnings		£8,645.00
Delay prior to care commencing (years)	4	
No. of years (to end of timeline)	9	
Annuity factor		6.63
		£57,313.40
Cost of childminder		
National Living wage (per hour)	£9.50	
Assumed hours of care per day	3.5	
Days of care week required per week	5	
Weeks in a year	52	
Annual cost of childminder		£7,410.00
Delay prior to care commencing (years)	4	
No. of years (to end of timeline)	9	
Annuity factor		6.63
		£49,125.78

Future Cost Discounting		
Step 1 Delayed commencement of care (4 years)	0.871	
Step 2 Next 9 years)	7.608	6.63
Assumptions		
Discount rate		3.50%

Future Cost Discounting		
Step 1 Delayed commencement of care (4 years)	0.871	
Step 2 Next 9 years)	7.608	6.63
Assumptions		
Discount rate		3.50%

Costs/Savings by Stakeholder		
Green Timeline		
HIA		£7,649.00
Total		£7,649.00
Dark Blue Timeline		
NHS		£8,182.29
DWP		£68,437.95
Shirley & Tony		£129,694.05
Shirley & Tony's family		£106,439.18
Total		£312,753.46

Appendix D: Original Foundations personas

Rachel

- 78 years old lady.
- She lost her husband Reg 10 years ago.
- She owns her own home which is an ex-council house on well-to-do suburban estate which she bought in the 1980's under right-to-buy.
- Although she's starting to struggle with arthritis and hypertension, for her these are just the burdens of older age.
- She has a son and daughter, both in their mid 40s. Her daughter lives a few miles away and visits Rachel a few times per week. Her son lives further away and only sees his mum every few months.
- Reg used to do all the DIY in the home, and since he died, there are a number of maintenance jobs that need doing, but she's worried about having contractors in her home after she paid a contractor to re-decorate her home, but they didn't finish the job and just took her money.
- Rachel loves going to the bridge club with her friends and likes watching Midsomer Murders on afternoon TV
- Maintaining the appearance of herself and her home are important to her, but the house has become more difficult for her.
- She reads lots of books and likes to keep her paperwork up to date. She used to do the books for her late husband's butcher's shop.
- She reads a daily newspaper in which there are adverts for baths with double-doors that interest her, as she loves to pamper herself and relax in the bath.
- She adores her son, and expects high standards from her daughter.
- She likes her neighbourhood, especially the young people moving in who are making their homes nice, but she is worried her home isn't quite the way she'd like it to be.
- She sees professionals in their field as being authority figures.
- Most of her friends are female who are single or widowed, but she really comes alive in mixed company.
- She likes new and modern design.
- There are no children in her life. She likes children, but dislikes the noise they make outside her house sometimes, and they're always dropping litter!
- The highpoint in her life was buying her house, in the same year as the Royal Wedding in 1981.



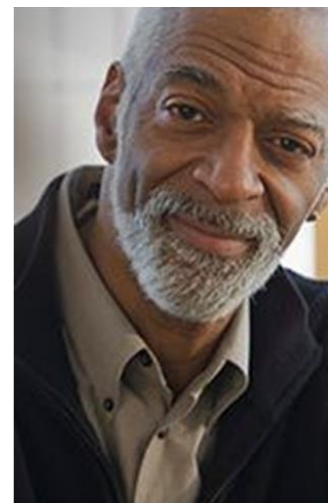
Mohamed & Nazia

- Mohamed and Nazia are a married couple in their 30s Both are in full time employment. Nazia is a pharmacist and Mohamed works in IT from home.
- They have two children 7 and 10 years. Their 10 year old, named Nadeem has learning difficulties and is a wheelchair user.
- They rent a Victorian terrace house from a Registered Provider.
- Mohamed's mum is 67 years of age, and provided vital support to the family despite her diabetes and mobility issues, as she lives just around the corner.
- The family is very active in their local community, and they always have friends and relatives calling to their home.
- Mohamed enjoys cricket, and Nazia spends her free time running an online health & wellbeing blog.
- Nazia drops off Aisha at school on her way to work during the day. Young Nadeem is collected for school by local authority transport services.
- Aisha returns home with her school-friend and her mum.
- Mohamed's mum helps prepare the family's evening meals.
- The family have always carried Nadeem up the stairs to bedroom and bathroom.
- Mohamed is a family man who prides himself on being able to take care of his extended family. Nazia is the planner of the family.
- Mohamed's mum is a first-generation immigrant, non-English speaking and raised a family of five children, while Mohamed senior worked in local industry. She has clear ideas about how to raise a family and run a household.
- Mohamed and Nazia are religiously observant.
- Nazia's blog is in English and concerns the challenge of bringing up disabled children in a culturally specific way. It's a very widely read blog. She knows what support and benefits are available.
- Despite working full time, Mohamed's earnings are unpredictable. Nazia's earnings are not enough on their own to save for a deposit and enter into a mortgage.
- Nazia leads on any engagement with local authorities, and Mohamed can sometimes feel uncomfortable and disempowered because of this.
- For Mohamed his mother is as important as Nazia in maintaining his self-worth.
- Nadeem loves computer games, to the point where he dislikes going to bed and being asked to put his computer away.



Arthur

- 65 years old and newly retired.
- Arthur divorced ten years ago and is now a single man.
- His divorce was acrimonious, and his ex-wife receives half of his private pension.
- Arthur is not an easy man.
- He avoids engaging with people, unless on his own terms.
- He's has chronic kidney failure and needs dialysis three times per week.
- His kidney failure has the effect of making him very tired.
- The referral is to accommodate a dialysis machine in his home.
- He's a retired surveyor but was forced to retire early because of his health issues.
- Arthur has strong ideas about how his home should be, and has maintained and repaired his home himself.
- He owns his home, where he's lived since his divorce, but he doesn't particularly like it and feels it impacts upon his status.
- He has a small number of friends, primarily ex work colleagues.
- His personal appearance is less important to him. Consequently he sometimes has a dishevelled look about him.
- He does however always wear lace-up shoes and a button-down shirt. His shoes are often too tight for him.
- Until her death, Arthur was very close to his mum, who adored him in turn. She died of breast cancer when he was 25, before he got married.
- He makes regular charitable contributions to the local hospice where his mother died.
- He's frustrated at the way his life has turned out.
- Arthur spends a lot of time listening to radio phone-in shows, and often calls in himself. He is particularly exercised by local planning issues and where he perceives feminism and women's issues have gone too far.
- His frustration with modern politics is that elected members fail to plan for situations.



Shirley & Tony

- Shirley and Tony are a married couple. Shirley is 53 and works part-time in a large supermarket. Tony is 58 and was a HGV driver, but retired at 55 due to poor health.
- Tony will still do the occasional “off-the-cards” driving job.
- They see themselves as “workers” not “shirkers”.
- They have two children, both girls in their 20s who live nearby.
- They sold their 3 bedroom semi when Tony retired, and they bought a two-bed bungalow, with an open plan living room/dining room.
- There are some unresolved repair issues in the property.
- Tony now has poor mobility, and although the bungalow helps being on one level, he’s struggling with the bathroom, as it has an over-bath shower.
- They have a big garden but they aren’t gardeners and their grass is a little scrubby. They have a big trampoline, and a football goal for the grandchildren to play with.
- Shirley loves going to work, and she enjoys meeting with her girlfriends each Friday night for a drink in the local social club.
- Tony enjoys meeting his friends for a drink on Saturday afternoon, especially when there’s football on the TV
- They both have lots of friends
- They are very close to their daughters, and they adore their grandchildren.
- Their daughters were influential in encouraging the decision to move into the bungalow.
- One daughter calls to see their mum and dad every other day.
- Shirley and Tony take care of two of their grandchildren at least twice per week, where they stay over and this includes preparing their meals and bathing them.
- At least once each month, Shirley loves to host a big Sunday lunch for her mum, Tony’s dad, and both their daughters their partners and the grandchildren.
- Happiness is more important than appearances to them.
- They both enjoy watching The Chase on TV.



Appendix E: Names of those who assisted this study

Foundations and Sonnet would like to thank the following individuals (in no particular order), who's input and participation was vital in understanding the impact that it is possible to achieve through adaptations:

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DELIVERING IMPACT MATTERS

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