Centre for Ageing Better

Past, present and future

Housing policy and poor-quality homes

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in partnership with:

The Good Home Inquiry

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About us

Centre for Ageing Better

The UK's population is undergoing a massive age shift. In less than 20 years, one in four people will be over 65.

The fact that many of us are living longer is a great achievement. But unless radical action is taken by government, business and others in society, millions of us risk missing out on enjoying those extra years.

At the Centre for Ageing Better we want everyone to enjoy later life. We create change in policy and practice informed by evidence and work with partners across England to improve employment, housing, health and communities.

We are a charitable foundation, funded by The National Lottery Community Fund, and part of the government's What Works Network.

The Good Home Inquiry

The Good Home Inquiry is an evidence-based analysis of England's housing policies to determine the causes of, and solutions to, the poor-quality of so much of our housing.

The Inquiry will run until autumn-2021 in order to establish why so many of England's homes are in poor condition, as well as exploring what we need in a good home.

The Good Home Inquiry is commissioned and supported by Ageing Better and independently chaired by David Orr CBE. He is joined by a panel of three leading experts – Lord Victor Adebowale CBE, Vidhya Alakeson, and Pat Ritchie CBE – bringing a diverse range of experience and expertise to the Inquiry.

The Inquiry supports the Centre for Ageing Better's goal that by 2030 more people aged 50 and over will live in homes that support them to live healthy and fulfilling later lives.

The UK Collaborative Centre for Housing Evidence

The UK Collaborative Centre for Housing Evidence is a consortium of 14 institutions led by the University of Glasgow. The centre, which was established in August 2017, is a multidisciplinary partnership between academia, housing policy and practice. Over the course of the five-year programme, CaCHE researchers are producing evidence and new research to contribute to tackling the UK's housing problems at a national, devolved, regional, and local level.

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Executive summary

Introduction

This report presents a series of recommendations for addressing the widely acknowledged crisis in housing quality in England and its impact on older people.

The report Home and Dry: the need for decent homes in later life details the problem of poor quality housing in England and its impact on society. Despite the scale of the problem, the national framework for tackling the problem of poor-quality housing has fallen into disrepair. Funding has been cut, interventions have been withdrawn, advice and guidance is often hard to find, and enforcement of statutory duties has faltered.

In 2020, the Centre for Ageing Better launched the Good Home Inquiry, an evidence-based analysis of England's housing policies to determine the causes of and solutions to the problem of poor quality housing. This study is one of a number commissioned by Ageing Better to support the work of the Inquiry. It set out to answer three key questions:

1 What housing policies and programmes have been implemented in the past to address poor-quality housing, and which were successful and why?

2 What policies would be most effective in addressing the poor-quality of our current housing stock, given political, economic and social considerations?

3 For a small number of shortlisted policies, how much would this cost, who would have to pay, what would the impact be?

The national framework for housing improvement

Housing is a valuable national asset. Primary responsibility for maintaining this asset falls on property owners, but government has also long played a role in protecting this national resource. Central government has provided a legal and financial framework for housing improvement. Local government and NHS partners have delivered housing improvements, working within this framework and in partnership with other local organisations, such as Home Improvement Agencies (HIAs).

In recent years, various cracks and fissures have emerged within this approach to housing improvement. Local authorities have suffered cuts in funding, leaving many struggling to fulfil statutory duties. Central government has dramatically cut funding for programmes that promote the repair and improvement of private housing. This has undermined the

capacity of local authorities and their partners to provide loans or grants, equipment and materials, and advice and guidance.

Tackling the housing quality crisis necessitates filling these gaps in the housing improvement framework. There are three particular priorities for action.

1. Enforce housing quality standards

Central government has developed a clear set of rules to improve housing standards. Local authorities are responsible for enforcing these rules and have duties to: monitor and tackle poor housing conditions; tackle problems in the private rented sector; and provide information and advice on housing to help people meet care and support needs.

The fact that over four million homes in England are classed as non-decent inevitably prompts questions about the effectiveness of enforcement to secure compliance with current legislation. Resource availability is key here. Local authorities have experienced major cuts in core funding since 2010 and face the challenge of enforcing standards and meeting needs with diminishing resources. This is at a time of increasing demand for these services driven by factors including population ageing and rapid growth of the private rented sector.

Local authorities need the resources required to fulfil their duties and enforce the law. This includes a more proactive approach to identifying poor conditions and enforcing remedial works, tackling problems in the private rented sector and the fulfilment of responsibilities under the Care Act 2014. Reliable, longer-term funding streams are required if we are to deliver on the ambition of increased comfort and wellbeing and the protection of a major national asset – housing stock – for the benefit of future generations.

2. Build the local infrastructure for delivery

Many places lack a coherent local strategy, reliable long-term funding and coordinated service response to the problems of housing quality. Various programmes and activities across different sectors target housing quality issues, but these often fail to add up to a clear, consistent, reliable, high-quality local offer. Many local people often do not know who to approach for the help they need tackling problems of quality and condition (Centre for Ageing Better, 2019). This is a critical weakness in the national framework for housing improvement.

Experience points to the importance of a local hub through which a range of partner organisations and agencies, funding mechanisms, specialist schemes, and wider services can be organised. Home Improvement Agencies (HIAs) represent a sensible starting point in fulfilling this ambition, given that they are active in around 80% of local authority areas in England. HIAs are not-for-profit organisations run by local authorities, housing

associations and charities to support older people to remain living independently in their own homes (Age UK, 2020). They are trusted, local organisations that focus on understanding the needs of service users. A pragmatic response would involve building upon and expanding the role of HIAs. HIAs could function as a hub or 'one-stop-shop', drawing together information, programmes and funding streams in one place.

This approach offers scope for provision to respond to the specifics of local needs, whilst still providing a nationally consistent framework through which tailored programmes can be delivered. It also offers the possibility of a local trusted intermediary to help households to navigate the different options for housing improvement, levering in different funding pots to provide a more tailored solution to their needs, and to understand the different financing mechanisms available. A number of requirements need to be met to deliver upon this potential:

- **Consistent presence across the country** – HIAs need to be present in every local authority area and given a clearly defined remit, including the provision of information and advice. This is not currently the case and will demand a reliable stream of (revenue and capital) funding.
- **Expanding the reach of HIAs** – there is an opportunity for HIAs to open up new markets that build on their areas of expertise, contributing towards keeping people living healthily at home. For example, HIAs could broaden the reach of preventative services to include the large population of households who are not eligible for grant funded assistance and who self-fund repairs, maintenance and adaptations.
- **Preventative improvements** – home quality and safety assessments offer the potential for an effective preventative mechanism by identifying home hazards and quality concerns before an adverse event, such as a fall, occurs. HIAs could play a key local role given many already run a handyperson service for small home improvements, minor repairs and adaptations, and energy efficiency measures. There is potential to deliver more holistic and wider-ranging assessments in the form of a 'home MOT', which could encompass not only safety related to falls, but also cold, and other repairs or adaptations.
- **Innovation in financing** – expanding the provision of services further into the 'able-to-pay' population could be aided by the development of innovative financial products and partnerships that would help individuals to improve the quality of their home and their day-to-day living. This could include assistance for homeowners with equity but lower incomes to improve the quality of their home.

3. Developing and resourcing specific interventions to improve housing quality

Nationally funded and locally delivered interventions are required to address specific housing quality issues apparent within the English housing system. Two programme funds and three interventions are proposed:

- **Home Improvement and Renovation Fund** – individual owner/landlord support in the form of low-cost loans linked to energy efficiency improvements and means-tested housing renewal grants – both provided by national government funding.
- **Housing Quality Investment Fund** – a Whitehall-funded area-based renewal programme that might work at the scale of a street or a block of flats and where solutions might include whole home renovation, common renovation such as re-roofing or indeed potentially converting poor quality private renting to social renting.

In making a case for repair and improvement interventions a series of arguments will need to be marshalled in order to shift public funding priorities toward housing quality. The plight of poor homeowners and the need for targeted individual support needs to be recognised, along with the wider spillovers associated with bad conditions. Intervention needs also to take account of the growth of private renting and the need to fashion incentive-compatible solutions to housing conditions in the rental market; tackling affordable warmth and contributing to carbon reductions; and convincing Whitehall about the merits of focused area-based interventions and recourse to more creative funding routes.

In response, what is proposed is a targeted and proactive programme led by individual HIAs drawing on the programme and a wider range of resources and mechanisms to achieve renovation, thermal efficiency and repair objectives. Outcomes would include improvements in the quality of homes, towards decency and affordable warmth for lower income owners, private tenants and focused block repaired properties. Preventative savings would also be forthcoming. There may also be some shift of properties from the PRS to social renting, which would further complement neighbourhood and housing condition local strategies.

Table 1: Financing of proposed programmes and design analysis

Dimension/ Instrument	Housing Repair Grant	Low Cost Loan	Area-based Housing Renewal
Individual (means-tested) v spatial	Individual and means-tested.	Individual.	Area-based (small scale).
Upfront v spread over time	Upfront.	Repayment loan.	Mix of upfront, repayment and possibly equity/lien arrangements.
Public finance options & implications	Controlled grant programme.	Controlled interest subsidy or backed guarantee.	Mix of arrangements, some of which may have uncertain payback periods.
What works: financing & design examples	Past UK lessons: e.g. high grant element in total costs.	Past UK lessons: e.g. Combine loans and savings products.	Past UK lessons e.g. enveloping.
Design interdependence & systems thinking	Improves quality & extends property life. May reduce demand for residential care & NHS costs.	Affordable warmth & carbon reduction. May reduce demand for residential care & NHS costs.	Inter-tenure flex & improves average quality. May reduce demand for residential care & NHS costs.
Economic analysis summary carry-over	Additional and targeted.	May be more deadweight.	Positive externalities.
Fit with government approaches to policy design & political economy	Levelling-up. Supports sustainable home ownership. Health & wellbeing. Targeted. Supports jobs.	Climate change agenda. Levelling-up. Supports sustainable home ownership. Health & wellbeing. Supports jobs.	Levelling-up. Health & wellbeing. Supports local housing system sustainability. Supports jobs.
National to local resource allocation mechanism	National budget allocated to housing conditions, IMD, demography metrics.	Budget allocated to housing conditions, IMD, fuel poverty and associated metrics.	Amalgam of individual schemes allocation mechanism.

Tackling poor quality housing: some key considerations

A review of previous practices and past initiatives reveals a series of key considerations critical to the development and delivery of an effective response to the problem of poor housing quality.

- **Targeting and focus** – there are different ways of targeting action on housing improvement. A key distinction is between programmes focusing on individuals or households and area-based programmes targeting places in particular need of an intervention. Each have relative strengths and weaknesses in relation to practicalities of delivery, coverage, and cost. For example, individually targeted initiatives can prove more cost-effective but the imperfect nature of targeting can mean that individuals who would benefit from assistance may be missed. Area-based programmes can provide a solution to the problems associated with the variable willingness and ability of residents to support or contribute to an intervention. A key part of targeting action on poor quality housing lies in understanding the extent and distribution of the problem. We know that there are a range of pressing housing quality issues In England, but we lack more fine-grained understanding of the specifics of the problem in the private housing stock.
- **Financing improvements** – different funding mechanisms are required for different groups. For example, 'pay as you save' schemes (in which occupants pay back the cost of improvements through the savings they have generated) are more suited to 'better-off' homeowners, whilst poorer homeowners may need grants to be able to undertake improvements. Privately rented properties need different mechanisms due to the split incentives between landlords and tenants. Research suggests that attracting private finance to develop affordable loan products for home improvements has been difficult to achieve. Developing a range of loan products for private sector housing repair may require greater investment in 'not-for-profit' intermediary lending agencies to order to secure attractive interest rates. Enforcement action against owners in the private housing sector in relation to housing condition is politically complicated. There are limitations to the acceptability of compulsory action against homeowners and landlords, and persuasion is viewed as favourable. However, with lack of grants for homeowners, and no tax incentives to encourage them to invest, persuasion can prove ineffective.
- **Delivery and outcomes** – Trust in the organisations delivering programmes to improve the quality of housing is essential to engaging residents. This applies to all the interventions suggested in this report. There are particular institutions that people trust to give them impartial advice on measures, particularly third sector organisations. Local authorities have also been highlighted as not only highly knowledgeable, but also being viewed as a trusted body. HIAs and handyperson services have also been viewed as safe, trusted organisations for householders to

work with. They have a high degree of local knowledge and are able to connect to other organisations and services. It is hard to assess the cost effectiveness of improvement measures delivered by these and other agencies, and the quality of many prior evaluations is relatively low in relation to understanding the costs and benefits attributable to interventions. It will therefore be crucial for any new programmes to be piloted and evaluated – including for cost-effectiveness. Finally, it is important to recognise that housing quality is an ongoing challenge; homes require continual maintenance and improvement. There therefore needs to be ongoing investment. Short-lived initiatives are not going to tackle the underlying causes of under-investment – low incomes, lack of savings, lack of awareness of problems, and difficulties organising solutions.

- **Behavioural insights** – Improvements are often viewed as one-off, stand-alone decisions, when in reality they are situated within everyday domestic life. The reasons a household may or may not decide to undertake home improvements are rooted within the conditions of home life, rather than merely reflecting a rational economic choice. It is therefore important to understand the everyday practices of life in the home, norms of comfort, and associated aspirations. It is also important to situate decisions about the home within a wide series of decisions relating to quality of life for the individual, household and wider family.

Conclusion

It is vital that everyone is able to live in a home that is safe and comfortable. Unfortunately, this is not always the case and there is an urgent need to improve the quality of housing in England for the benefit of current and future generations.

Policymakers might baulk at the costs of ensuring the national policies, local infrastructure and targeted initiatives are in place to address poor quality housing. However, cutting funding to the national framework for housing improvement is a false economy, leading to greater pressure and spending on health and social care and undermining efforts to meet carbon reduction targets and tackle the climate emergency. In summary, housing is a valuable national asset and social good that needs to be repaired and maintained.

Introduction

This report presents a series of recommendations for addressing the widely acknowledged crisis in housing quality in England and its impact on older people.

In March 2020, Ageing Better published a report Home and Dry: the need for decent homes in later life detailing the problem of poor quality housing in England and its impact on society. This research found that:

- More than 4.3 million homes in England do not meet basic standards of decency, most commonly because of the presence of a serious hazard to the health or safety of the occupants. Around half of these homes are headed by someone aged 55 and over.
- Households headed by someone over 75 years of age are disproportionately likely to be living in a poor quality home, and the situation is getting worse for this age group.
- The largest number of poor quality homes are within the owner occupied sector, where many residents face a range of financial and/or practical barriers to maintaining their home. One in five homes in the private rented sector fail to meet the government's decent homes standard.
- The NHS spends an estimated £513 million on first-year treatment costs alone for over 55s living in the poorest housing. One of the major causes of death and injury amongst older people are falls in the home, while cold homes exacerbate a range of health problems including arthritis, COPD, and asthma, and increase the risk of an acute episode like a stroke or heart attack.
- The average cost to repair these homes is estimated to be below £3,000.

Despite the scale of the problem, the national framework for tackling the problem of poor quality housing has fallen into disrepair. Funding has been cut, interventions have been withdrawn, advice and guidance is often hard to find and enforcement of statutory duties has faltered.

This should be a cause for concern. England has the oldest housing stock in Europe, with variable levels of build-quality. Recent years have witnessed a dramatic shift in tenure structure, involving a decline in social housing (where landlords have a regulatory duty to maintain housing quality and until recently there was notable public investment in decent homes) and growth in the private rented sector, where private landlords are responsible for maintaining the quality of housing. Meanwhile, many home owners are struggling to repair, maintain and adapt their homes.

At the same time, we have an ageing population. Most people want to stay in their own home as they age but the current housing stock is too often

unsuitable. Poor quality housing can cause and exacerbate a range of mental and physical health problems, placing pressure on already stretched health and social care services. Poor quality housing also undermines efforts to manage the impact of a changing climate, reduce greenhouse gas emissions and safeguard the comfort of residents (CCC, 2019).

The purpose of this study

In 2020, the Centre for Ageing Better launched the Good Home Inquiry, an evidence-based analysis of England's housing policies to determine the causes of and solutions to the problem of poor quality housing. This study is one of a number commissioned by Ageing Better to support the work of the Inquiry.

The study set out to answer three key questions:

1 What national, regional and local housing policies and programmes have been implemented in the past to address poor-quality housing (both overall quality and specific elements such as warmth)? Which were successful and why?

2 What policies would be most effective in addressing the poor-quality of our current housing stock, given political, economic and social considerations? Who would need to do what for it to become a reality?

3 For a small number of policies that have been shortlisted, how much would this cost, who would have to pay, what would the impact be?

The focus was on private sector housing, where the vast majority of older people reside and problems of housing quality are concentrated. 90 per cent of all dwellings that fail the government's decent homes standard are in the owner occupied and private rented sectors (MHCLG, 2020a).

The study involved an extensive review of the evidence base relating to programmes and initiatives actioned over the last 40 years designed to tackle issues of housing quality and poor conditions. These insights were supplemented through a series of interviews with key stakeholders in the field, to support the development of proposals. Further information about the research approach is provided in Appendix 1.

Report structure

This report draws upon an extensive review of previous initiatives designed to address the problem of poor quality housing to generate a series of recommendations to support a coordinated response to improve the quality of housing, involving national and local government, other public bodies, voluntary and community sector agencies, and the private sector.

The report starts by introducing the problem of poor quality housing in England and reviewing the current framework for improving housing

conditions. Three key recommendations addressing critical points of weakness within the current approach to tackling poor quality housing are then detailed:

Recommendation 1: **Enforce housing quality standards** – ensure local authorities have the resources and capacity to fulfil their statutory duties around housing quality.

Recommendation 2: **Build the local infrastructure to deliver housing improvements** – develop the local infrastructure required to deliver improvements, including a dedicated hub through which a range of partners, funding mechanisms, specialist schemes and services, can be organised.

Recommendation 3: **Develop and resource specific interventions to improve housing quality** – design and resource a series of long-term, nationally funded and locally delivered interventions to improve housing quality.

The focus is on working within the bounds of the possible to develop workable solutions. Analysis is infused with a heavy dose of pragmatism. Rather than ripping things up and starting again, proposals build upon accumulated knowledge and understanding, work within the existing national framework for improving housing quality and are compatible with contemporary priorities and practices.

These recommendations are each the subject of separate chapter (Chapters 3–5). The problems to be addressed are outlined, a range of options are considered and the specifics of the recommendation are detailed, reflecting on practicalities and pragmatics. These chapters vary in the depth and detail of their analysis, reflecting the different level of complexity of these three recommendations. The first recommendation focuses on the relatively straightforward – if politically prickly – priority of ensuring that local authority private sector housing and environmental health teams are adequately resourced to carry out their statutory duties. The second recommendation focuses on repairing the local infrastructure required to deliver housing improvements. The third recommendation centres on the more complex challenge of designing specific interventions to address key quality issues apparent in the contemporary English housing system; their focus, rationale, ambition, funding, mode of delivery, efficiency and effectiveness.

A final chapter outlines a series of challenges to be met and decisions to be made in developing an effective response to the problem of poor housing quality. These overarching lessons are synthesised from the review of past initiatives and interviews with key stakeholders involved in efforts to tackle the problem of housing quality (see Appendix 3). Key themes include the targeting and focusing of action, financing improvements, and mechanisms of delivery.

1. The problem of poor-quality housing

Introduction

It is estimated that by 2050 one-quarter of the UK population will be over the age of 65, and the vast majority will live in mainstream, general needs housing, 80% of which already exists in the housing stock (Local Government Association, 2017). The quality of this stock is a key issue, relating to multiple policy domains, including health, housing, and energy and climate change.

Although notions of housing 'quality' are highly subjective and open to interpretation, with official notions and applicability of standards open to reconfiguration over time (Harrison, 2004), it is clear that housing quality has major implications for population health and wellbeing. This is particularly the case in later life, when the standard and suitability of the home plays a stronger role in quality of life (Adams, 2019). Older people spend more time at home and increasing numbers live alone, making the ability to be comfortable and use the home independently of great importance (Mackintosh et al., 2018).

Table 1: Summary of housing quality issues

	What is the quality issue?	What is the extent of the problem?
Physical	**Energy efficiency & thermal comfort**	Excess cold is one of the two most frequently observed hazards in English housing stock. Living in a cold home associated with increased rates of death, especially for older individuals.
	State of repair	Almost 1 in 5 properties does not meet the Decent Homes standard. The proportion of people over the age of 75 and living in a non-decent home is increasing.
	Fall & safety-related hazards	Fall risk is one of the two most frequently observed hazards in English housing stock. Environmental variables are implicated in the majority of falls. One in three people over the age of 65, and half of those aged over 80, will fall each year, with physical and psychological consequences.
Functional	**Utility and accessibility of space**	80% of those over the age of 65 live in mainstream housing, and most are owner-occupiers. But only 2% of this stock has been adapted to meet people's needs. With very little alternative, appropriate housing to move to, adaptations to current homes are a crucial preventative intervention.
	Digital connectivity	In 2019, around 4 million people had never used the internet. There is currently no overarching digital inclusion programme for older people in the UK, leaving a piecemeal range of provisions at both national and local levels.

Investment in improvements to some of the most pressing housing quality issues will not only help the government meet the challenge of carbon reduction and improve residents' experiences of home and sense of wellbeing, but also have the potential to save money. For example, it is estimated that the cost of poor housing to the NHS is around £1.4 billion per year (Centre for Ageing Better, 2020a). Investing in housing improvement will also stimulate and sustain employment during the post-Covid economic recovery.

Energy efficiency and thermal comfort

Excess cold – which means that a home is not warm enough despite the heating and insulation that is in place – is one of the two most frequently observed hazards in the English housing stock. It can have a significant impact on older populations because a number of the most common health conditions experienced by older people are exacerbated by living in a cold home (Centre for Ageing Better, 2020a). The energy efficiency of English homes has increased considerably over the last 20 years, but this increase has slowed in recent years. There are also a large number of households (around 2.4 million) living in fuel poverty, impacting on their ability to heat their homes (Webb et al., 2020). Living in a cold home is associated with

increased rates of death – particularly in the over 65s – due to the increased risk of cardiovascular disease, respiratory illness, and stroke (Buck and Gregory, 2013). Improving the energy efficiency of homes is also a key route to meeting the government's climate commitments. Residential buildings make up 22% of carbon emissions (Hall and Caldecott, 2016), and the UK Parliament has enshrined into law the net zero target (reduction of greenhouse gas emissions by at least 100% below 1990 levels, in 2015); widespread installation of energy efficiency measures in the existing building stock will likely be a key part of meeting this target (House of Commons Business, Energy and Industrial Strategy Committee, 2019).

Repair and condition

Almost one in five dwellings in the existing housing stock falls below the 'Decent Homes' standard, but there is no national policy to address poor condition in existing housing (Adams, 2019). Although the proportion of non-decent homes has declined (from 33% in 2008 to 18% in 2018), this decline has stalled in recent years (MHCLG, 2020b). Despite significant progress overall in reducing non-decent housing in England, the proportion of individuals above the age of 75 and living in a non-decent home increased between 2012 and 2017, and almost half of non-decent homes are lived in by someone over the age of 55 (Centre for Ageing Better, 2020a). Most of these over-55s own the property that they live in, but due to retirement or living on lower or fixed incomes may find it difficult to maintain properties that were likely bought during the expansion of access to homeownership in the 1980s (Centre for Ageing Better, 2020a). However, the proportion of older households living in the private rented sector is also growing, with over 10% of 55-64 year olds living in the PRS in 2018-19 (MHCLG, 2020b).

Falls and safety-related hazards

Falls risks (such as on stairs or other surfaces in the home) are one of the two most frequently observed hazards in English housing stock (Centre for Ageing Better, 2020a). Environmental home hazards, such as tripping over objects on the floor, loose rugs, or lack of handrails, are some of the environmental variables that are implicated in the majority of falls (Pighills et al., 2011). One in three people over the age of 65, and half of those aged over 80, will fall each year (NHS Confederation, 2012). Although most fall-related injuries are minor (such as bruising or abrasions), in older people fall-related fractures are a significant source of morbidity and mortality (Gillespie et al., 2012). Three-quarters of deaths relating to falls happen in the home (Mackintosh et al., 2018). Aside from the physical risk of injuries, falls can also result in significant and long-lasting psychological impacts, including lower confidence and independence, and increased isolation and depression (NHS Confederation, 2012).

Utility, adaptability and functionality of the home

The majority of people will at some point find it difficult to carry out everyday activities at home (Adams and Hodges, 2018). More than one in ten adults say that they are unable, or find it difficult, to move, walk or stand independently, but only 5% of housing stock is fully accessible (Mackintosh and Leather, 2016). As 80% of those over the age of 65 live in mainstream housing, and 80% of the homes that will be occupied in 2050 are already built (Adams and Hodges, 2018), improving the current housing stock plays a key role in enabling people to experience a good later life. Although most older households own their homes, only 2% of owner-occupier homes have been adapted to meet people's needs, and around a quarter of those with serious medical conditions living in the private rented sector say their homes meet their needs (Buck and Gregory, 2013). There is very little attractive, affordable, accessible housing that individuals would be able to move to, which makes adaptations to people's existing homes a key issue (Powell et al., 2017). There is good evidence that adapting homes – even in small ways – can improve outcomes and the quality of life for those in later life, and do so in a cost-effective manner. However, they need to be delivered in a timely manner and be personalised to ensure fit with the individual (Powell et al., 2017).

Digital connectivity

Over recent years there has been a rise in the numbers of 65-74 year olds using the internet, increasing from 52% in 2011 to 83% by 2019 (Centre for Ageing Better, 2020b). However, despite the rise in numbers, there still remains many people "on the wrong side of the digital divide", with around 4 million people having never used the internet in 2019 (Centre for Ageing Better, 2020b). This has important implications because of the growth and potential of digitally enabled technologies in the home, such as temperature controls, lighting and movement sensors, and home hubs. Digital literacy is therefore a key part of supporting individuals to age in place, can facilitate wider access to information, and extend the reach of a whole range of services. A range of factors contribute to a digital divide: those who are excluded and do not have the opportunity or the skills to use digital technologies, and those who are dismissive and might have access but make a decision not to use it (Age Concern and Help the Aged, 2010, Age UK, 2018). There is currently no overarching digital inclusion programme for older people in the UK, leaving a piecemeal range of provisions at both national and local levels and where there is provision it has been found to not be meeting the needs of people who need the support (Centre for Ageing Better, 2018).

2. The national framework for housing improvement

Introduction

Housing is a valuable national asset. Primary responsibility for maintaining this asset falls on property owners, but government has also long played a key role in protecting this national resource. This reflects the important role that the repair and maintenance of housing can play in promoting the health and well-being. Home improvements also support efforts to meet carbon reduction targets and tackle the climate emergency.

Central government has provided a legal and financial framework for housing improvement. Local government and NHS partners have delivered housing improvements, guided by this framework and working in partnership with other local organisations, such as Home Improvement Agencies (HIAs).

Figure 1: The framework for housing improvement

The Housing Act 2004 requires local authorities to keep housing conditions in their area under review in order to identify action that might need to be taken to address hazardous living conditions. The Care Act 2014 makes explicit reference to the importance of 'suitable accommodation' in relation to a general duty on local authorities to promote well-being, and requires information and advice about housing options to be part of the universal service offer to meet the care and support needs of older and vulnerable people. This might include advice and guidance to support tenants pursuing their rights under the Homes (Fitness for Human Habitation) Act 2018.

Local authorities are granted flexibility when devising a strategy to review and address poor housing conditions in their district. This includes the policy tools available to them, the partners that they work with and the financial assistance made available for home repair and improvement. Various national funding programmes have supported these efforts. These have often focused on poor and vulnerable households. Examples include private sector renewal grants, area improvement programmes, handyperson grants, energy conservation and efficiency initiatives and schemes (such as Supporting People and Disabilities Facilities Grant) designed to help people with the costs of adapting their home so they can continue to live independently.

Drawing on these resources, local authorities have worked with local partners, including Home Improvement Agencies (HIAs), to provide loans and grants, equipment and materials, and advice, guidance and information about repairs, improvements and adaptations.

Emerging challenges

In recent years, various cracks and fissures have emerged within this integrated approach to housing improvement, undermining efforts to tackle the problem of poor quality housing. Key developments include:

- **Local enforcement** – Local authority private sector housing and environmental health teams have suffered a reduction in capacity in recent years, linked to austerity politics and major cuts in local government funding since 2010. Many councils have been left struggling to fulfil statutory duties, including the duty to intervene to improve housing conditions in the private sector.
- **National funding** – from 1949 through to 2011 central government played an active role in supporting the repair and improvement of private housing. This role essentially ended in 2011, with the cessation of dedicated funding programmes, including private sector renewal grants and handyperson funding. Energy efficiency schemes, such as the Green Deal, have also been subject to cuts, whilst other funding streams relevant to care and repair, including Supporting People, have been scaled back and ring-fencing removed, resulting in reduced spending on housing support.

- **Local provision** – the capacity of local authorities and their partners to provide loans or grants, equipment and materials, and advice and guidance has been undermined by cuts to national programmes that local authorities have traditionally relied upon to fund local interventions. Some HIAs have been forced to close, handyperson services have been scaled back or closed, area renewal programmes have largely ceased, and local home improvements loan schemes have suffered. This has particular implications for home owners who require advice, help and assistance with home improvements.

A way forward

Tackling the housing quality crisis necessitates filling these gaps in the housing improvement framework. There are three particular priorities for action:

i **Resourcing enforcement** – failure to enforce regulations equates to a de-facto process of deregulation. Local authorities need to be resourced to fulfil their statutory duties, including the requirement to review housing conditions and intervene to address the impact of poor conditions on occupants.

ii **Building the local infrastructure for delivery** – experience points to the importance of a local hub to coordinate efforts to understand local housing quality issues and coordinate the response of a range of partners across the public, private and third sectors, and in doing so contribute to an integrated health and care system that is focused on prevention and personalisation. HIAs are well-placed to play this role, being active in the majority of local authority areas across England.

iii **Developing and resourcing specific interventions** – nationally funded and locally delivered interventions are required to address specific housing quality issues apparent within the English housing system.

These three recommendations are addressed, in turn, in the following chapters.

3. Enforce housing quality standards – Recommendation 1

Introduction

There is an extensive set of legal rules and duties designed to address the problem of poor housing conditions and limit their impact on older people and wider society. There are widely recognised problems with the enforcement of these legal obligations. These need to be tackled in order to strengthen compliance and promote improvements in housing conditions. This chapter provides an overview of this national framework, highlights problems and weaknesses with enforcement and recommends a way forward.

Regulation and enforcement – the national framework

Local authorities are responsible for the regulation and enforcement of housing conditions and quality in England, working within a framework of statutory duties enshrined in legislation. These duties are summarised below under three headings.

Monitoring and tackling poor housing conditions

Part 1 of the Housing Act 2004 requires local authorities to keep housing conditions in their area under review in order to identify action that might need to be taken to address hazardous living conditions in all tenures. This statutory framework provides local authorities with the power to intervene in the private sector where they consider housing conditions to be unacceptable, on the basis of the impact of hazards on the health or safety of the most vulnerable potential occupant. This involves assessing the seriousness of hazards in the home, working with building owners (home owners and landlords) to address problems and, where necessary, taking enforcement action. In the social rented sector, the regulator sets standards that landlords have to meet that are consistent with Decent Home Guidance and require landlords to keep properties in a good state of repairs and a planned maintenance.

To guide local authorities in this role, the 2004 Act introduced the Housing Health and Safety Rating System (HHSRS), a risk assessment tool used to assess potential risks to the health and safety of occupants in residential properties in England. This assessment method focuses on hazards that are most likely to be present in housing and is intended to support efforts to tackle these hazards to make more homes healthier and safer to live in.

The Housing Act provides local authorities with a range of enforcement options to address hazards in individual dwellings. These include hazard awareness notices; prohibition orders; improvement notices; emergency remedial action or emergency prohibition orders; and demolition orders.

Tackling problems in the private rented sector (PRS)

Part 3 of the Housing Act 2004 grants local authorities various powers to tackle poor housing standards in the PRS. These powers were granted in response to particular problems with housing conditions in the sector, where more than one in four properties fail to meet the government's decent homes standard, and dwellings are more likely than in the owner occupied and social rented sectors to suffer from damp or disrepair and to pose a threat to health from excessive cold (MHCLG, 2020b).

Licensing is a key tool available to local authorities to help drive up standards in the PRS in their area. Under the Housing Act 2004 local authorities have the power to designate areas where all privately rented properties have to be licensed with the local authority. These schemes typically cover a small residential area in a bid to tackle issues that might include poor housing conditions, as well as problems of low demand, population churn and turnover, deprivation, and high levels of crime and anti-social behaviour. Landlords renting out properties in an area subject to selective licensing must obtain a licence from the local authority for each of their properties.

In recent years there have been a number of further developments in the regulation of the landlord and tenant relationship (Harris et al., 2020). This includes the Homes (Fitness for Human Habitation) Act 2018, which requires (social and private) landlords to ensure that rented properties are 'fit for human habitation', which means they are safe, healthy and free from things that could cause serious harm. The Housing and Planning Act 2016 provides local authorities with additional powers to tackle what the government has referred to as 'rogue landlords' who flout their legal obligations, rent out accommodation which is substandard and harass their tenants. These include banning orders for the most serious offenders, who are subsequently placed on a database of rogue landlords and property agents, and the power to issue civil penalties of up to £30,000 as an alternative to prosecution for certain specified offences. The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015 requires all residential tenancies to have an Energy performance Certificate rating of at least "E".

Housing, care and support

The Care Act 2014 provides local authorities with a series of new functions designed to ensure that people living in their area receive services that prevent their care needs from becoming more serious; can get information advice they need to make informed decisions about their care and support; and have a range of appropriate, high quality services to choose from.

The statutory guidance accompanying the Act recognises housing as important to health and wellbeing and as key to a more integrated approach to meeting home care and support needs of older and vulnerable people. Of particular note is the fact that the general duty placed upon local authorities to promote wellbeing makes explicit reference to the importance of 'suitable accommodation', which is recognised as extending beyond bricks and mortar to include housing related support and services. Housing also has to be considered when delivering on the requirement to prevent, reduce or delay an adult social care need. In addition, the duty placed upon local authorities to establish and maintain a service for providing information and advice relating to care and support requires this to include advice on housing services that help to meet care and support needs.

Problems with enforcement

Over four million homes in England are classed as non-decent and more than two million of these homes are lived in by someone over the age of 55 (Centre for Ageing Better, 2020). This is despite an increase in regulatory guidance on housing quality in recent years. This fact inevitably prompts questions about the effectiveness of enforcement to secure compliance with current legislation.

Harris et al. (2020) review evidence of enforcement activity in the PRS and conclude there is a lack of formal enforcement activity amongst the majority of local authorities. Local authorities are reported to often be implementing the HHSRS by reacting to complaints from tenants, rather than proactively reviewing and responding to poor housing conditions in their area (CAG Consultants, 2018). Meanwhile, warnings have been issued about the ability of local authorities to meet their statutory duties under the Care Act 2014 (Care and Support Alliance, 2016).

Resource availability is widely recognised as a key factor impacting on enforcement. Since 2010, local authorities across England and Wales seen core funding from the UK Government cut by nearly £16 billion and in 2019/20 they faced an overall funding gap of £3.1 billion; which is estimated to rise to £8 billion by 2024/25 (LGA, 2019). Freedom of information requests in 2009 and 2018 have revealed a reduction of 52% in environmental health budgets per head of population over the decade (Unison, 2018). The Chartered Institute of Environmental Health has reported that local authority spending on enforcement activity fell by one-

fifth between 2009/10 and 2015/16, a trend likely continue given further cuts in public expenditure (CIEH, 2019).

Evidence presented to the House of Commons Housing, Communities and Local Government Committee has highlighted the impact on the staffing of relevant teams in local authorities. For example, Birmingham City Council was reported to have had only five Environmental Health Officers (EHOs) covering a city of more than one million people and the town of Boston was reported to have just 1.6 people in the housing enforcement team. The Committee also reported hearing from several councils about how the low level of resources available for enforcement made it difficult to attract suitably trained and competent EHOs. One stakeholder interviewed for this study expanded on this point, reporting that many local authorities do not have the funding to recruit and train new environmental health practitioners, which is a problem for the future, in relation to both capacity and expertise, with skills being lost as officers retire. As a result of these pressures, councils can be faced with choosing which requirements to enforce. For example, the shortfall in resources required to operate landlord licensing schemes are reported to often be covered by drawing resources from other enforcement activities (CIH and CIEH, 2019).

Evidence suggests that local authorities have responded to these pressures in different ways. This has resulted in wide variations in enforcement activities. Whilst low rates of enforcement are evident in most local authorities, some have been very active. For example, the 459% national increase in the number of prosecutions against private landlords between 2012/13 and 2017/18 is largely attributable to Liverpool City Council, which introduced a selective licensing and co-regulation scheme across the city in 2015 (Harris et al., 2020). Variable levels of activity appear to reflect the particulars of local political decisions about where to focus limited resources. Enforcement activities have typically lost out in this balancing of priorities. However, there are some exceptions. The London Borough of Newham, for example, has explained its own strong record of enforcement by reference to political commitment to prioritise private sector enforcement above other areas of council responsibility (HCLG Committee, 2018). This point was reiterated by a stakeholder from a professional body interviewed as part of the study, who reflected that “resourcing in [private sector] housing teams tends to vary quite a lot. It just depends on which authority it is and some of them are quite well-resourced…and others are really badly resourced and that seems to depend on local political leadership”.

The way forward

Central government has developed a clear set of rules to improve housing standards. However, as the Housing, Communities and Local Government Committee (2018) has observed, powers are meaningless if local authorities do not, or cannot, enforce them in practice. Local authorities currently face the challenge of enforcing standards with diminishing resources. This is at a time of increasing demand for these services, driven by factors including population ageing and rapid growth of the private rented sector. This shortfall in resources appears to be undermining effective enforcement. The result is a reduced role for the state and the law; a process commonly referred to as deregulation. This is consistent with the loss in regulatory enforcement capacity experienced across many other areas, including the environment, health and safety, consumer protection and employee rights (Rose, 2020).

There needs to be a significant uplift in enforcement action in order to minimise the number of households exposed to hazards, including poor hygrothermal (water and heat) conditions, pollutants, inappropriate space, lighting, noise and security conditions, infection and fall hazards. This includes a more proactive approach to identifying poor conditions and enforcing remedial works to address HHSRS Category 1 and 2 hazards; informal and formal enforcement activities and compliance focused activities to tackle problems in the private rented sector under Part 3 of the Housing Act 2004 and additional new regulatory powers; and the fulfilment of responsibilities under the Care Act 2014. The ambition is to deliver increased comfort and wellbeing and protection of a major national asset – housing stock – for the benefit of future generations.

To this end, central government needs to provide local authorities with the resources required to ensure they have the capacity to enforce the law. This is the conclusion arrived at by the Housing, Communities and Local Government Committee (2018) report on the PRS, but applies equally to duties under Part 1 of the Housing Act and the Care Act 2014. In recent years, some additional funding has been made available, typically through a competitive bidding process working to tight timetables and supporting short-lived initiatives (for example, the £4 million fund allocated to 100 local authorities in 2020 by MHCLG to tackle 'rogue landlords'). What is needed is reliable, longer-term funding streams that support the development over many years of local strategies to tackle poor housing conditions (Harris et al., 2020).

4. Build the local infrastructure to deliver housing quality improvements – Recommendation 2

Introduction

Many places lack a coherent local strategy, reliable long-term funding and coordinated service response to the problems of housing quality. Various programmes and activities delivered by agencies in different sectors target housing quality issues, but these often fail to add up to a clear, consistent, reliable, high-quality local offer. Many local people often do not know who to approach for the help they need making decisions about their housing futures and tackling problems of quality and condition (Centre for Ageing Better, 2019). This is a critical weakness in the national framework for housing improvement.

All areas need something resembling a dedicated local hub through which a range of partner organisations and agencies, funding mechanisms, specialist schemes, and wider services can be organised. Home Improvement Agencies (HIAs) represent a sensible starting point in delivering upon this ambition. At present, there are HIAs in around 80% of local authority areas in England. HIAs typically offer some combination of: holistic, caseworker-led support; major and minor adaptations; handyperson services; hospital discharge services; home safety audits; falls prevention services; repairs and maintenance; information and advice; and housing options services (Foundations, 2016). A pragmatic response would involve building upon and expanding the role of HIAs, rather than seeking to start afresh and develop a whole new local infrastructure. HIAs could function as a hub or 'one-stop-shop', drawing together information, programmes and funding streams in one place.

An important caveat that needs to be recognised is the variable geography of HIA activity – some areas have never had or have recently lost their HIA. Furthermore, HIAs are struggling to maintain the range of existing provision in the face of funding cuts, and additional funding will be required to

expand provision into new areas, such as support and assistance for home owners self-funding improvements. In short, there is a need to bolster and boost HIAs if they are to serve as the dedicated hub through which a range of partner organisations and agencies, funding mechanisms, specialist schemes, and wider housing improvement services are to be organised at the local level. Doing so would support local authorities in delivering upon their statutory duties under the Care Act, which requires the provision of information, advice, and guidance around care and adaptations.

The benefits

Home Improvement Agencies (HIAs) are not-for-profit organisations run by local authorities, housing associations and charities to support older people to remain living independently in their own homes (Age UK, 2020). They contribute to the vision for an integrated health and care system which promotes wellbeing at home, and provide preventative services to reduce, delay or remove the need for institutional moves (Foundations, 2016). Having developed in the 1980s to provide independent information and practical help to adapt homes (Leather and Mackintosh, 1994), HIAs currently operate in around 80% of local authority areas in England (Foundations, 2016). This means that there is a substantial network of organisations across the country that focus on aspects of housing improvement, particularly for older, disabled, and vulnerable households. Building on this local infrastructure to deliver additional programmes could therefore be an effective route to housing quality improvements.

HIAs are trusted, local organisations that focus on understanding the needs of customers, and therefore have the potential to offer a holistic and client-centred service (Bennett et al., 2016). The importance of a tailored, casework approach has been highlighted as crucial, "in terms of people actually wanting to engage, getting things done to their home that means they...want to stay there...That caseworker role is vital" (S4). Although HIAs are sometimes viewed primarily as a mechanism for processing Disabled Facilities Grants (DFGs), the need for adaptations often occurs at the same time as other needs that require housing-related action (Centre for Ageing Better, 2018b), and there is potential to deliver a more integrated and holistic service. This would mean offering "a range of different interventions that you could then mix and match to meet people's needs...[with] a range of ways to fund their particular circumstances" (S4).

For example, as HIAs already provide a range of relevant services, their remit could be expanded in line with delivery of the provisions under the Care Act 2014. Under the Care Act, local authorities must provide or arrange services that help prevent people from developing needs for care and support, or delay deterioration. Local authorities must also provide comprehensive information and advice about care and support services in the local area, and how to access them. HIAs already provide preventative

services, for example the operation of handyperson schemes. The national evaluation of the Department for Communities and Local Government handyperson pilots noted that a fulltime handyperson can make up to 1,200 visits per year, informally checking on large numbers of older people living alone, who may be reluctant to contact other services (Croucher et al., 2012). Such a visit can be the first step in identifying risks and unmet needs (Foundations, 2010). Such services have been highlighted as an effective way to provide low-cost help with minor repairs and adaptations, offering value for money, and preventative and personalised services.

This local delivery mechanism offers considerable scope for adaptation to local needs, which vary across different areas, whilst still providing a nationally consistent framework through which tailored programmes can be delivered. The importance of a trusted intermediary to help households to navigate the different options for housing improvement, levering in different funding pots to provide a more tailored solution to householders' needs, and to understand the different financing mechanisms available, cannot be underestimated. A traditional case work approach facilitates tailored solutions and the potential to guide a household through the whole improvement process.

Future possibilities

A consistent local delivery mechanism

Although HIAs are widespread across the country, there are not available in every local authority area (Adams and Hodges, 2018). In particular, "there's less of them in the South…Going back to the early part of this century, there was a move to have HIAs in every area, and that's…where they started supporting the delivery of grants and loans…because you do get that kind of supportive approach to it. But as…funding disappeared…the case worker home improvement role…has decreased significantly" (S4). HIAs are very dependent on DFG funding and services commissioned locally, for example handyperson schemes. Some stakeholders therefore noted that they were "financially quite precarious" (S3). A legal requirement for an HIA in every local authority, with a defined remit linked to local authority duties in the Care Act, would provide a nationally consistent framework through which other national and local programmes could operate. This means providing a stable funding stream, beyond the current reliance on the delivery of DFG-funded adaptations, and would require a focus "not just [on] the capital side…on the revenue as well" (S5) so that programmes like DFG and beyond can have maximum impact at a local level. Revenue funding would enable local authorities to provide a stable base of funding, for example to increase staffing, which can result in "better outcomes" than capital funding alone (S5).

Consistent presence of HIAs across the country, coupled with a proactive approach to delivering a wider remit – including services to a wider range of homeowners – has the potential to address a clear issue raised by stakeholders: "there's actually something far more fundamental for older people when they're thinking about 'what will improve my life and improve my home?'...: where to start" (S1). For many of those who require a small amount of help with day-to-day repairs and maintenance, "people don't know who to ask, they don't want to be ripped off, they don't know who to trust...It isn't necessarily the big things that cause the upset...One lady was saying...her husband always used to do the garden...I don't think she really feels emotionally comfortable about going in the garden and doing a lot of work...Who do you ask?" (S14).

Expanding reach to a range of households

Stable and consistent funding would facilitate service-development and the expansion of provision to a wider range of households. We know that there is considerable demand among older people for help with day-to-day repairs and maintenance, for example, and there is an opportunity for HIAs to open up new markets that build on their areas of expertise, contributing towards keeping people living healthily at home. Whilst HIAs have historically focused on provision for low-income, older, disabled, and vulnerable groups, the customer base for HIAs is likely to broaden, including into delivery of preventative services to a larger population of self-funded households who are not eligible for grant funded assistance (Foundations, 2016). For example, it is estimated that around one-third of individuals who are assessed as needing an adaptation to their home drop out of the DFG process, often because they must contribute to the cost (Mackintosh et al, 2018). Whilst most HIAs offer a service to self-funders, they are a small minority of those assisted (Foundations, 2016), suggesting that there is an important gap in meeting needs that should be bridged. Similarly, clients of HIA handyperson services are generally older homeowners, whilst the proportion of work carried out in the PRS is lower than the percentage of older people living in that tenure. This suggests the potential for HIA services to be targeted at preventative outcomes for those living in the PRS, meeting the Care Act's drive for early, preventative action, however there are concerns that those living in the PRS may be perceived as a 'problem tenant' for requesting adaptations, with short and insecure tenancies adding to the challenge of adaptations in this sector (Equalities and Human Rights Commission, 2018). To reach new groups, it is crucial for older individuals living in the community to understand that support is available: "even if they're not eligible in terms of means tests for funding, they are eligible for an assessment, and people don't understand that in the private sector...It's not advertised" (S14). However, this may also need to be underpinned by more significant reforms around tenure security (see, for example, recent PRS reforms in Scotland).

Developing new services

A range of private companies offer subscription based emergency repair services, but there may be demand for the development of a subscription-based scheme for day-to-day small repairs, which could be operated by HIAs and oriented to older individuals living in the community (Stewart et al., 2006). There are also historic examples of such subscription-based maintenance services, offering surveys and a maintenance plan and carried out by local building companies with potential for local authority involvement; these services tended to be oriented towards more affluent and older households (Stewart, 2003).

Nottingham Energy Partnership has recently been accredited as an HIA. As well as working with vulnerable households, their Home Improvements Team install non-subsidised energy efficiency measures and general home improvements to 'able-to-pay' households.[1]

Proactive and preventative improvements

Home quality and safety assessments offer the potential for an effective preventative mechanism by identifying home hazards and quality concerns before an adverse event, such as a fall, occurs. There are a number of existing assessments related to housing quality that are in use, such as the Housing Health and Safety Rating System (HHSRS), although there are concerns that guidance and worked examples do not adequately reflect the range of issues encountered (Carr et al., 2017), and the assessment often relies on an individual (usually a tenant) bringing problems to the local authority, with vastly different approaches to proactive inspection and enforcement across different local authority areas.[2] In their assessment of the private rented sector, Rugg and Rhodes (2018) recommend a 'property MOT' certificate before letting, to ensure it has passed an independent inspection of minimum standards. These would be issued by independent inspectors.

However, the quality and safety of the home is related not just to physical characteristics, but also to the way in which residents interact with the home environment. Falls risks (such as on stairs or other surfaces in the home) are one of the two most frequently observed hazards in English housing stock (Centre for Ageing Better, 2020a). Environmental home hazards, such as tripping over objects on the floor, loose rugs, or lack of handrails, are some of the environmental variables that are implicated in the majority of falls (Pighills et al., 2011). Home hazard assessments and modification

1 See: https://nottenergy.com/our-services/home-improvement-services/

2 See, for example, the recent House of Commons Select Committee hearing on the private rented sector: https://publications.parliament.uk/pa/cm201719/cmselect/cmcomloc/440/44002.htm)

interventions have been shown to reduce the risk of falls and injury and reduce the fear of falling in older people dwelling in the community. There is potential for some NHS funding "to be more upstream…more preventative…If you prevent someone falling by doing a quite mini risk assessment that could be done in the third sector…They're not a big deal to check…The savings…are absolutely significant" (S14). For example, whilst there are falls prevention programmes in operation via the NHS, they are more commonly post-fall referrals to a prevention pathway (in order to prevent further falls), or exercise-based, rather than specifically concerned with the home environment (NHS Confederation, 2012).

Research into the prevention of falls among older individuals living in the community suggests that it is essential to consider the way in which the home is used by residents, not just to undertake a checklist alone (Iwarsson et al., 2009; Pighills et al., 2011, 2016). To prevent falls, effective targeting is also essential, which may favour an initial filtering or prioritisation exercise and a more comprehensive assessment and referral for more at-risk groups. The greatest impact is likely to be among those at greatest risk of falling, suggesting multiple referral routes (e.g. via GPs) are important to target interventions. Active participation from the householder is important, suggesting assessments would need to be carried out by trained assessors, and by Occupational Therapists for more high-risk groups.

HIAs could play a key local role, as many already run a handyperson service for small home improvements, minor repairs and adaptations, and energy efficiency measures (Croucher et al., 2012). There is potential to deliver more holistic and wider-ranging assessments in the form of a 'home MOT', which encompass not only safety related to falls, but also cold, and other repairs or adaptations. Providing a handyperson service with the capability to assess needs as well as carry out work (e.g. via a HIA) can free up occupational therapists to concentrate on the more complex cases – as occupational therapist time can account for a high proportion of cost for minor adaptations (Curtis and Beecham, 2018), this may make more efficient use of this specialist role. By proactively offering assessments, problems may be picked up earlier and adverse events prevented, creating additional benefits.

Home hazard assessment

Wirral Healthy Homes focused on tackling health inequalities, starting from evidence that many individuals were unlikely to report poor housing conditions to the local authority. A pilot scheme focused on reducing all hazards in the home that could affect the health, safety and wellbeing of residents. The pilot target area had around 1000 homes, which were all offered a free home safety check, with advice given to reduce hazards and referral to other services such as energy efficiency improvements, fire safety visits, etc. Surveys were carried out in a mix of tenures (37% owner-occupied, 38% PRS, 25% housing association). The project was funded by re-focusing existing resources, and around £25,000 additional funding for a Health Homes referral coordinator, whilst providing savings to frontline health services (Stewart, 2013).

Innovation in financing

Stakeholders reflected on the importance of different financial products, and a financial sector that could "provide a product that enables people to improve the quality of their home" (S3). Local authorities can already register a charge on properties for adaptations which cost more than £5000 and there is some evidence of increased take-up of this option (Foundations, 2010); this could be applied to other types of work in order to assist homeowners with equity but lower incomes to improve the quality of their home. For example, stakeholders described larger improvement schemes that were run by the local authority and funded by a property appreciation loan, in which a loan was secured against a proportion of the value of the property. This developed into "a kind of consumer process...where it was less prescriptive and more working with the person" to deliver a broader range of options (S4).

Expanding the provision of services more substantially into the 'able-to-pay' population could be aided by the development of innovative financial products and partnerships that would help individuals to improve the quality of their home and their day-to-day living. This recognises that whilst "there's a place for grants" it was also crucial to think about "how you can support people to use equity and other means to supplement that as well...there's not a one-size-fits-all" (S4).

New financial partnerships

Lendology CIC works with 18 local authorities and have lent over £15.7 million, with over £8.4 million of this sum having been recycled through the repayment of homes. The scheme was devised to help homeowners to access loans to improve and adapt their homes. A loan scheme may run in conjunction with a grant programme, for example, Mendip District Council 'safe homes assistance' in private sector housing is provided through discretionary grants and loans, which enable work to be carried out to make home safer, warmer and healthier for occupants. It is largely targeted at those on lower incomes. Means tested grants are available, and for those who are not eligible low-interest loans are available through Lendology, who provide loans to individuals who may find it more difficult to secure loans through other routes. Lendology is currently focused on the South West but expanding services to other areas of the UK.

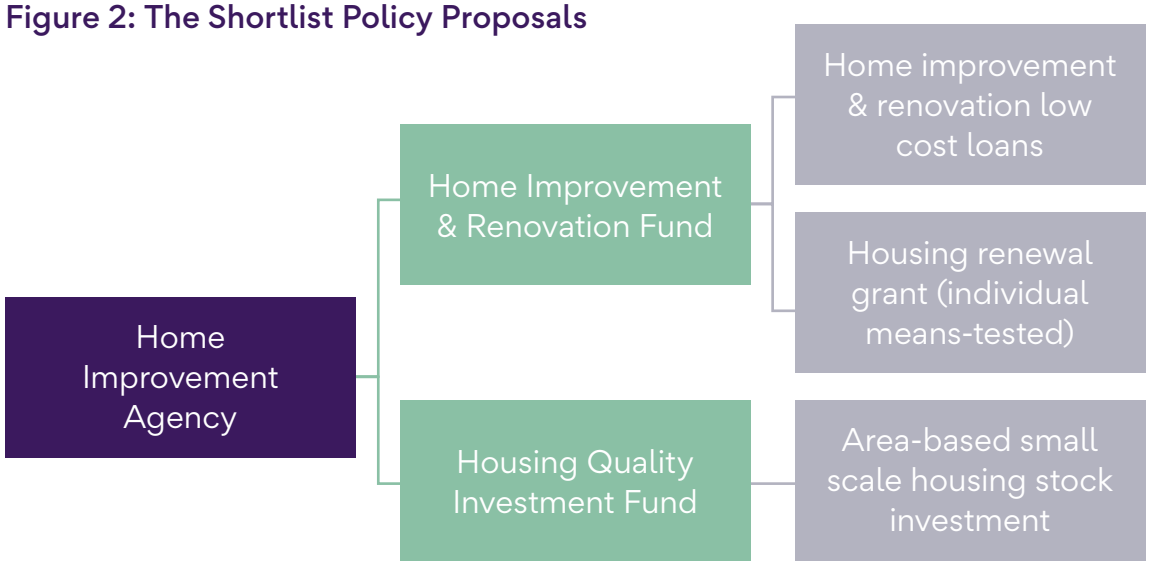
5. Develop and resource specific interventions to improve housing quality – Recommendation 3

Introduction

The first two recommendations concerned general principles of how to ensure quality standards are enforced and the value of and possible models of the local mechanism required to oversee and deliver private sector repair and improvement. The aim of this recommendation chapter is to apply the conclusions we have reached about feasible specific interventions and to provide initial economic and financial analysis of the design and impacts of a number of shortlisted repair and improvement policy proposals (the long-list can be found in Appendix 2). Throughout we seek to prevent the (often unattainable) best getting in the way of the good by stressing what is feasible, practical and pragmatic – to help make progress.

The analysis develops over several steps . First, we set out the model of repair and improvement we are seeking to develop in order to be able to better specify the economics issues arising but also to help focus the finance and design issues that would arise. Second, there is a short review of relevant literature evaluating private sector housing repairs and improvements. Third, we briefly discuss the modes of analysis that would be adopted for the subsequent analysis. This is followed by fourthly, an initial assessment of what it might cost, who pays, what outcomes of the intervention might look like. The fifth section reflects on wider implications.

Figure 2: The Shortlist Policy Proposals



We begin with the proposed approach to private sector repair and improvement interventions (Figure 2). We spell this out in order to have something specific to work with in order to undertake economic and financial analysis of the policy instruments. The model is a partnership between central government and local authorities and their agents, which we here refer to as home improvement agencies (HIAs). The HIAs deliver a local strategy, implement and allocate funding and grants both to individuals and on an area-basis, all funded nationally from Whitehall. There would be scope to augment these programmes with local discretionary public resources, provided these were additional to central funding in the economics sense.

The HIAs are the agents of local government in that they act on the (proposed) statutory duties and powers conferred on local government to deliver private sector repair and improvement (but also with scope to support social housing solutions to private sector conditions). Presumably, private sector strategies would nest within wider local housing investment strategies. The assumption is also that there would need to be a national resource allocation approach based on well-understood criteria (e.g. housing need and/or multiple deprivation) that would allocate resources from central government to local authorities for these purposes.

The interventions we propose would be grouped into two funds:

- **Home Improvement and Renovation Fund** – individual owner/landlord support in the form of low-cost loans linked to energy efficiency improvements and means-tested housing renewal grants – both provided by national government funding.
- **Housing Quality Investment Fund** – a Whitehall-funded area-based renewal programme that might work at the scale of a street or a block of flats and where solutions might include whole home renovation, common renovation such as re-roofing or indeed potentially converting poor quality private renting to social renting.

While independent of each other, it may of course be the case that individual level grants and loans are prioritised and blended with a specific area-based renewal programme. The HIA model is envisaged as a charity or independent third sector body in governance terms charged to deliver the local authority's strategy, be responsive to emerging needs and to act in partnership with local government to implement renovation and improvement statutory duties and discretionary powers, and the delivery of the above programmes.

Policy background and evidence

Economics ideas about the impact of repair and improvement interventions, including area-based and individual or property-levels of analysis, go back a long way. Robinson (1979) sets out both the established technical market failure arguments for area-based renewal and policy shifts over time towards rehabilitation rather than redevelopment, arguing that this choice is an empirical one based on the application of standard principles of cost benefit analysis of the feasible options for intervention (e.g. doing nothing, redevelop or refurbish/repair). Robinson highlights externalities (where the private costs of consumption or production do not take sufficient account of social costs when agents make economic decisions), information problems (economic actors lack information about the array of prices they confront or indeed the quality of housing on offer after intervention, as well as the consequences of one party having more information than another, and which can be exploited in their interest but not society's wider needs), blunted incentives, and the failure of asset owners to co-ordinate their actions in their collective best interest, combining with low income on the demand-side to create individual, property-level and neighbourhood disrepair and poor conditions. In research looking at the improvement of tenemental stock in Glasgow, Maclennan (1994) estimated the value of improvements by assessing the externality impact on prices of unimproved adjacent properties.

Market failure arguments are also to be found in work by Rothenberg (1967) and Rothenberg et al (1991). Rothenberg indicates that structured or segmented housing markets create and can sustain submarkets of poorer quality housing unless well targeted and designed interventions – on both sides of the market – can address them (again in some form of assessment of the costs and benefits of different actions). Barr (2020) is the classic UK analysis of market failure across the welfare state and the appropriate corrective responses based on efficiency and fairness considerations (see also Glennerster, 2017). A more general textbook analysis can be found in Stiglitz (2000) [and earlier, in Atkinson and Stiglitz, 1980). Maclennan and Gibb (1993) set out a housing sector account of market failure.

What policy design principles follow from this reading of market failure? First policy prescriptions should be based on a sound diagnosis of the

sources of poor condition. This is a necessary condition for workable policy interventions. Second, the interventions ought to fit the problem created by the market failure or combination of problems that cause disrepair. Policy failure is littered with examples of well-intentioned interventions that either only address part of the problem or are too focused on symptoms rather than underlying causes. Third, it should not be surprising that with locally distinct housing markets influenced by both macro and more micro factors, policy interventions need to be alive to different requirements and analyses. It is an empirical and a varied rather than a uniform policy challenge, which is why local control over a range of potential intervention instruments makes sense[3]. Fourth, choosing between policy actions should attempt to estimate the net benefit to society of different actions and this should reflect and measure the full costs and benefits over the remaining or extended life of the property. Fifth, recourse to well-established principles from microeconomics, including behavioural economics, can help us to understand responses to intervention by asset owners, occupiers and other private sector actors (e.g. in terms of preference for grants over loans, opportunistic behaviour, as well differential take up rates of financial support in different circumstances).

It is important to recognise that the terms of the debate and the cost-benefit outcomes can be fundamentally altered as a consequence of political and wider factors. Two examples of this are, first, that the Government's priorities may change. The emerging levelling-up agenda, for instance, in seeking to redress the balance of public investment outside of the London and South East region (where land value uplift plays a decisive role), may have to change the weights and methods by which potential investments are scored, thus altering at a stroke what is value for money and what less so. A second factor is where important external factors come to be a priority. Long term environmental costs of carbon and the potential carbon savings arising from an intervention investment, in the context of carbon reduction targets, can be calculated and monetised. Three calculations are potentially important for housing investments such as the ones we are considering here: the on-going carbon emissions of 'doing nothing'; the reduced carbon emissions as a result of an investment; and, the embedded carbon costs of different investment actions i.e. retrofit versus demolition and redevelopment (which normally makes a strong case for retrofit or renovation and makes redevelopment relatively more expensive once the cost of embedded carbon is factored-in, see: LETI, 2020).

What does broader multidisciplinary evidence about repair and improvements strategies in recent times tell us? This has to be in the put in the context of the running down of private sector interventions, effectively ceasing as national policy in 2010-11, replaced by widely under-resourced

3 But there needs to be clear rules between subsidy form different levels of government to avoid waste and inefficient interventions.

local discretion and a wider assumption that owners normally are responsible for property upkeep. The evidence is limited but we can distinguish between expert knowledge across the policy space (e.g. Leather, 2000a and 2000b), evaluation of major programmes such as New Deal for Communities and the Decent Homes programme, and, separate analyses of the health and wellbeing impacts of improvement programmes or energy efficiency impacts on outcomes. Arguably, contemporary estate regeneration policy also has relevant crossovers too.

Leather (2000a), writing for the Joseph Rowntree Foundation, presents a critical analysis of (then) current policy by looking back at the historical trajectory of renovation policy in England. Much of this remains very relevant to the current situation and thinking about future policy. Leather points out that the highwater mark for repair grants (90%) was in the 1980s under the Thatcher government which was in part a construction sector job creation/retention exercise in recession. This period also indicated that owners were unwilling to contribute their own resources in the face of such grants, and local authority actions to improve the value of work done increased costs and were politically counter-productive.

Leather (2000a) argues that area-based renewal has been overstated in terms of its importance to actual renovation work but he does argue that enveloping or group/block repairs were in places successful because councils retained control over arrangements, contractor choice and work quality, in a way that was not the case with individual grants where owners often chose low cost low quality outcomes without any approved contractor list. Leather views the shift away from mandatory grants from the late 1980s as a form of residualisation, directing support to lower income owners only, the worst property conditions and minimal work – and all as part of what we might now call a responsibilsation approach to make owners look after their own properties.

Leather argues that, because it is unlikely to see a return to such extensive grant commitments, we should consider other options: state support to pay interest on repair loans (and extending the idea that interest could be paid to those eligible through social security for essential housing repairs); examining wider and more creative use of equity release. This might involve deferred payments or a legal right to payment for the intervention's investment when the property is sold (liens) but also new savings products that could be used for renovation. Similarly, this might extend to insurance products that include home MOTs and regular inspections to promote prevention. It may also seek to help struggling owners through opportunities to transfer to social housing with tenure security and a renovation plan. Leather argues that future programmes are likely to be based around a minimum standard (which may be modest) but also argues that there is still a place in a future strategy for well-designed block/group or enveloping approaches as part of a more coherent approach.

Leather (2000b) argues that exploring the causes of disrepair suggests that underlying explanations for poor conditions and for individuals not addressing them, may be rooted in wider processes that go beyond housing policy and practice. In particular he points to general problems of poverty and low income and how that interacts with daily living decision-making. This in turn would imply that we may need to look beyond narrow housing outcomes to wider arguments: the impact on health and well-being that flows from cold homes and unsafe homes (Centre for Ageing Better/Care and Repair, 2020); and evidence from systematic reviews about the impact of renovation and improvement strategies on health and well-being outcomes (e.g. Thomson, et al, 2009; Fenwick, et al, 2012; Buck, et al., 2016 and Carnemolla and Bridge, 2020), as well as the preventable costs of poor housing conditions for the NHS (Nicol et al, 2019; see, also Centre for Ageing Better/Care and Repair, 2020).

In recent times, the most relevant large scale programmes carried out which speak to these questions of repairs and renovation are the New Deal for Communities (NDC), and the Decent Homes Programme (which we have argued is a pragmatic place to start from concerning housing quality measures). Cole, et al. (2010) consider NDC interventions in the housing and physical environment of deprived neighbourhoods. This evaluation draws on different waves of longitudinal surveying and locality-based analysis. The interventions examined include 'inward-looking' dwelling improvement and neighbourhood infrastructure investments. Apart from demographic factors (and including interventions that go beyond improvements to area-based new build and redevelopment), the evidence suggests that positive outcomes (self-reported satisfaction) with property quality improvement is in part driven by context (i.e. where you start from pre-intervention), neighbourhood position, the extent of property improvement spend and the stability of leadership locally. Effective partnership working was also identified as important. However, overall, the study suggests that area-based evaluations of this sort are likely porous (the smaller the scale, the more 'open' it is and consequently the more it is shaped by wider economic and housing market considerations).

However, there has been no published evaluation of the Decent Homes Initiative, although an assessment was undertaken. We do have the 2010 National Audit Office report, which is principally concerned with landlord options appraisal of how to meet the standard, and the efficient and Value For Money delivery of the programme across social housing in in England. The NAO recommends that (the unpublished) programme evaluation should include 'more visibility' on how local government funds and delivers improvements in private sector homes to ensure value for public money.

The only recent and ongoing relevant area-based policy programme that might shed light on our concerns with private repairs and renovation, albeit indirectly, is Estate Regeneration (DCLG/HCA, 2016). The remodelling of

social housing estates is not directly relevant but it has a bearing on our economic and financial analysis since it makes use of investment appraisal related guidance that we turn to below.

More broadly, in reviewing repair and improvement research and in particular with respect to energy efficiency measures for this project, we were struck by the comparative lack of cost-effectiveness work, economics analysis and data on costs (other than recipients). The literature does however provide some useful pointers for the analysis here: the impact of intervention design on incentives, the creation of unintended consequences e.g. landlords now have an obligation to listen to request for energy improvements from tenants but tenants are concerned about retaliatory action by landlords. Also, landlords may delay repairs in an effort to secure public funding such that conditions may be negatively affected by such policies unless incentives are strengthened. There is also evidence here about the significance of the expectation that households have that such subsidy would be 100% of costs rather than shared with the asset owner. These and similar points are important barriers and design issues for new proposals to overcome.

In summary, we note that the current interest in repair and renovation for private housing (and potentially elements of social housing) is situated in evidence which is comparatively old and from an earlier policy phase where such intervention was more familiar. More recent evidence tends to be focused on specific dimensions – energy efficiency, for instance – or sector-specific assessment of outcomes (health outcomes from interventions). We concur with Phil Leather's argument about both locating disrepair and poor conditions in policy domains beyond housing as well as within the housing sector and consider the policy response in that light. In making a case for repair and improvement interventions it is clear that a series of arguments have to be marshalled if the political economy of public funding priorities are to be shifted. Recognition is required of the plight of poor home owners and the need to target individual support, and of the externalities associated with bad conditions. Intervention needs also to take account of the growth of private renting and the need to fashion incentive-compatible solutions to housing conditions in the rental market, tackling affordable warmth and contributing to carbon reductions, convincing Whitehall about the merits of focused area-based interventions (i.e. parts of individual streets or blocks of property) and recourse to more creative funding routes. All of these factors should prioritise the asset management of the private housing stock as a responsibility of local government.

Methods

What arguments do we marshal to analyse the prospective policy interventions we are interested in? In the first place, we draw on core ideas from government principles of public sector investment appraisal i.e. the HM Treasury Green Book manual and associated appraisal guidance from MHCLG.

We do this mindful of the current active revision of the Green Book which seeks to both provide aregular update to its tools and content but also take more explicit account of the levelling-up agenda. At the time of writing, the UK Spending Review has provided some sense of where this review is going but we will not know the full details till the Spring of 2021. It is argued (Inside Housing, November 25 2020) that appraisal decisions will no longer be place-blind and led by current cost-benefit analysis but rather inform ministers of the place-based impacts of policies in terms of the locations which would benefit most from them. The implication is that the current reliance on land value uplift and the so-called Treasury Rule that broadly seeks to allocate new public housing investment distributed 80:20 to areas of housing affordability pressure – will be altered in favour of places with lower land prices, weaker demand and broader regeneration investment needs.

This is a direction of travel rather than a clear statement of what will happen. It is also less clear how resetting appraisal guidance will impact on the scope for repair and improvement funding to the private sector but the implication does seem to be that spatial redistribution will be tilted relatively to areas outside of the Metropolitan south and it is not unreasonable to include private sector repair and renovation as part of a regeneration-stressing regional or local systems approach to housing interventions.

Policy reform of appraisal methods and spatial allocations aside, what would be the core elements of our assessment methods?

- **Strategic options** including the 'do nothing' or business as usual case – apart from being a standard element of investment appraisal guidance, this also helps us consider the costs and wider implications of not intervening (e.g. savings foregone elsewhere).
- Related to the above are the **market failures** associated with the current situation, what are they and how significant? These considerations operate at a programme level (i.e. as a general principle) but also operationally at an individual local authority level bid for funds – so these market failure considerations are also relevant for thinking about sub-national funding allocation mechanisms.
- Where and when are different forms of repair, improvement and renovation interventions the optimal way forward? The market failure analysis helps answer this set of questions and also helps narrow **intervention design** questions. Identifying the type and severity of market failure is a necessary condition but the appropriate response (or mix of responses) is also critical. This is analogous to the correct diagnosis of a health condition combined with the appropriate medical response that where possible addresses causes and not just symptoms.
- **Additionality** and **deadweight** are critical questions for the analysis. Deadweight captures the fact that a proportion of people may resolve their policy problem themselves, or that the market may itself provide a

solution to a greater or lesser extent. Clearly, the larger the deadweight the more wasteful and poor value for money are interventions. Additionality is the converse – the larger the independent effect of the intervention, that would not have happened without intervention, the more it is additional. The MHCLG guidance presumes logically that the greater the evidence of market failure, the more additional will be well targeted interventions, other things being equal. Looking at the case of new social housing investment, the official guidance suggests additionality of between 50-100% and this will tend to the higher end of the range in a counter-cyclical context where private development is weak and where the necessary institutional responses are in place to allow social housing to be constructed efficiently (Savills, 2019).

- The linked issue of **displacement** concerns the idea that public sector investments may simply move economic activity around and to different locations rather than being additional. This is one reason why appraisal guidance tends to emphasize the national impact rather than the local impact of an intervention. This would appear to be less of an issue where the focus is on housing quality and conditions problems[4] but we note in passing that it may well be a wider issue for the levelling up reforms. A linked problem is **crowding out** – that public sector interventions reduce the incentives for private sector actions in the same space. Again, this is closely linked to the extent to which there are market failures present, how much private sector capacity there is unutilised, and whether state interventions replace the hitherto badly functioning market, or whether intervention seeks to facilitate the market to work more efficiently.
- Returning to the principles of assessing the overall costs and benefits, the **benefits** side should inform us of a series of positive outcomes. These include future cost savings including to other public budgets[5]; increased wellbeing (which can in principle be monetized and include a range of features such as reduced cold, greater safety, etc.). The MHCLG guidance principles suggest a number of specific benefits though less likely to include land value uplift for repairs compared to improvement and area-based work conferring positive externalities. The Guidance usefully points us to possible overlaps and double counting across benefit headings.
- **Costs** can also be explored further drawing on the Guidance principles e.g. the cost to society, to the resident and asset owner; negative externalities; indirect and difficult to measure directly shadow costs (also applies to difficult to measure benefits), as well as longer term costs such as that associated with depreciation and life time maintenance, as well as environmental carbon considerations.

4 Since the intervention extends the life and may increase the value of specific properties in a given place; it is not obvious that this displaces other activity elsewhere.

5 Including, if relevant, the benefit to society of reduced carbon emissions, which is distinct from more affordable warmth for the resident.

- **Benefits and costs together**, suitably discounted to calculate a net present value, allow us not only to arrive at a single net benefit measure but also in principle to consider distributional analysis (for instance, across people in vertical and horizontal equity terms and places); we can also consider the payback period for the public investment over the life of the project.
- Turning to the interventions themselves, there are various important **design** questions. These include questions of cost control and waste, incentives and nudges, as well as taking account of potential unanticipated impacts through reflection on systems thinking and knock-on interactions with, for example, the wider housing system and other policy domains. Other important necessary design conditions include fundamental technical feasibility and the degree of likely take-up. Intervention design should include the scope and utility of piloting. Design should also consider the scope for the proposed interventions to interact and reinforce renovation outcomes (or indeed to be duplicating and wasteful). Finally, linked to all of these questions is the overarching and operational policy governance of the proposed HIA.
- **Funding** options are a further critical dimension of design. What will be the public finance component and what form/blended mix will it take: grant v loans v guarantees? To what extent will it be means-tested? What will be the private payment/finance component? Is there a role for equity loans and equity release or deferred payments via liens on the property? How will the system be regulated and enforced? Where is the balance to be struck between compliance v voluntarism? Will it include buy back options (e.g. PRS sales to SRS)?
- Finally, consideration must be given to how to design the **resource allocation model** that distribute these programmes from central to local operational levels. What role will measures of deprivation, need and demand, as well as capacity and delivery infrastructure play?

Initial assessment

The three questions for the proposed interventions are what would it cost, who pays and what impacts might we expect to see? Table 2 helps to put these questions into a framework of key economic dimensions and allows us to discuss these questions in more depth. We look at the three questions in turn.

Individual **repair grants** are likely to be needed because of market failures relating to capital market imperfections and other information failures. We are proposing targeting them on lower income owner-occupier households and we recognise the evidence from previous policies that suggests the repair grant should meet most if not all of the costs involved, as this is critical to take-up. This also implies capping grants in relation to levels associated with decent homes quality outcomes, careful oversight of the diagnosis of the problem, selection of contractors and oversight of the work by the HIA (which should also improve take-up).

On the basis of targeting and market failure, our expectation is that this intervention will be largely additional, provided it is well-designed and implemented. While the targeting of the policy means it is progressive up to the means test, it is again important to ensure wide access to the grant so that those in need who qualify are equally likely to be recipients. The repairs should not add to environmental long term costs and indeed should help to reduce them as well as extending the safe life of the property.

Individual **low cost loans** are proposed without targeting but we expect similar issues with respect to take-up requiring a meaningful level of subsidy through transparently reduced loan costs, supplemented by effective marketing and support from the HIA including looking to focus on trigger points like planning to move, or dealing with an estate. While capital market imperfections may arise for some, low take up may as much be a problem of high cost and scepticism about benefits.

For some loan recipients, additionality will be lower but the environmental benefits and cost savings for society will be important for the loan product providing an extras option for home owners looking to reduce the cost of energy efficiency improvements. This is also a part of growing and facilitating a market for green finance. How progressive this will be in practice will depend on any exclusions that might apply (i.e. it is difficult to imagine it will be a completely open product without some degree of targeting to property disrepair or high energy costs or an income ceiling).

Area-based housing stock interventions, perhaps operating at block level or a small cluster of homes, involves a group approach to targeting repair and renovation works, again aligned to decent homes quality standards and expected costs. A risk to be overcome is how the co-ordinating HIA balances compulsion and voluntary opting-in – this may involve encouraging equity loans, equity release or liens or deferred payments, as well as greater use of grant and blending in the other two instruments. If the properties are, in part or all, held by private landlords they may be offered an exit by seeking to put the properties into the different funding and management regime associated with social renting (and in some cases with tenants in situ also transferring). Other similar solutions may be found for distressed owners.

Table 2: Economic dimensions

	Individual Repair Grants	Individual Low Cost Loans	Area-based Housing Stock Interventions
Risk of non-completion, low take-up, faults, short life, etc.	May need to cover the majority of costs. Trigger points important to encourage take-up (e.g. planning to move).	Resident unwillingness to contribute financially. Behavioural nudges, trigger points and promotion required.	HIA co-ordination challenges – compulsion v positive incentives to overcome resistance to equity release or liens?
Market failures	Capital market failures. Other information failures.	Capital market failures. Other information failures.	Resident/owner co-ordination failure. Externalities. Information failures. Capital market failures
Deadweight, additionality, etc.	Targeting reduces deadweight. Largely additional.	Likely to be a wider segment of incomes; non-trivial deadweight likely.	Market failure reduces deadweight. Largely additional.
Distribution of presumed welfare gains & losses	Well targeted but take-up critical.	More widespread than grants but positive market enabling role.	Positive externalities of intervention shared. Displacement via deadweight possible.
Vertical & horizontal fairness	Progressive but need to promote equal access	Access rules critical e.g. income ceiling.	Selection rules critical – reason for piloting.
Affordability dimensions	Low income	Range of incomes	Range of incomes though likely less so than for low cost loan
Longer term costs & environmental impacts	Add years to property? Min. environmental requirements?	Energy efficiency & affordable warmth dimensions likely important.	Minimum environmental requirements.
Design implications	Complement or substitute for loans. Blend with area-based.	Complement or substitute for grants. Blend with area-based.	Enveloping or block approaches with relatively small maximum size.

The blending of these core and potential solutions is an important feature of what the HIA can bring to tailor local area-based enveloping repairs. Market failures here are likely to include externalities and the interventions may lead to positive externalities arising from the renovations. The approach should therefore be relatively additional (though it is possible that an area-based approach might benefit households who could resolve the issues for themselves but the focus should be on the overall benefits and costs, not just a minority of households; it should also take account of whether or not there is any equity in the housing stock pre-intervention). The choice of projects needs to factor this degree of underlying need into the decision but it is an empirical question which will need to be accounted for transparently. Piloting across a small number of case studies demonstrating different market circumstances would be advisable.

What would it cost?

This fundamental issue is far from straightforward and is actually the outcome of a series of prior decisions. Important dimensions would include the scale of the ambition of the different instruments in terms of how they intervene, the anticipated lifetime of the programme and the consequent cost implications per unit. Second, what is the size of the notional annual planned programme budget to be met by the UK government alongside the expected subsidy per unit[6]? Third, what are the assumptions about co-payment by other parties (the recipient, local government, public funding from other schemes, etc.)? For instance, is there to be match funding with 50% from central government and the rest from a variety of other sources, with a maximum potential share allocated to the recipient?). Decisions for the proposed low-cost loan would be analogous though in practice different to individual or area-based grants. We discuss who pays further below.

To cut through this, two principles might apply. First, this research and other work by Centre for Ageing Better has argued elsewhere that the Decent Homes quality benchmark (in particular, the HHSRS standards and hazards of non-compliance) ought to be a reasonable starting point for private sector repairs and renovation[7]. If the HIA is charged to undertake home 'MOT' surveys, this can identify critical quality shortcomings in individual homes and can help group together properties for enveloping block repairs.

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6 Is a given programme budget to be spread thickly with fewer recipients receiving larger interventions, or more thickly across more beneficiaries but at a lower per unit level of assistance?

7 We note that these standards of themselves may not be strong enough to meet decarbonisation goals. Our pragmatic approach is to suggest that going forward with them should be done in such a way as to facilitate and complement other funding for decarbonisation – this should often be done at the same time where feasible but it is important that the repairs funding is not held up but does remain compliant with other decarbonisation work e.g with energy efficiency interventions.

Second, we can appeal to objective evidence about the standard costs (and their range) to make good these and other critical repairs. To do this we can turn to the BRE work recently used by Care and Repair and Centre for Ageing Better in their recently published (2020a) report – Home and Dry (see Tables 3 and 4 below). Piloting the interventions will also provide evidence on the robustness of these cost measures.

The 2006 DCLG Guidance on Decent Homes sets out the definition of non-decent homes in the social sector (and also discusses the role of decent homes for the private sector, particularly for the vulnerable). They identify four criteria:

- Meets the statutory current definition of minimum housing standards (where the HHSRS standards apply)
- Is it in a reasonable state of repair (i.e. with respect to key components?
- Has reasonably modern facilities and services?
- Provides a reasonable degree of thermal comfort?

Table 3: Selected Category 1 Hazards Average Cost of Repair (EHCS data, 2017; all tenures)

Selected Category 1 Hazard	Average cost (£)	Total Number of Hazards
Excess cold	7,233	426,972
Falls on stairs	1,428	420,384
Dampness	5,439	19,731
Falls (bath)	631	3,959
Falls on the level	577	169,791
All dwellings with a Category 1 Hazard	3,892	1,096,431

Source: BRE (Centre for Ageing Better (2020a) Home and Dry) Table 3 p.39.

Focusing on HHSRS Category 1 hazards, Table 3 drawn from the Warm and Dry report and sets out average cost data on individual category A hazards for all households. This shows that the average repair cost is just below £3,900. The evident higher average cost of tackling excess cold may also encourage the use of low-cost loan instruments as opposed to up front grants. It also suggests that more than one million homes are affected.

Table 4 then provides cost information of achieving the decent homes standard. The mean cost for owners is £2,588 and for private renters, it is £3,762. The analysis also indicates that average costs rise with age in both tenures and exceeds £10,000 for older private tenants (e.g. 65-74 year olds). A further complication is that there is considerable variation in costs: looking at all households with a reference person aged more than 55, the median price of tackling non-decency is £3,592 but this more than doubles to £8,828 for the 7th decile (and falls nearly threefold to £982 for the 3rd decile).

Table 4: Cost Analysis of achieving Decent Homes by Tenure (EHCS data, 2017)

Tenure	Mean cost (£)
PRS	3,762
Social renting	1,741
Owners	2,588
Total	2,866

Source: As Table 3

What does this mean for the cost of the three interventions? First, mean private sector repair grants might be expected to cost up to £4,000 in 2017 prices. That implies an annual budget of £500 million could deliver 125,000 repairs.

Low-cost loan products could minimise interest payments that fund the apparently more expensive average energy efficiency interventions to reduce excess cold through heating and insulation measures. The options are subsidising mortgage products or unsecured loans. For older home owners, there may be equity loans, equity release or also deferred payments. All of these have advantages and disadvantages. A further option is for Government to consider guaranteeing loans which transfers risk to the government but can induce lower rates of interest. Alongside cheap finance, government may also consider backing real returns on green savings products that can help pay the principal of the loan. From a budgetary point of view and with long term low interest rates, the marginal cost per client is quite low per annum so it is possible to spread the programme widely.

Third, the cost dimensions of the block repair or area-based projects are harder to pin down. However, we can work on the principle of focusing on category 1 HHSRS hazard costs, recognising that in working in areas with the worst conditions, costs are likely to be relatively high (reflecting multiple problems), such that the overall costs might tend towards the 7th decile figures identified above and could be capped at an average of £9,000 (2017

prices). Note also that if area-based interventions are blended and include individual level interventions, there will be a sharing of costs and a more efficient combining of interventions which can provide longer term economies or value for money.

Who pays?

Who pays for the programme largely depends on design and financing of the different interventions. Table 5 considers the different dimensions of finance and design for the three main instruments.

We see that while the individual repairs grant would have a degree of means-testing, it was noted earlier that this would be set at a level close to the cost ceiling to encourage take up but also to cap the overall cost (this would be facilitated by the HIA vetting and approving local contractors). The low-cost loan is more widely available (though with exclusions perhaps linked to housing equity or an income cap – though these may not be straightforward to administer). Contractors delivering work funded by these loans would also be approved by the HIA. Public support will come from a combination of interest subsidy, state backed guarantees and perhaps signalling to 'green' savings products (which also may include an element of subsidy). It would make sense for the HIA to provide advice and information on the range of green and energy efficient finance available alongside the new instrument (Green Finance Institute, 2020).

Though more likely with the repair grants, both individual interventions may be deployed in the spatially-targeted renovation programmes as well as enveloping block repairs. Relevant local government funds and borrowing form the PWLB should also be available to financially support the spatial targeted work so as to increase the discretion and range of instruments and funding routes to tackle specific challenges. In each case there are public finance considerations but the individual level support is more controllable and certain than is the case for paying back the spatially targeted policy (though we have suggested capping the costs at a per unit level above).

From the consumer's point of view, while the repair grant is funded upfront, the loan is clearly spread over time. For the targeted spatial programme, there may also be further obligations towards the costs and these might be met from a range of housing equity, equity loans and deferred payments or liens on the future sale of the property (all of which have risks and may turn out to be borne primarily by local government).

The evidence review and related studies (e.g. Gibb, et al, 2013) indicates a few further principles regarding intervention design. Promotion and marketing should home in on the preventative benefits of the policies to the avoidance of harm, reduced A&E admissions and residential care demand, and extending the time older residents can safely live in their family homes. At the same time, improving affordable warmth and insulation can also

contribute to carbon emissions reductions. This is also true of the targeted spatial interventions which can improve quality, flex tenure mix and achieve elements of the benefits noted for the other two interventions. Project appraisal decisions should be alert to these benefits.

Previous research also indicates that blending multiple interventions and using discretion in a customised way to tackle the needs arising from specific property conditions can work even though it may raise the administrative cost – another reason for developing and investing in the HIA model. We noted earlier the mixed evidence on larger spatial programmes but the greater confidence in well structured smaller scale programmes using enveloping techniques. Again, this highlights the importance of the central guidance and learning from within the HIA itself.

There needs to be a clear and transparent mechanism by which Whitehall resources are distributed to local government across England in a fair and efficient manner. Intergovernmental financial relations are replete with examples, good and less so, of how this might be done. We think the following principles or criteria should be considered:

- The level of multiple deprivation and identified housing need
- Indicators of low income among outright home owners
- Housing market performance indicators (proxying for evidence of market failure, low demand and lower levels of housing equity)
- Private renting and owner-occupied housing conditions including poor thermal efficiency and fuel poverty
- Evidence on hazards and accidents.

What impacts might we expect?

We expect this to be a relatively well-targeted and proactive programme led by individual HIAs drawing on the programme and a wider range of resources and mechanisms to achieve renovation, thermal efficiency and repair objectives. We would expect to evidence Improvement in the quality of homes, towards decency and affordable warmth for lower income owners, private tenants and focused block repaired properties. We would also expect to see preventative savings as outlined above. There may also be some shift of properties from the PRS to social renting, which would further complement neighbourhood and housing condition local strategies.

Table 5: Finance and Instrument Design Analysis

Dimension/ Instrument	Individual Repair Grants	Individual Low Cost Loans	Area-based Housing Stock Interventions
Individual (means-tested) v spatial	Individual and means-tested.	Individual.	Area-based (small scale).
Upfront v spread over time	Upfront.	Repayment loan.	Mix of upfront, repayment and possibly equity/lien arrangements.
Public finance options & implications[8]	Controlled grant programme.	Controlled interest subsidy or backed guarantee.	Mix of arrangements, some of which may have uncertain payback periods.
What works: financing & design examples	Past UK lessons: e.g. high grant element in total costs.	Past UK lessons: e.g. Combine loans and savings products.	Past UK lessons e.g. enveloping.
Design interdependence & systems thinking	Improves quality & extends property life. May reduce demand for residential care & NHS costs.	Affordable warmth & carbon reduction. May reduce demand for residential care & NHS costs.	Inter-tenure flex & improves average quality. May reduce demand for residential care & NHS costs.
Economic analysis summary carry-over	Additional and targeted.	May be more deadweight.	Positive externalities.
Fit with government approaches to policy design & political economy	Levelling-up. Supports sustainable home ownership. Health & wellbeing. Targeted. Supports jobs.	Climate change agenda. Levelling-up. Supports sustainable home ownership. Health & wellbeing. Supports jobs.	Levelling-up. Health & wellbeing. Supports local housing system sustainability. Supports jobs.
National to local resource allocation mechanism	National budget allocated to housing conditions, IMD, demography metrics.	Budget allocated to housing conditions, IMD, fuel poverty and associated metrics.	Amalgam of individual schemes allocation mechanism.

8 Controlled refers to DEL rather than AME demand-led programmes i.e. a multi-year budget programme is assumed.

The low-cost loans are targeted at Carbon reductions and improved thermal efficiency. Of course, this will be but one part of a growing array of programmes and initiative aimed at improving the environmental impact of the existing housing stock. We also recognise that the repair and renovation programme would be operating alongside a larger new investment on retrofitting the existing stock targeted both at carbon reductions towards net zero and a new industry in development. However, we are clear that these are fundamentally complementary in that many properties requiring fabric improvements and renewables to decarbonise energy, also need basic repairs and renovation, work that would fall outside of the scope of the retrofit but nonetheless are essential for liveability and tolerable housing conditions. We need both interventions. The renovation programme would be the junior but still a quite necessary partner to a wider programme across the country of green retrofit.

The HIA is critical to the success of the programme. It has a key role in customising interventions and approving contractors. Local expertise and market knowledge will create Long term value for established HIAs locally – as a trusted source of ongoing advice, contractors and solutions. Of itself, this will be a major impact arising from the programme.

Area-based repairs may also support the viability of adjacent new development at the margin (i.e. promoting a mix of renovation and nearby new build). More generally, the renovation programme should complement local housing and asset management strategies more broadly.

We should also recognise the considerable economic impact that such a programme can generate at a time of lower private demand and economic recession (as was seen by the Thatcher government in the 1980s). These programmes are labour-intensive, will be directed to local contractors and can include local labour contracts and supply chain benefits. Construction work has relatively high multipliers and value-added but this is enhanced with repair and maintenance work, especially when the HIA can steer work and economic activity locally.

Politically, we also note that these interventions will help sustain home ownership and the wider local housing system. It can make a modest contribution to reducing public budgets elsewhere and via the resource allocation mechanism supports the levelling up agenda in a way that is harder to do through new build activity which is so shaped by land value uplift. In other words, a renovation programme of this kind is an easier win to redirect resources to less affluent locations that making major revisions to public investment appraisal rules and policies.

Wider Reflections

Rather than repeat what has already been said, we end with six key points:

- Our initial assessment based on first principles and evidence reviewing only, suggests that there is a wide ranging case for developing these programmes. There are strong market failure, levelling up, decarbonising and preventative spending reasons for rapidly moving to a comprehensive programme. Nonetheless, the programme should be practical and feasible, highly cost-conscious and seek value for money for taxpayers and citizens.
- HIA discretion and ability to blend powers and instruments is essential to maximising the scope to tackle different variants of common and rarer problems found on the ground.We should not underestimate the cost of enhancing and developing capacity in these local delivery agencies – but the value of a professional local focus is critical.
- Don't repeat the design mistakes of the past and work with closely with private residents and owners. Within financial parameters, focus intervention design on maximising take-up with the user/recipient at the heart of the process.
- Set a reasonable multi-year programme with appropriate cost ceilings. Allow HIAs to take area responsibility with suitable and transparent monitoring and evaluation of what they do. We have identified a number of choices that will shape the overall programme cost of delivering a comprehensive programme (how many years of spending; funding the enhanced HIAs; means-testing; setting of grant ceilings; funding options (grant v loans v contingent liabilities); the ambition of block or enveloping area-based approaches; fit with decarbonising policies, etc. however, we know what the upper end of per unit cost of specific repairs and that can serve as a reference or benchmark to work from. But we also need clear credible evidence on preventative savings that should form part of this equation.
- Complement the larger retrofit project emerging from the climate emergency. In many cases modest (but unaffordable) renovation will be required to make the retrofit possible. The developing retrofit work as part of the Vovid-19 recovery is rapidly gaining momentum and funding priority. It is important therefore that the repair and improvement strategy which is closely conencted to ands adds value to the decarbonisation programme – is promoted alongside it now.
- We identified several reasons that would encourage the use of Intervention Pilots in different housing market contexts and demonstration examples working with decarbonisation projects, as well as testing out blended foms of intervention.

6. Delivering an effective response to the problem of poor quality housing

Introduction

This chapter profiles a series of key considerations critical to the development and delivery of an effective response to the problem of poor housing quality. These insights draw upon lessons to emerge from a review of previous practices and past initiatives, involving analysis of relevant evidence and interviews with key stakeholders involved in efforts to tackle the problem of housing quality.

The chapter discusses cross-cutting issues and associated learning relating to: the targeting and focusing of action; financing of improvements; mechanisms for delivery and potential outcomes; and behavioural insights.

Targeting and focus

Understanding the extent of the problem

A key part of targeting action on poor quality housing lies in understanding the extent and distribution of the problem. As outlined in the first chapter of the report, we know that there are a range of pressing housing quality issues that affect a large proportion of housing stock, however stakeholders noted that more fine-grained, detailed data was needed to "diagnose the problem" (S10), particularly in private housing stock. This is critical to scaling up interventions, both in terms of meeting needs, and in understanding the cost (for example once interventions move from piloting – as we suggest in the previous chapter – to mainstream programmes). Research has highlighted the need for good quality and up-to-date stock condition data (Hackett, 2018). Stakeholders talked consistently about the need for more holistic approaches that can cut across many different policy areas, but highlighted that it can be difficult to make the case for investment when the need, costs, and benefits are not immediately apparent.

In line with recommendation one, the enforcement of improvement in housing quality is a crucial area, but action is often dependent on an

organisation or responsible authority being alerted to a problem, and is therefore reactive rather than proactive. For example, the Housing Health and Safety Rating System (HHSRS) relies on poor conditions being brought to the attention of the local authority, either by a tenant or a third party (Ambrose, 2015). Whilst there are some routine inspections, this differs across local authority areas and tends to be focused on particular types of PRS housing. Similarly, understanding whether a home is suitable for the needs of the resident is often only considered after an event, such as a fall, in which problems are identified and an individual referred to onto an NHS pathway. Commissioning preventative services (such as handyperson schemes) needs to be based on an understanding of local needs and how these will change over time (Foundations, 2009).

At present, some data is accessible through large scale surveys such as the English Housing Condition Survey. However, a comprehensive database of housing condition, previous major works, tenure, and benefit statues would allow for better targeting on initiatives on groups and home in the greatest need (Stewart, 2013).

Targeting of measures

There are different ways of targeting action on housing improvement, and this is reflected in the range of national programmes outlined in Chapter 5. One of the key distinctions is to focus on individual or household characteristics, versus a blanket area-based approach, the latter of which is more limited by geography. Programmes based on individual and household targeting aim to avoid the problem of 'free-riders' – those who would have carried out an improvement themselves, without the benefits associated with an intervention – and therefore improve the cost-effectiveness of programmes (Trotta, 2018). However, the imperfect nature of targeting means that individuals who would benefit from assistance may be missed, or may not self-refer to programmes, and that opportunities for positive impacts are lessened. There is also an administrative cost to screening individual households, and scrutiny of household finances is also relatively intrusive for applicants (Green and Gilbertson, 2008).

Problems associated with household targeting have particularly been discussed in relation to fuel poverty and energy efficiency policies. Using benefit payments as a proxy for fuel poverty is difficult, as some of those in receipt of a particular benefit may nonetheless be able to finance the measures. For example, in the Warm Front intervention many eligible households were not fuel poor, whilst many fuel poor households were not claiming – or were ineligible for – qualifying benefits (Green and Gilbertson, 2008). Action under the Carbon Emissions Reduction Target (CERT) was also directed at particular priority groups, but evaluations suggest that a relatively high proportion of customers thought they could have installed measures without the discount received (Ipsos MORI et al., 2014).

Other approaches to targeting those most in need of assistance include energy supplier programmes which focus on customers who were in debt, as under some Energy Efficiency Standards of Performance (EESOP) programmes (Ofgem and Energy Saving Trust, 2003). In Wales, the Nest scheme took twin approach, targeting a combination of the most inefficient properties and households on the lowest incomes (in receipt of certain means tested benefits) in an attempt to improve the targeting of measures to the groups at highest risk of fuel poverty (Marrin et al., 2015).

By contrast to individual and household targeting – which seek to target households most in need – area-based programmes target places seen as being particularly in need of an intervention. This may include the stock type and condition, regardless of the characteristics of residents, and offers one solution to the problem of varied ownership and the differential willingness and abilities of residents to support or contribute to an intervention. Stakeholders noted that there has to be a focus on both people and properties, because "you have to look at the quality of properties in the long-term...the housing we've got is going to stick around for a long, long time...So the housing we've got has to last and it has to do a good job" (S1).

Area based programmes – such as the proposed Housing Quality Investment Fund discussed in Chapter 5 – are seen as having a number of advantages, such as: the ability to focus on areas with a high proportion of 'problems' (e.g. poverty, older homes) that interventions seek to address; drawing in other households to improve their homes as their neighbours receive upgrades; efficiency in marketing, delivery and installation; trust in local agencies and delivery partners. For example, the Community Energy Saving Programme was designed to focus intensive action in specific areas, in a 'house-by-house, street-by-street' approach (CAG Consultants et al., 2011; Ipsos MORI et al., 2014). Stakeholders noted that there were "economies of scale for treating a common set of architypes" (S3). Area-based programmes can also build trust in the improvements being made and capitalise on changing social norms, as individuals see family and friends going through the installation process (Gilchrist and Craig, 2014). Stakeholders agreed that area-based programmes could "give the whole neighbourhood a fresh look and feel" (S3), which although difficult to quantify "you know it if you see it". This feeling can be amplified to enhance the normative social influence by highlighting that similar individuals are taking energy saving actions (Frederiks et al., 2015).

A systematic review of the health impacts of housing improvement suggested that whilst area-based investment (targeting area need, rather than individual need) may benefit those most in need within the area, the benefits may be concealed when assessed at an area level, because of the impact of drawing in a wider pool of residents (Thomson et al., 2009). Other stakeholders felt that the key was to pick the right areas to begin with, as "if you pick the right places...90-95% of the people there...are going to be poor

in one way or another, whether they own their home, they're a private renter, or they're a social renter" (S3). So excluding people on the basis of receipt of certain benefits, or concern about free-riders, becomes "a bit of a false choice" (S3) because "there's almost a straight correlation between deprivation and the worst housing quality in the region" (S5), making neighbourhood-based interventions a priority.

Many energy efficiency programmes have focused on social housing to deliver an area-based focus – due to the concentration of stock – and to engage with households more likely to be living on low-incomes, as well as to develop partnerships with organisations that could bring in match-funding (CAG Consultants et al., 2011; Ofgem and Energy Saving Trust, 2003). For energy suppliers seeking to meet obligations under different energy efficiency and carbon reduction programmes, working with social housing landlords also avoided the higher transaction costs associated with dealing with many hundreds of individual owners. However, over time as more programmes have been delivered and improvements made, this market will contract, and the focus arguably needs to shift to the private rented and owner-occupied sectors (Ofgem and Energy Saving Trust, 2003). As one stakeholder noted, "you've got a social sector that's got a delivery mechanism but needs some money, but actually the stock is at a fairly high standard. Then you've got the PRS stock that's an appalling standard, but there's no delivery mechanism even if the money was there" (S3). These challenges associated with PRS deliver will be discussed later in this section.

In relation to home safety and the prevention of falls, the available evidence suggests that a targeted approach focused on those at greatest risk – as opposed to, for example, a blanket assessment of all households over a particular age – is the most effective form of intervention, particularly when carried out by an occupational therapist (Blanchet and Edwards, 2018; Gillespie et al., 2012; Powell et al., 2017). Carrying out a checklist-style home assessment without considering the way in which residents interact with their environment have not been shown to be effective at reducing the risk of falls, nor have interventions with low-risk individuals (Iwarsson et al., 2009; Pighills et al., 2011, 2016). This suggests that effective targeting is particularly important to outcomes in the prevention of falls, as removing environmental hazards has little impact in the absence of considering the relationship between the occupant and the environment (Iwarsson et al., 2009). The 'home MOT' as discussed in Chapter 4 could include a range of assessment criteria, going beyond falls prevention only to include a more holistic assessment of the home environment. One approach to piloting such an intervention would be to focus on small neighbourhood areas where there were particular concerns around property condition and safety.

Whole house approaches

Another type of targeting is to implement a limited number of measures across a wide number of households, versus a more holistic 'whole house' approach that seeks to deliver a comprehensive bundle of measures to improve a more limited number of dwellings (given the larger cost). Blended solutions, drawing in funding from different sources, may enable programmes to go further than if programmes remained separate, and also provide more comprehensive solutions for households in which particular problems with the home are related to a number of other issues as well (Foundations, 2010). A key part of the rationale for an enhanced local delivery mechanism, as outlined in Chapter 4, is to bring together a patchwork of national, local, or individual, and long-term or time-limited, funding streams to best address housing quality issues for a given household. Caps to funding for some interventions, e.g. Warm Front, have meant that it has not always been possible for additional upgrades to take place during other energy efficiency work, even though additional measures may have delivered even greater impact (especially on hard to treat homes) (Ipsos MORI and University College London, 2014). However, interventions explicitly designed as a 'whole house' approach have also failed to achieve the installation of multiple measures. For example, whilst the Nest programme in Wales generated widespread support for its whole house approach, most households received a single measure through the scheme (Marrin et al., 2015). This suggests that whole house approaches that look beyond a single policy domain, for example combining energy efficiency improvements with general repairs and home safety considerations, may be challenging to implement.

Harder to treat dwellings and challenging sectors

Particularly in the area of energy efficiency improvements, the long history of action under previous supplier obligations means that most of the potential demand for cheaper measures – such as loft insulation – has already been absorbed (National Audit Office, 2016). Notwithstanding changing thresholds, such improvements would generally only need to be made once. With evidence from energy efficiency interventions suggesting that activity has been skewed towards cheaper measures, such as loft insulation and cavity wall insulation, this leaves harder to treat homes – requiring more investment – as a key area to target. The incentive structure of programmes such as the Carbon Emissions Reduction Target (CERT) encouraged delivery of the lowest cost measures, leaving some of the more challenging measures, and geographical areas, side-lined (Ipsos MORI et al., 2014). It is likely that some particularly high-cost problems are spatially clustered, for example lack of access to the gas network or to broadband infrastructure.

The legacy of previous improvement schemes also means that some properties have been improved just enough to be ineligible for newer interventions targeting the worst performing dwellings. For example, the Nest scheme in Wales focused on the least energy efficient properties (Marrin et al., 2015), but those which were just outside the threshold still have the potential for greater energy efficiency improvements.

As well as harder to treat homes, which may also be concentrated in particular geographical areas, there are also housing sectors that are more difficult to include in interventions. The private rented sector has been noted as posing a particular challenge because of the fragmented nature of the sector in the UK and varied enforcement of quality standards, as noted in Chapter 3. Whilst there are national landlord organisations, these do not reach all types of landlord, and there is no requirement for landlords to be part of a trade body. With no comprehensive national – or local – register of landlords in England, it is also difficult for organisations to engage with landlords directly. In addition, policies that appeal to landlords with a large portfolio of properties may not be attractive to those who rent out just one property (Hope and Booth, 2014).

Interventions in the PRS are further complicated by the split incentives between landlords (who would typically pay for improvements to the quality of the home) and tenants (who would benefit from such improvements). This is a particularly acute problem in the area of adaptations, as the change to the home would not necessarily benefit all future tenants, and combined with insecurity of tenure and landlord reluctance to consent to works, tenants face significant obstacles (Adams and Hodges, 2018). This can undermine the preventative benefits of interventions such as minor adaptations (Foundations, 2009). Taking a long-term view, stakeholders noted that there were growing numbers of older people living in the PRS, and that they faced "the double-whammy of people entering a period of life with limited and constrained incomes, rental increases, lack of security, and possibly being forced into some of the poorer parts of the PRS...You have to...target people who are in those kinds of situations" (S1). There are some examples of innovative approaches to tackling poor quality in the PRS, including Glasgow which is running a programme to transfer a small number of tenement blocks from the PRS into the social rented sector.[9]

Geography & housing markets

Policies relating to improving housing quality have focused on different geographical areas, and have been implemented or operated in different parts of the country in different ways. Sometimes this has been by design –

9 https://www.glasgow.gov.uk/article/25511/Partnership-between-council-and-housing-association-to-tackle-problems-in-pre-1919-tenement-blocks-in-Ibrox-and-Cessnock

for example, the Regulatory Reform Order 2002 gave local authorities in England and Wales greater discretion over assistance to homeowners in the repair and maintenance of their homes, replacing a longstanding history of repair grants and loans with a more localised approach (Stewart et al., 2006; Wilson, 2017). This resulted in a patchwork of different approaches depending on the local authority.

In other cases, the nature of housing stock in particular places has meant that policies applied nationally have greater traction in some areas, and less in others. For example in energy efficiency improvements, rural households have been particularly underserved, in part because of a focus on replacing boilers in urban, gas-heated homes (Centre for Sustainable Energy, 2014). Remote areas, and dense urban areas with higher access costs – such as central London – have benefited less from some initiatives, such as CERT (Ipsos MORI et al., 2014). Rural areas may also face additional challenges because "there are smaller local authorities...fewer staff...small teams, and the capacity to actually map out and know the stock might just be...more difficult in terms of geographical spread" (S1); this makes it challenging to understand the needs of the locality, as well as to plan and implement programmes to address them.

In parts of Northern England, there is a high rate of non-decent private homes, but weaker housing markets than some other regions, resulting in challenges for the feasibility of policies and financing mechanisms – as one stakeholder argued "some of those interventions and assumptions in national policymaking don't hold true" for different parts of the country (S13). For homeowners in low-value homes, who lack equity, or are at risk from a market downturn (Hackett, 2018), policy approaches that rely on unlocking equity in the home or remortgaging are unlikely to be feasible in some housing market areas. Attracting private finance in areas of lower market value and lower household income is a major constraint in developing financing mechanisms (Hackett, 2018). Past programmes have operated in such areas with significant public funding, for example, the housing market renewal programme operated "on a neighbourhood basis...dealing with areas of very, very low value with virtually no equity in the housing stock...that would potentially finance improvements" (S5). Therefore, a local hub-type structure which could blend together financial packages in a 'Housing Improvement and Renovation Fund', which would work for a range of household types – from self-funders to grants – would result in a more flexible approach that was adapted to different market areas.

Financing improvement

Supply chains and uncertainty of funding

For policies to achieve cross-party support, and therefore have a reasonable chance of being retained when governments change, they need to run for long enough to demonstrate impact and build support among policymakers. However, the uncertainty of funding streams in many areas, particularly home improvement, is problematic. One stakeholder reflected on housing market renewal programmes, noting that in retrospect "it was naïve to think you'd have ongoing political support to turn places around over 20 years...But because of the way the programme was pulled, that's left ramifications that still exist in some communities where stuff was demolished and is still a building site" (S3). This highlights the difficult of delivering such long-term programmes.

In addition to local variation in policies related to private sector housing renewal – and associated budgets – in areas such as the energy efficiency sector changes to funding have been associated with significant impacts on the development of a long-term supply chain. The most common example of this relationship is in relation to the failure of the Green Deal, which has been identified as responsible for long-term damage to the UK retrofit sector. The loss of momentum following the discontinuation of the programme – and the lack of replacement – led to significant drops in the rate of retrofits (Bergman and Foxon, 2020). For example, in 2017 home insulation rates dropped to a low of 5% of the peak rate in 2012 (Bergman and Foxon, 2020). As one stakeholder noted, this links to "a huge jobs and training and skills agenda" (S5) to ensure there is a workforce to deliver improvement programmes, particularly supporting the decarbonisation agenda and post-Covid economic recovery. Similarly, although national funding for handypersons schemes was introduced in 2009, following the pilots funding was rolled into the formula grant (Croucher et al., 2012). The type of funding is also relevant – for example, as well as continued capital funding for Disabled Facilities Grants (DFGs) to carry out adaptations to homes, research has also called for adequate revenue funding to ensure that these funds are well-spent (Adams and Hodges, 2018). However, there are other barriers to overcome, for example attempts to stretch out budgets over time and build in delays – in the belief that this will make funds go further – and associated rationing behaviour can be more ingrained and are not likely to be overcome with an injection of funding (Foundations, 2010).

Short-termism in the funding and policy environment has also been highlighted as a challenge in other programmes, for example the Central Heating Fund, in which operational complexities, data sharing arrangements, and the need to share information across a range of discrete home energy improvement programmes, created significant delays. This is a

particular challenge if programmes are funded by non-recurrent funding, because it is less likely that investment in better systems will take place (Stephenson and Ruse, 2017a). Uncertainty and instability in the policy environment can also hinder private sector investment, thus limiting the range of policy options and financing mechanisms (Bergman and Foxon, 2020).

Paying for improvements

The UK has a long history of an interventionist grant policy to help repair and improve private housing stock, but this stance has largely been replaced by a greater emphasis on personal responsibility, with government as an enabler or facilitator, rather than providing and funding improvement services (Stewart et al., 2006). Stakeholders reflected that lenders (banks and building societies) could take more responsibility for encouraging housing improvement, noting that if they were "lending on these properties by allowing people to buy really crummy buildings...there's a kind of responsibility that they, or their regulators, should be putting on them around their actions" (S3). This could link lending to carrying out certain improvements, for example.

From 1949 until 2011, local authorities received capital grant to support home improvement, averaging £350m per year towards the end of this period, but in 2011 this private sector renewal funding was reduced to zero (Archer et al., 2016). One of the advantages of grant provision, is that is gives control to the grant-giver (e.g. local authority) over how funds are used or prioritised; in contrast, when homeowners utilise funds for improvement (including loans), the local authority loses that control and improvements may focus on areas with less impact on meeting the strategic priorities of the authority (Stewart et al., 2006). However, stakeholders noted that bringing back grant funding would require "an awful lot of money that the government can't afford any time soon" (S4) and that it was more realistic to look to "how you can support people to use equity and other means to supplement that" (S4).

There is also a strong history of individuals paying for improvements – although in a less direct way. For more than 20 years, the government has obligated energy suppliers to improve the energy efficiency of homes. However, by imposing a levy on bills, suppliers pass on their costs to all customers through their energy bills, with the effect that consumers pay for improvement programmes (National Audit Office, 2016). For example, the Energy Company Obligation (ECO) – a fuel poverty programme – is funded in this way, therefore whilst action is targeted at those in receipt of certain benefits and measures are delivered for free, customers have ultimately paid for the measures through a regressive levy on bills (Webb et al., 2020). This contributes little to the development of socially just approaches to issues such as fuel poverty.

Ultimately, it is likely that different funding mechanisms are required for different groups, and this is reflected in the blended options discussed in Chapter 5. For example, 'pay as you save' schemes (in which occupants pay back the cost of improvements through the savings they have generated, e.g. in running costs) are better suited to well-off homeowners, whilst poorer homeowners may need grants to be able to undertake improvements. Privately rented properties need different mechanisms due to the split incentives between landlords and tenants (Bergman and Foxon, 2020). The Green Deal was intended to overcome this 'landlord-tenant problem' (the mismatch between who pays for measures and who benefits from them), however in reality it did not achieve this aim.

Attempts to engage households in paying for different types of home improvement may be frustrated by long-standing expectations of receiving measures for little or no cost. This is particularly an issue in energy efficiency programmes, with stakeholders noting the legacy of expectations among households that some improvement measures – especially loft and cavity wall insulation – will be free or delivered at very low cost, as was often the case under programmes such as CERT (Ipsos MORI et al., 2014). This made the switch to a 'pay as you save' model under the Green Deal more challenging, with consumers unwilling to pay for measures that they may have previously been able to access for free. In addition, the financing mechanism for the Green Deal led to average interest rates of 7-10%, which was a much higher rate of interest than other forms of finance available to homeowners (e.g. mortgage finance) (Hall and Caldecott, 2016). However, other stakeholders highlighted that "there are possible older people who could afford to undertake works to the home, but they haven't necessarily got the confidence or the technical ability to select and oversee a contractor" (S13). The key issue was not necessarily cost, but finding a trusted organisation such as an HIA, which could oversee the works on behalf of the client.

Research also suggests that attracting private finance to develop affordable loan products for home improvements has been difficult to achieve (Groves and Sankey, 2005). Developing a market for private finance has been shown to require a higher volume of demand for loans than has been demonstrated in pilot programmes (Department for Communities and Local Government, 2007). Some stakeholders felt that the financial sector could do more, taking "a role of helping people out…these asset rich, cash poor homeowners…helping them release equity for their home in a responsible and non-predatory kind of way" (S3). Yet, developing a range of loan products for private sector housing repair, underpinned by grant aid for those in need, may ultimately require greater investment in 'not-for-profit' intermediary lending agencies in order to deliver attractive interest rates (Groves and Sankey, 2005). As discussed in Chapter 5, enabling sufficient take-up may require meaningful levels of subsidy to reduce loan costs.

Compulsion versus voluntariness

Enforcement action against owners in the private housing sector in relation to housing condition is politically complicated. Whilst measures such as the HHSRS apply to all housing sectors, it is generally used in relation to private landlords rather than owner-occupiers. There are political limitations to the acceptability of compulsory action against homeowners, and persuasion (rather than compulsory enforcement) is still seen as favourable in relation to private landlords (Leather, 2000a). However, with lack of grants for homeowners, and no tax incentives to encourage them to invest, persuasion may be ineffective (Leather, 2000a). In relation to the private rental sector, compulsory action has perhaps been seen as more acceptable, however unlike in other sectors, there is no national regulator enforcing landlords' obligations (Poll and Rogers, 2019), and action is dependent on a strong local inspection and enforcement approach, and/or reporting of problems by tenants. Nevertheless, there have been important areas of action, for example in raising EPC ratings for rental properties, the Fitness Standard, and the potential in England of greater security for tenants (already the case in Scotland).

Although there is little research in this area, focus groups have considered reforms such as extending building regulations in England and Wales to compel homeowners to improve the overall energy efficiency of their property when undertaking other building works. However, this was perceived very negatively as government interference in the private domain of the home (Gilchrist and Craig, 2014). It may therefore be difficult to convince individuals of stronger regulation in relation to individually owned homes, in the absence of other financial incentives.

Delivery and outcomes

Trust

Trust in the organisations delivering programmes to improve the quality of housing is essential to engaging residents, and this would apply across all the programmes suggested in the earlier chapters of the report. The available evidence shows that damage to trust can have a long-term impact. Reports of poor quality installation of cavity wall insulation, the poor reputation of equity release products (Terry and Gibson, 2012), and poor quality of work under the Green Deal (Hall and Caldecott, 2016) has undermined trust and left a long legacy of suspicion in relation to home improvement schemes. For example, whilst more consumer safeguards exist in the equity release market today (Scanlon et al., 2020), perceptions of risk and poor value persist (Terry and Gibson, 2012). Greater standardisation and transparency in some areas, for example costs, could overcome some of the concerns that may prevent the uptake of some kinds of improvement. For example, in the area of home adaptations the provision of a standardised

online schedule of rates for common adaptations could provide an idea of instant costs for local providers, providing reassurance to individuals around expected costs (Mackintosh et al., 2018). Stakeholders also noted different approached within local authorities to moderating the quality of approved traders, which meant that builders "have to go through a different process with each local authority to get accredited" (S4), rather than having a standardised, accreditation scheme such as Trustmark.

There are particular institutions that people trust to give them impartial advice on measures such as energy efficiency home improvements, particularly: third sector organisations like the Energy Savings Trust, Citizens' Advice Bureau, charities, and community-based groups (Gilchrist and Craig, 2014). Local authorities have also been highlighted as not only highly knowledgeable, but also being viewed as a trusted body. However, it must be acknowledged that local authorities are likely to be understaffed and under-resourced following years of funding cuts, and capacity to deliver any improvement programme will be a key issue (Webb et al., 2020). For example, whilst local authorities have extensive powers to tackle poor property conditions and management in the PRS, there is concern about low and inconsistent levels of enforcement (Cromarty, 2020). This was highlighted by some stakeholders, who noted that "there has been a tendency for many local authorities to not exercise use of their enforcement powers...and enforcement is time consuming...there's lots of disincentives for enforcement" (S13). Although some of the infrastructure is in place at a local level – such as HIAs, occupational therapists, PRS teams, licensing areas – this is uneven across the country, and there is a general lack of capacity and resources (Hackett, 2018). As one stakeholder noted, "it's ok saying 'oh why aren't the local authority doing x, y and z'...they haven't got the people" (S2). Therefore, it is crucial to build on and ensure funding for this local framework of housing improvement, and provide a common entry point for all householders, for example through an enhanced network of HIAs.

Whilst local authorities have historically taken the lead in area-based improvement and renewal programmes, stakeholders acknowledged that "a lot of those schemes ended back in 2010, so a lot of those skills have been lost" (S4). Whilst local authorities may have previously taken a more strategic approach "that has diminished because they don't have the capacity" (S1). Other organisations were highlighted, however, such as housing associations, which also "manage and deliver neighbourhood schemes as well...housing associations are hugely important, and usually they're the last agents of delivery at any scale...So their role cannot be underestimated" (S5). This was particularly noted in the case of stock transfers authorities.

Home Improvement Agencies and their handyperson services have also been viewed as safe, trusted organisations for householders to work with. They have a high degree of local knowledge, and are able to connect to

other organisations and services (Bennett et al., 2016). This means that they provide "that kind of approach where it's working with the person, rather than seeing it as a welfare intervention" and acknowledges that "there's not a one-size-fits-all" (S4). However, the reduction of grants (received via local authorities) and the 2009 removal of the Supporting People ring fence further squeezed the funds that HIAs had access to. Between 2010/11 and 2014/15, the number of HIAs declined by 20% (from 210 to 167 agencies), and by 2016 there were 62 districts in England with no Home Improvement Agency (Archer et al., 2016). This reduces the infrastructure of locally based, trusted, experienced organisations through which future home improvement programmes may be delivered.

Unintended consequences

There is the potential for policies to have unintended consequences, mitigation of which may be dependent on policy reforms in a number of other areas. For example, whilst landlords are now unable to refuse requests from tenants for 'reasonable' energy efficiency improvements, many tenants may be unwilling to make a request due to fear of adverse consequences, such as eviction. Tenants commonly report 'putting up with' problems like draughts, and would not contact their landlord about the possibility of improving the property (compared with specific problems) (Gilchrist and Craig, 2014). Protecting tenants from retaliatory eviction would require legislative change – this is already under discussion in England as part of moves to end Section 21 evictions (already enacted in Scotland), and in the December 2019 Queen's speech the government committed to introducing a renters' reform bill (Cromarty, 2020). It is also worth noting that action under private law – for example through the new fitness for habitation law – still require time, stamina and confidence that the courts will listen to you (Carr et al., 2017).

Whilst the Department of Energy and Climate Change has suggested possible benefits to landlords stemming from investing in energy efficiency, such as increasing property values, this may lead to negative impacts for tenants in rising rents (Stewart, 2013). Some studies suggested that rents may increase following housing improvements, although it was not possible to take into account other mediating factors such as changes in welfare provision and eligibility for assistance with housing costs, which may have driven changes in perceptions of housing costs (Fenwick et al., 2013). However, for those on low incomes and in receipt of housing benefit in the private rented sector, this may further narrow the options available to them. In a context in which affordable social housing is in short supply, private rents are unregulated, and Local Housing Allowance is capped, lower cost housing in the PRS is an important source of housing provision for those on lower incomes. Therefore, policies to improve condition in the PRS must consider ways in which to militate against the potential for adverse impacts such as rent increases and displacement. However, given

that research with landlords in the PRS suggests a high degree of wariness over investing in energy efficiency benefits, seeing less potential for such improvements to result in increased rent or property values (compared to enhancements such as kitchen or carpet upgrades) (Ambrose, 2015), the potential impact may be low.

One of the key concerns with grant funding regime is the possibility that landlords may keep properties in poor condition in order to access funding, thus incentivising disinvestment, but there is little conclusive evidence on this, and it could be argued that the broader benefit to welfare more than off-sets the potential for some individuals to exploit programmes. Nevertheless, reforms to the historic system of private sector housing renewal did stem in part from these concerns – that the widespread use of grants in area-based renewal work may discourage homeowners with resources from carrying out work themselves (Wilson, 2017), and therefore rewarded those who failed to invest (Stewart, 2003). The Regulatory Reform Order sought to reassert the message that – in most cases – owners are responsible for the repair and maintenance of their homes, reducing perceived dependency on grant aid (Groves and Sankey, 2005). More recently, in Wales the Nest scheme put in place additional conditions for applications for improvements in the PRS from tenants whose landlord had already had three properties improved under the scheme. This followed reports of multiple applications from PRS landlords as a way of upgrading their rental properties at no cost to themselves (Marrin et al., 2015).

There is also evidence that the requirement for energy suppliers to meet their obligations for carbon reduction in the most cost-effective way possible created an incentive for them to find partners who were willing to contribute to the cost of measures, or additional works, such as local authorities and housing associations (CAG Consultants et al., 2011). This may have focused some improvement programmes on particular housing types – those with a large single landlord, with a significant asset management programme – rather than the more diffuse PRS. Larger, more capitalised landlords are also able to cope more effectively with a fluctuating policy environment, compared to smaller portfolio landlords, and this will influence their ability to engage with different types of programme.

Cost effectiveness

It is hard to assess the cost effectiveness of some improvement measures, and the quality of many prior evaluations is relatively low in relation to understanding the costs and benefits attributable to interventions. As suggested earlier in the report, it will be crucial for any new programmes to be piloted and evaluated – including for cost-effectiveness. For example, to meet targets for CO2 reduction, energy suppliers were required by government to meet these obligations in the most cost-effective way possible. This means that due to commercial sensitivity, there is limited

information on the cost of measures installed by suppliers, nor any household contribution that may have been made (National Audit Office, 2016). A systematic review considering studies into the health impacts of housing improvement studies also noted that opportunities to conduct economic analysis had been missed, with most studies only presenting data on intervention or recipient costs only (Fenwick et al., 2013). There are opportunities for better collection of a range of outcome measures, across many of the areas discussed here. Stakeholders reflected on the challenge of demonstrating value and impact to show the return on investment and "help make the case" (S4) across different parts of the public sector for particular interventions. For example, no government guidance is provided on the measurement of outcomes related to Disabled Facilities Grant, which makes it difficult to evidence the benefit of different types of adaptations (Hodgson et al., 2018). Better data would enable the case to be made for more resources to meet (identified) local needs (Mackintosh and Leather, 2016).

Repairs and maintenance are on-going issues in the lifetime of a dwelling, and one of the aims of improvement is to encourage continual maintenance. However, looking back at a sample of dwellings that had received grant aid over a 15-year period, research found evidence of rapid deterioration of conditions, a lack of subsequent maintenance, and a number of properties which had received successive grants (Leather, 2000a). This suggests that grant aid was not tackling the underlying causes of under-investment – low incomes, lack of savings, lack of awareness of problems, and difficulties organising solutions (Leather, 2000a). Stakeholders noted that "you have a programme that does everything in one go, and then leaves...the properties deteriorate again...you have to go around and do the same thing again" (S4). Whilst initiatives such as Group Repair Schemes (to enhance the external envelope of dwellings) were assumed to encourage owners to invest further in their properties, there was little evidence to support this (Stewart, 2003). Evaluation of the Warm Front scheme found that most surveyed beneficiaries has not undertaken any further work to improve the energy efficiency of their home. Some did not think there was much else that could be done, whilst a few would have liked to take action but could not afford to (Broc, 2018). This may suggest a role for a long-term, low-cost, insurance-based programme that would spread the cost of simple maintenance and provide a clear pathway to resolving ongoing, small-scale repairs issues.

This suggests that sustainable solutions to the issue of on-going investment in private housing stock may lie beyond the reach of housing policy, including action to address poverty more broadly. A return to significant grant funding therefore may not necessarily have a long-term impact, particularly in a context in which the minimum acceptable standards of housing is likely to be increasing (e.g. in terms of thermal efficiency).

Behavioural insights

Barriers to housing improvement

A significant barrier highlighted by stakeholders was capacity in local authorities to actually develop and deliver local schemes. As one stakeholder noted, "even if you had capacity...to employ staff, there's a skills gap now because we haven't employed people to do that now for ten years...There's a bit about managing the programme...Local authorities are the obvious and democratically-accountable way to do that" (S3). The recommendations outlined in the earlier chapters of the report highlight the importance of staffing and financial support to enable local mechanisms of delivery, building on the existing infrastructure and expertise that already exist, and putting this in place where it is absent.

In relation to individual households, a range of barriers are frequently reported in relation to the take-up of energy efficiency improvements, in particular finances, information and decision-making (Wilson et al., 2015). Financial barriers can be both the upfront cost involved in installing measures, the long pay-back periods, and suspicion of the savings that can be achieved from energy improvements (Gilchrist and Craig, 2014). Policies have sought to address these barriers, however, they have not necessarily resulted in the desired change, suggesting that the ultimate problem does not always lie with the barriers suggested. In explaining behaviour, cognitive biases, 'irrational' tendencies, and motivational factors are often overlooked, when research suggests that these may be at the heart of understanding how people act and the choices they make (or do not make) (Frederiks et al., 2015).

For energy efficiency programmes, change in behaviour has been most marked in shifting the purchasing decisions of consumers to more energy efficient products, such as white goods and lighting. However, beyond this other measures require the creation of an investment decision – to create demand, rather then re-orientate existing consumer choices (Eoin Lees Energy, 2006). Interventions must therefore overcome inertia in decision making, in which decisions are postponed and individuals display a preference for their current state (Cattaneo, 2019). For example, research has noted the way in which individuals can 'shut their eyes' to problems in the home, ignoring issues until they get worse, at which point they could cost more to resolve (Stewart et al., 2006). Individuals can lack motivation to undertake repair and maintenance, particularly if they live alone and lack someone to talk through concerns with (Stewart et al., 2006).

A common premise of many policies to encourage energy efficiency improvements is that owners are motivated by saving energy and money, but are prevented from doing so by capital constraints and uncertainty (Wilson et al., 2015). However, individuals do not optimise investment decisions solely on financial grounds (Mallaburn and Eyre, 2014), and even

schemes offering free installations can find it difficult to engage households (Gilchrist and Craig, 2014). Whilst financial considerations are important in decisions to undertake home improvements, perception of the benefits, context, routine, disruption and social influences are also important (Bergman and Foxon, 2020). As one stakeholder noted "people will pay for the right thing, if that's going to make a difference to my life...But they don't know who to ask" (S14). As well as understanding where to go to get help, it is therefore also important to understand the improvements that individuals would value, which will vary between different households.

The Green Deal, for example, ignored the non-financial factors that motivate people to improve their homes, and broader aspirations for their home, such as the promotion of comfort and wellbeing (Rosenow and Eyre, 2016). This suggests that energy efficiency does not need to be framed as a discrete activity, but could be incorporated by households who are renovating for other reasons, such as aesthetics and comfort (Pettifor et al., 2015). Indeed, research has noted that consumers are reluctant to undertake disruptive works for energy improvements, but more likely to incorporate them into other renovations (Hall and Caldecott, 2016). The scheme was seen as assuming that lack of capital was the major barrier to action on home improvement, which is not supported by the available evidence (Rosenow and Eyre, 2016). By contrast, in Wales the discourse around retrofit is seen as substantially different, with a focus on wellbeing and quality of life, rather than financial rationales (De Laurentis et al., 2017).

Understanding daily life, practices, and aspirations

A body of work has sought to challenge the focus of behavioural research into energy efficiency, much of which is conducted in a rational choice paradigm and often fails to consider household practices and daily life (Wilson et al., 2015). This is also likely to apply to other areas of home improvement, for example repairs and maintenance. Improvements are often viewed as one-off, stand-alone decisions, when in reality this activity is situated within, and arises from, everyday domestic life, and the reasons a household may decide to change a part of their home lies in these conditions of home life (Wilson et al., 2015). As such, the meanings associated with home for a household are an important part of understanding behaviours; this view emphasises the emotional and symbolic connections with home, expectations of comfort, and the practice of home-making activities (Wilson et al., 2015). For example, financial incentives tend to be attractive to homeowners only once they have already made a renovation decision, suggesting other drivers (Wilson et al., 2015).

It is crucial to understand the everyday practices of inhabitants, norms of comfort, and aspirations for their home (Gram-Hanssen, 2014). Decisions about home maintenance also exist alongside other choices, and individuals may prioritise other areas – such as holidays or new carpets – for investment, given limited funds (Stewart et al., 2006), or may be prepared to invest in

improvements at the expense of a repair such as a new roof, even if the latter may be more cost effective in the long-term (Stewart, 2003). This is also relevant to discussion of home adaptations, as research with older people suggests that if there is not an immediate physical need for an adaptation, psychological factors such as independence, confidence, embarrassment, attachment to the home, and future planning all played a significant role in decisions around adaptations (Hodgson et al., 2018). In general, it is common for individuals to attempt to remain in the home 'as normal', without changes, for as long as possible. As many individuals have invested a great deal of effort into personalising their home, it can be difficult to make changes that impact on the look and feel of the home (Powell et al., 2017). Stakeholders reported that giving people choices was important and could help "in terms of people actually wanting to engage...getting things done to their home that means they want to stay there" (S4). Case work can be an important part of this, as it puts the individuals' needs at the centre and builds from them, rather than imposing a standardised option.

It is therefore crucial to consider the dynamic web of domains that make up an individual's quality of life, which may mean prioritising some aspects of housing and home over others (van Leeuwen et al., 2019). For example, for older households, concerns about diluting inheritance and 'what will be left' for family members can prevent take-up of equity release products (Scanlon et al., 2020; Terry and Gibson, 2010). It is also not necessarily the case the equity release will be used in the way that policymakers may intend – for example, recent research suggests the main use of funds from equity release and re-mortgaging in later life was to improve their home, buy a second home, or the help children or grandchildren (Scanlon et al., 2020). As noted above, improvement may mean replacing a kitchen, rather than investing in external wall insulation.

There is some evidence that interventions should seek to target particular 'trigger points' in which home improvements – particularly relating to energy efficiency – may be implemented as part of other works, overcoming some of the inertia and transaction costs associated with decision-making. This includes, for example, moving home, undertaking renovations, or replacing infrastructure (e.g. a heating system). These points may weaken some of the barriers to change, for example people may be more open to the disruption of work because routines are already being disrupted for other reasons (Gilchrist and Craig, 2014). The counter to this, however, is that if individuals foresee a move in the future, they may be less likely to undertake such works. It is therefore crucial to understand the expectations of homeowners in relation to their home over longer time horizons, as decisions may be based on a range of future considerations such as passing on equity to others, or an intention to move, which may inhibit significant capital investment, improvements, and accessing particular financial products (Littlewood and Munro, 1996). Finally, it is worth noting that moving home is not a frequent occurrence in the general population, reducing the immediate impact of such an approach (Gilchrist and Craig, 2014).

Whilst informational barriers have been highlighted as one reason owners do not improve the energy efficiency of their home, research has noted that it is the type of information that is perhaps more important. For example, individuals may understand and trust the information in an Energy Performance Certificate (EPC), but this information is not very useful providing practical advice about the retrofit options available, and how this relates to their aspirations for their home (Gram-Hanssen, 2014).

Although home modifications have been shown to be effective in reducing falls, many older people are reluctant to install modifications. Belief that modifications will reduce the risk of falls, a past behaviour of home modification, and the belief that falls are not inevitable in ageing have all been associated with higher willingness to undertake modifications (Harvey et al., 2014). For home adaptation and environmental hazard reduction, there is some evidence that 'normal looking' adaptations such as rails were seen as more acceptable than other types of equipment, improving take-up. For example, some people delay making changes to their home because of the clinical appearance of adaptations, which may not fit with their self-perception or sense of vulnerability (Adams and Hodges, 2018). Individuals' self-perceptions of their own frailty are also relevant (Currin et al., 2012). Therefore, individuals weigh up the potential utility of adaptation against other practical, aesthetic, and emotional considerations (Hodgson et al., 2018).

7. Conclusion

It is vital that everyone is able to live in a home that is safe and comfortable. Unfortunately, this is not always the case and there is an urgent need to improve the quality of housing in England for the benefit of current and future generations. This research set out to help identify which policies will help meet this objective, focusing on the private sector, where most older people reside and problems of housing quality are concentrated.

This report has presented a series of recommendations designed to tackle the problem of poor quality housing. Key problems and weaknesses in the national framework for housing improvement have been identified and solutions proposed. Working with the grain of policy and practice, the emphasis has been on workable solutions that build upon accumulated knowledge and understanding and are compatible with contemporary priorities and practices. The recommendations to emerge focus on key points of weakness within the current approach to tackling poor quality housing:

- ensure local authorities have the resources and capacity to fulfil their statutory duties an enforce housing quality standards
- build the local infrastructure required to deliver housing improvements, including a dedicated hub through which a range of partners, funding mechanisms, specialist schemes and services, can be organised
- design and resource a series of long-term, nationally funded and locally delivered interventions to improve housing quality

Challenges to be met and decisions to be made delivering upon these recommendations have also been outlined, drawing on lessons learnt from previous efforts to tackle the problem of housing quality.

Policy-makers might baulk at the costs of ensuring the national policies, local infrastructure and targeted initiatives are in place to address poor quality housing. However, cutting funding to the national framework for housing improvement is a false economy, leading to greater pressure and spending on health and social care and undermining efforts to meet carbon reduction targets and tackle the climate emergency. In summary, housing is a valuable national asset and social good that needs to be repaired and maintained.

Appendix 1: The research approach

The recommendations presented in this report build upon key insights and learning generated through a phased research approach involving four key stages.

a) Evidence review

An extensive evidence review was undertaken, which involved the identification of programmes, initiatives, interventions and practices implemented with the intention of improving the quality and/or appropriateness of housing; understanding the theory and practice of delivery; evaluating effectiveness and efficiency; and identifying critical success factors. Searches were operationalised in a range of databases (e.g. Web-of-Science, Scopus, Google Scholar) and included web searches to identify 'grey' literature, including outputs from: the NAO, House of Commons library, research centres and think-tanks, HousingLIN, CIEH, CIH, Foundations and others. Searches also drew on learning from the local level, drawing on various networks and issuing calls for evidence through the CaCHE knowledge-exchange.

Evidence was subject to a quality review and key insights were extracted and coded under an intervention name/label (for example, private sector renewal grant; Decent Homes Programme) and against a series of categories (for example, policy field, aims, mechanisms, funding, beneficiaries). Finally, evidence was synthesised into a rounded assessment of evidence on different interventions. Evidence for synthesis was prioritised on the basis of 'fit' and quality, for example, more weight was given to findings from large-scale, multi-method, national evaluations of a defined policy intervention. However, useful insights were also harvested from less robust studies on related issues. The outcome was a compendium of past policies designed to address housing quality issues (Appendix 3).

b) Stakeholder interviews

A series of interviews were conducted with key stakeholders. These interviews tapped into knowledge and expertise of (policy and practice) professionals from different sectors, regarding: perspectives on the theory and practice of interventions designed to drive improvements in housing quality; and the appraisal of policy options and possibilities (practical feasibility, economic viability, political acceptability, alignment with other policy commitments) and possible modes of delivery (practicalities and pragmatics of practice).

The interviews also provided an opportunity to sense-check the emerging long-list of policy options generated by the review.

Two rounds of interviews were conducted. A first round of more informal interviews were undertaken in the early stages of the project with representatives of housing providers, relevant campaign groups and charities, home improvement agencies and researchers in the field. These discussions informed the identification of relevant interventions, provided early insight into strengths, limitations and barriers to effectively delivery, and served to direct the team toward relevant evidence.

A second round of interviews were more formal and focused on policy recommendations for tackling problems of housing quality. Interviews were semi-structured; an interview guide focused discussion whilst providing space to explore issues and themes raised by respondents. A total of 16 interviews were conducted with stakeholders from the UK government and devolved administrations, local government, professional bodies, representative organisations and national charities. A small number of interviews were also pursued with organisations involved in what appeared to be innovative local initiatives to tackle problems of housing quality. Interviews were conducted virtually via-Zoom and lasted between 30 minutes and one hour. They were recorded and notes and transcripts were generated.

c) Workshop with Ageing Better

Findings from the review and stakeholder interviews were presented at an interactive workshop led by the CaCHE team and involving the active participation of Ageing Better. A long-list of potential policy options deemed most relevant and potentially effective for addressing current and future challenges were presented in the form of a standard template (Appendix 2). These were reviewed and the output was a short-list of policy options that were the subject of economic analysis.

d) Economic Analysis

Analysis focused on a shortlist of policies to emerge from the review process, and was framed by three key questions: what would each cost; who would have to pay; and what would the impact be?

The approach was necessarily impressionistic; proposed new policies were the focus and analysis was therefore from first principles and illustrative rather than fully-costed. Nonetheless, analysis was able to draw on well-understood ideas from welfare economics, cost-effectiveness and cost benefit analysis (familiar from the Government's Green and Magenta books). A series of broad principles were incorporated in a framework used to interrogate the shortlisted policies against the three questions above.

- **What would it cost?** – analysis drew on previous research and survey data and imputed some costs (e.g. environment/carbon costs) in order to have a fuller sense of the opportunity-cost of specific interventions (including the counter factual do-nothing and preventative savings associated with the intervention).
- **Who would pay?** – this involved distinguishing between the cost to the resident/occupier and the cost to society. This is obvious when the costs are shared with the state but also should account for transfers coming from e.g. social security. A distinction was made about who really bears the cost; key here was distinguishing between the formal and economic incidence of a subsidy or tax. A household may be liable to receive a subsidy as a first time buyer for instance, but if that subsidy simply raises house prices, the effective/economic incidence is much less than the formal incidence. The other who pays issue is the fundamental design and financing of the intervention – how is it incentivised, paid for over what period, structured and which tiers of government (or other sectors) are responsible? This was informed by our shortlisting process but there was still considerable choice over precisely how to run the intervention. The analysis was based on a series of assumptions/decisions made during the design of the shortlisted policies.
- **What would be the outcomes?** – This was straightforward in one sense, but there is the possibility of unintended consequences and spillovers, depending on the type of policy. This demanded drawing on well-understood principles from cost-effectiveness/cost-benefit analysis. As with the cost measures we would want to develop an in-principle sense of the difference the intervention makes by contrasting a wide set of costs against benefits.

The analytical framework to emerge drew on the following core principles:

- affordability (stress testing for low-income households and high-cost properties)
- risks of non-completion/faults/short life/etc.
- additionality/deadweight loss/spillovers (externalities)/other market failures
- distribution of welfare gains and losses (e.g. consumer/producer surplus so-called Marshallian analysis or Hicksian analysis of the compensating or equivalent variation)
- fairness, in terms of horizontal and vertical equity
- explicit appreciation of longer term costs and environmental sustainability

The outcomes from this analytical process are presented in Chapter 4.

Appendix 2: Long-list of potential interventions to improve housing quality

Introduction

This appendix presents eight policy interventions designed to address key quality issues evident in the English housing system. These interventions are composites, generated by drawing upon lessons to emerge from the review of evidence on previous programmes and initiatives and sensitised to the contemporary context through discussions with key stakeholders. They represent exemplars of the types of interventions that might be considered to tackle the full range of housing quality challenges profiled in Chapter 1 (see Table 1). They range from nationally funded programmes, down to low cost local initiatives that might be actioned, for example, by a Home Improvement Agency.

This approach was adopted after it became apparent that it would not be possible to merely pull previous interventions off-the-shelf, dust them down and recommend their reintroduction. This was due to the limitations of the evidence base, which was revealed to be extensive and wide-ranging, but limited in certain key ways.

In particular, few previous initiatives appear to have been subjected to rigorous evaluation, which explored what worked, for whom, in which circumstances, and why. Insights were sometimes provided into the problem or challenge that interventions were designed to address or resolve, how the desired change was intended to be delivered, and the reasoning, resources, actions and activities that were intended to make the intervention work. Less readily apparent was clarity regarding outputs (for example, properties improved, adaptations completed, efficiencies for health/social care) and outcomes (for example, access provided to higher quality/more appropriate dwellings for different groups)?

This served to limit insights into the relative efficiency and effectiveness of specific interventions. Furthermore, context emerged as a key consideration, informing not only the extent to which a particular intervention might prove effective, but also its acceptability and viability. Many previous interventions were found to be at odds with the realities of the current (social, economic, cultural, political) context, a fact deemed to render them unsuitable for direct application to address quality issues in the contemporary housing system.

Overview of the proposals

The eight interventions can be summarised as:

1 **Home Improvement & Renovation Loan** – a low-interest, government backed loan made available to homeowners to fund home improvements that include energy efficiency retrofit measures

2 **Warm at Home** – an energy efficiency programme focused on improving the energy performance of the worst condition dwellings, occupied by those least able to afford to stay warm at home

3 **Home Improvement Agency +** – expanded provision of repairs and adaptations services by HIAs, seed-funded by guaranteed funding for a proportion of their running costs

4 **Home MOT** – home safety assessment and referral scheme, preventing falls and accidents at home and increasing the information available to households in relation to minor improvements

5 **Home Adaptations Grant** – reform of the Disabled Facilities Grant (DFG) to raise the threshold for low-cost adaptations and reform the distribution of DFG funding to better match local needs

6 **Housing Quality Investment Fund** – a national fund to undertake area-based investment in housing stock, across tenures, with a sub-set of funding available for the purchase of stock to bring it into the SRS

7 **Housing Renewal Grant** – a mean-tested grant, funded by central government available to low-income homeowners to fund repairs and maintenance

8 **Regulatory Enforcement in the PRS** – targeted funding to resource private rented housing and environmental health teams to fulfil duties to monitor conditions, inspect properties to assess hazards, and intervene where housing conditions are unacceptable

Table 6 outlines the housing quality issues outlined in Chapter 1 (Table 1) that are addressed by each of the interventions (numbered from 1 to 8).

Table 6: Coverage of quality issues by proposed interventions

	What is the quality issue?	What is the extent of the problem?	Which policy options address this?
Physical	**Energy efficiency & thermal comfort**	Excess cold is one of the two most frequently observed hazards in English housing stock. Living in a cold home associated with increased rates of death, especially for older individuals.	1 / 2 / 6 / 7 / 8
	State of repair	Almost 1 in 5 properties does not meet the Decent Homes standard. The proportion of people over the age of 75 and living in a non-decent home is increasing.	1 / 3 / 6 / 7 / 8
	Fall & safety-related hazards	Fall risk is one of the two most frequently observed hazards in English housing stock. Environmental variables are implicated in the majority of falls. One in three people over the age of 65, and half of those aged over 80, will fall each year, with physical and psychological consequences.	2 / 3 / 4 / 5 / 7 / 8
Functional	**Utility and accessibility of space**	80% of those over the age of 65 live in mainstream housing, and most are owner-occupiers. But only 2% of this stock has been adapted to meet people's needs. With very little alternative, appropriate housing to move to, adaptations to current homes are a crucial preventative intervention.	3 / 4 / 5
	Digital connectivity	In 2019, around 4 million people had never used the internet. There is currently no overarching digital inclusion programme for older people in the UK, leaving a piecemeal range of provisions at both national and local levels.	Potential to cross-cut through delivery of some programmes

Intervention checklist

A checklist that was generated to inform development of the eight interventions. This drew on lessons emerging from the review of evidence and posed a series of critical questions that served to focus thinking and sense-check the relevance and viability of proposals. Interventions are presented using this common template.

Table 7: Checklist guiding the development of interventions to tackle housing quality problems

Intervention Checklist		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Physical - thermal comfort and excess cold; fall-related hazards; general state of repair – Functionality - utility, accessibility & adaptability of space; digital connectivity
Rationale	What is the rationale for focusing on this particular quality issue?	– a very common quality issue within the English housing stock – the quality issue impacting on most people (whole population; over 55s) – minimising the impact of housing quality on health and well-being – securing the greatest savings for the public purse – maximising the increase in the number of dwellings that meet the Decent Homes Standard – making the biggest impact with available resources
Ambition	What will success look like?	– number of properties improved – scale of reduction in non-decent homes – improvements in quality for those most in need and with fewest alternative options – reduced risk / exposure to particular hazards – improved health and well-being – cost savings (e.g. to the NHS or social care)
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– individual (occupant / landlord); household; dwelling type; tenure; area or housing market context – incidence or severity of problem; degree of risk; level of (individual, household or area-based) need; ease of implementation

Policy realm	Under which policy area does the intervention primarily sit?	– Planning; environmental health; housing; social care; health; regeneration; energy and climate change
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Private; state; third sector; informal – National government, local authorities, CCG, housing associations, Home Improvement Agencies, charities, community-led groups, private companies – Trust; experience; expertise; resources, powers, responsibility, geography
Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Self-funding; private finance; state funding – Targeting the individual –enabling and facilitating self-funding; access to loan finance and other financial products; grant funding – Facilitating providers – capital and revenue funding
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement - informing / incentivising consumer behaviour – Compulsion –enforcement of a legal requirement
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– regulation and enforcement; funding; information and advice; direct action
Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– Acceptability based on consistency with prevailing political perspectives, policy priorities, modes of practice, funding regimes – Opportunities to evidence benefits, overcome scepticism and secure support
Time frame	Will the initiative be a time-limited intervention or an ongoing programme of activity?	– Ongoing; time-limited – Catalyst for change; mainstreaming initiative; tackling a fixed and finite problem; managing an ongoing challenge

Intervention 1: Home Improvement & Renovation Loan A low-interest, government backed loan made available to homeowners to fund home improvements that include energy efficiency retrofit measures		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Energy efficiency – And major improvements to the physical condition of the home – Incentivising improvements in a large sector that is under-served by current policies
Ambition	What will success look like?	The aim will be to grant loans that serve to maximise: – The number of properties improved – The number of sustainable energy efficiency measures installed The key outcome will be increased comfort and wellbeing for occupants.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Owner-occupiers – Targeted by individual or household
Policy realm	Under which policy area does the intervention primarily sit?	– Energy and climate change
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Private – financial institutions developing loans with government subsidy or underwriting – Homeowners contracting private companies to deliver retrofit measures – National government to enable the development of a financial product, either through subsidising private finance or guaranteeing loans – This is necessary to enable the development of a market with low enough interest rates to incentivise a wider range of homeowners to engage with retrofit

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Self-funded via private finance, with state backing – Targeting the individual – enabling and facilitating access to loan finance and other financial products
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement - informing / incentivising consumer behaviour
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Information and advice – Funding – Recording (e.g. via building control checks on work carried out)
Rationale	What is the rationale for focusing on this particular quality issue?	Incentivises homeowners to undertake energy efficiency works, where they otherwise may only undertake amenity improvements. Potential for large-scale improvements to housing quality, in an under-served segment of the population. – Evidence suggests that renovation specifically for energy efficiency improvements is limited to the population that is already inclined to undertake such work – To improve housing stock at scale, more individuals need to be encouraged to undertake energy efficiency improvements, in particular homeowners who are able to fund improvements – To date, there has been limited engagement with energy efficiency programmes among this 'able to pay' sector. One of the key problems with Green Deal finance was the high interest rates of loans – Research suggests that targeting home improvement more generally, and adding energy improvements to this, may be a more effective way in which to engage households – Where households are already considering disruptive improvements to the home, this can be a key trigger point that enables other improvements to be added – Reinstates some control over self-financed housing improvement – by making access to favourable interest rates conditional on the inclusion of certain types of retrofit measures

Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– Moving away from grant funding to self-funding removes control over the types of home improvement that may be carried out – homeowners are free to upgrade their bathroom but may not choose to install external wall insulation – By offering an incentive through favourable interest rates, conditional on the addition of certain types of improvement, the policy remains within the tradition of homeowners being responsible for improvements, yet also enables government to direct behaviour to service wider goal (e.g. carbon reduction)
Time frame	Will the initiative be time-limited or ongoing?	– Ongoing – Potential that if a finance market was developed, government support could be reduced, and/or norms around energy efficiency improvements would become more mainstream as part of home improvements, reducing the need for incentives

Intervention 2: Warm at Home An energy efficiency programme focused on improving the energy performance of the worst condition dwellings, occupied by those least able to afford to stay warm at home		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Excess cold and thermal comfort – Fuel poverty – Poor energy performance (dwellings)
Ambition	What will success look like?	The aims of the programme are to deliver: – Improved thermal comfort for those in poor health and those vulnerable to the effects of excess cold – Cost savings to NHS through reduced risk to health through excess cold – Improving the worst performing housing stock The main outcomes will be a significant improvement on the homes of those least able to afford to stay warm at home.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Individual need – Dwelling condition – Pilots could initially focus on areas with high concentrations of poor-performing housing stock
Policy realm	Under which policy area does the intervention primarily sit?	– Energy and climate change
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Third sector (e.g. national energy charities) are trusted delivery partners – Funding through energy companies and government grant to boost the programme (e.g. perhaps to encourage interventions in harder to treat homes)

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Return to partial grant funding from central government for affordable warmth programmes (i.e. similar to Warm Front funding). Funding through general taxation would be progressive rather than regressive – Reform fuel levies on bills (regressive & poor targeting of measures may mean that people who pay and could benefit do not receive help). Levy should be reformed to be proportional, with higher levies for those who consume the most energy. Would need to have protection for low-income high energy users, e.g. those in debt, on pre-payment metres, the vulnerable customer database, or in receipt of certain benefits. This would require data-linkage.
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement - informing / incentivising consumer behaviour
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Information and advice to target the right homes and the right occupants – Government funding – Regulation of energy companies in relation to levies
Rationale	What is the rationale for focusing on this particular quality issue?	A socially just energy efficiency / carbon reduction programme, focusing on the people and properties most in need. – Research suggests that the greatest potential investment for housing as a health improvement strategy may lie in targeting improvements in warmth at vulnerable households, in poor health, living in the worst housing – Energy prices have increased significantly and are predicted to continue increasing. Whilst the cost of gas is one aspect, there are also a range of levies which contribute to increasing energy costs – Levies on consumer bills are regressive and it is not clear that the households who face the greatest difficulties in heating their homes are effectively targeted by programmes that are funded by these levies

Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– There is a strong tradition of action on fuel poverty, but the effective targeting of programmes is complex and limited by lack of linked data, e.g. on benefits and home energy performance – A key issue is to avoid adverse impacts in the targeting on differential levies. Some households must consume high levels of energy in order to heat homes, or because individual circumstances mean that homes must be heated to a particular level. Whilst levies focused on high-energy users are intended to change the behaviour of discretionary users, unless other high-energy users can be excluded they will remain regressive. Data linkage offers potential to both exclude households. If, for example, it was possible to link a property's EPC to energy use, poor-energy performing households with high costs could be targeted to receive improvements.
Time frame	Will the initiative be time-limited or ongoing?	– Managing an ongoing challenge

Intervention 3: Home Improvement Agency + Expanded provision of repairs and adaptations services by HIAs, seed-funded by guaranteed funding for a proportion of their running costs		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Day-to-day repairs, minor adaptations and home improvements – Delivering a holistic, tailored, local service targeting older occupiers who report that help with small repairs and improvements is a significant issue
Ambition	What will success look like?	The aim will be to maximise: – The number of properties improved – Reduction in the risk of exposure to hazards in the home – The delivery of proactive and preventative services – Cost savings to social care through preventative services The main outcomes will be increased delivery of services to older people, particularly growing services in the PRS and self-funded occupiers, increased comfort and wellbeing at home, increased autonomy and functionality of the home.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Individual occupants – Older people – Multi-tenure – Targeted by area of HIA operation (e.g. LA)
Policy realm	Under which policy area does the intervention primarily sit?	– Social care – Housing
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– HIAs – may be third sector or local authority – operating in local authority areas in England – Perceived to be trusted and knowledgeable organisation – Local authorities will enable HIAs through stable funding

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Initial seed funding for HIAs to expand provision into preventative services for older people and the able-to-pay sector. Aim for the growth of services to become self-financing and funding tapered off – Funding delivery via local authorities, but should be ring fenced and from national government funding to the Better Care Fund
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement - informing / incentivising consumer behaviour
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Information and advice – Proactive approaches – Development of new services to target self-funded homeowners, e.g. access to handyperson service on a subscription basis
Rationale	What is the rationale for focusing on this particular quality issue?	Draws and expands existing local infrastructure for the delivery of day-to-day, tailored, repairs and improvement services. Raises the profile of HIAs in new segments of the population, to meet demand for day-to-day repairs help (consistently reported as being a problem for older people) – Home Improvement Agencies are an important part of local infrastructure – HIAs are trusted, local organisations that focus on understanding the needs of customers, and therefore have the potential to offer a more holistic and client-centred service. As they already provide a range of relevant services, their remit could be expanded in line with delivery of the provisions under the Care Act 2014 – Older people commonly report that they require assistance with day-to-day repairs and small home improvements – There is potential for more widespread provision among self-funding households, and to expand provision into new markets. However, this requires scaling up and some risks – They are currently dependent largely on DFG funding and services commissioned by CCGs – a stable funding stream would enable service development

Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– Draws on existing expertise and services, therefore fits into the current model of delivery – High potential for low-cost services that have a significant impact on people's experience of the home, useability, and reduced risk – fits with the focus of the Care Act 2014 on preventative services – Ring fenced funding would protect funds specifically for the delivery of innovative service in HIAs, however acts against the trend towards devolved commissioning of services via health and wellbeing boards – although considerable scope for personalisation of specific services on offer to match local needs
Time frame	Will the initiative be time-limited or ongoing?	– Time-limited (funding), with the aim of mainstreaming the services such that they were self-funding. The problem of minor repairs and improvements is likely to grow as the population ages, therefore a long-term solution / service is required

Intervention 4: Home MOT Home safety assessment and referral scheme, preventing falls and accidents at home and increasing the information available to households in relation to minor improvements		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Falls and accidents at home – Minor improvements related to other hazards, e.g. excess cold
Ambition	What will success look like?	The aim will be to maximise: – Reduction in the risk of exposure to hazards in the home – The delivery of proactive and preventative services – Cost savings to social care through preventative services The main outcomes will be prevention of accidents in the home, increased feelings of security and safety among occupiers.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Individual occupants – Older people – Multiple options for delivery, e.g. proactive outreach in areas with higher concentrations of older occupants; GP referral; self-referral. Potential to expand to other population groups, e.g. households with children, as part of a broader intervention, however available evidence suggests greater effectiveness when targeted at most at-risk groups – Multi-tenure
Policy realm	Under which policy area does the intervention primarily sit?	– Social care – Housing
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– HIAs – which may be third sector or local authority – operating in local authority areas across England could provide the service through handyperson schemes, using trained assessors – Occupational Therapists could be part of the assessment and delivery for the higher-risk pathway – Local authorities would enable the programme through targeting and funding (e.g. via commissioning groups)

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Assessment services funded through a mixture of social care, NHS budgets, based on cost-savings. Potential to draw in other funds, e.g. from local authority budgets if the initiative extended on an area-basis – GPs could be incentivised to refer at risk older people to the scheme, to ensure maximum preventative benefit – Some potential for revenue generation for HIAs, e.g. through signposting to other improvement services on a self-funded basis (e.g. minor energy improvements)
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement - informing / incentivising consumer behaviour
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Information and advice – Proactive approaches
Rationale	What is the rationale for focusing on this particular quality issue?	Although the causes of falls are multi-factorial, environmental hazards are implicated in as many as one-third of falls among older adults in the community. – Home hazard assessments and modification interventions have been shown to reduce the risk of falls and injury and reduce the fear of falling in older people dwelling in the community – The greatest impact is likely to be among those at greatest risk of falling, suggesting multiple referral routes (e.g. via GPs) are important in targeting the intervention – Active participation from the householder is important, suggesting assessments would need to be carried out by trained assessors, and by Occupational Therapists for more high-risk groups
Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– A number of local areas have piloted such services (e.g. Wirral Health Homes), suggesting it would fit within the existing infrastructure of local government, especially if linked with an expanded function for organisations such as HIAs and/or more proactive inspections of private sector housing conditions – Likely to be a low-cost intervention with potential to be part-funded from a range of different budgets
Time frame	Will the initiative be time-limited or ongoing?	– Ongoing, given changing relationship between housing conditions and occupants' needs

Intervention 5: Home Adaptations Grant Reform of the Disabled Facilities Grant (DFG) to raise the threshold for low-cost adaptations and reform the distribution of DFG funding to better match local needs		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Functionality – accessibility and useability of the home – Minor and major adaptations – An ageing population means that there is likely to be growing demand for minor adaptations to improve the functionality of the home
Ambition	What will success look like?	The main aims will be to: – Improve the speed of delivery of minor and major adaptations – Improve the functionality of the home for older and disabled households – Reduce costs to the NHS and social care by reducing the risk of accidents in the home – Deliver preventative services that will enable independent living The main outcomes will be increased satisfaction with the process of minor and major adaptations, and reduced waiting times for the completion of adaptations to the home.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Individuals with disabilities who require an adaptation to the home in order to facilitate movement into/around the home and provide access to essential facilities – Low-cost adaptations (<£3000 or <£5000) delivered via an express route requiring minimal assessment; higher-cost adaptations assessed for means test
Policy realm	Under which policy area does the intervention primarily sit?	– Housing; social care
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– HIAs will deliver an expanded minor adaptations service, without the need for an Occupational Therapist assessment, and continue to co-ordinate major adaptations – Local authorities will enable provision through Occupational Therapists, means tests, and grant funding through the Better Care Fund – National government will ensure adequate resourcing through the Better Care Fund

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– The formula by which grant is allocated to local authorities should be reviewed – Increasing the threshold for free minor adaptations should deliver some efficiency savings by reducing staff costs (which make up around 80% of minor adaptations) – National guidance should be developed on grant repayment charges (to recoup the cost of the grant when a property is sold), to avoid a postcode lottery of charging
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Compulsion – enforcement of a legal requirement
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Regulation and enforcement – Funding – Information and advice
Rationale	What is the rationale for focusing on this particular quality issue?	Local authorities are legally required to provide adaptations, and funding is provided through the Better Care Fund. But a lengthy process reduces the effectiveness of preventative adaptations. – Although small adaptation can improve quality of life and be cost-effective in preventing injuries, delays in the delivery of adaptations can reduce their effectiveness – Trained assessors to recommend a suite of low-cost, common adaptations under £5000, freeing up Occupational Therapists to work on more complex cases. Given that OT costs can make up 80% of the cost of work for minor adaptations, this should deliver some savings – Reforming grant formula would trigger local authorities to undertake local needs assessments. At the moment there is little proactive assessment of needs, and the current DFG programme is often not advertised to avoid triggering demand – NICE guidelines should be developed in relation to the provision of adaptations to ensure greater consistency between local areas, including relating to charging against a property for works carried out

Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– Changes to the national funding allocation must be evidence based, and there is currently little data on the future needs of residents in different local authority areas – Whilst funding for Disabled Facilities Grant has increased, raising the threshold for minor adaptations to be completed without a means test may put pressure on the budget. However, this could be alleviated over the long term by recycling charges levelled on properties, and developing a consistent approach to charging nationally – This intervention does little to address challenges in the private rented sector, in which landlords are often reluctant to give permission for adaptations
Time frame	Will the initiative be time-limited or ongoing?	– Managing an ongoing challenge

Intervention 6: Housing Quality Investment Fund A national fund to undertake area-based investment in housing stock, across tenures, with a sub-set of funding available for the purchase of stock to bring it into the SRS		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– General housing improvement, including repair, condition, and energy efficiency
Ambition	What will success look like?	The aim will be to maximise: – The number of properties improved in a defined improvement area – Improved energy efficiency and thermal comfort – A tenure-blind approach The main outcomes will be increased satisfaction with the home for residents, improvements in health and wellbeing.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Area-based targeting stemming from dwelling condition – Tenure blind
Policy realm	Under which policy area does the intervention primarily sit?	– Housing
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Local authorities leading programmes, likely in conjunction with private companies delivering measures – National government resourcing initiatives through a significant investment fund
Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Funding from national government, e.g. could be part of the Shared Prosperity Fund post-Brexit, which will replace the EU Regional Development Fund – Funds could be split into improvement and purchase, with a portion of funding being used for the purchase of properties in investment areas, to bring them out of the PRS or owner-occupied sectors, and into the SRS, boosting affordable housing and guaranteeing future maintenance

Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Persuasion and encouragement – sliding scale of grants for work, depending on the circumstances of the owner or landlord – Compulsion – landlords and homeowners could be offered (or compelled) acquisition if they did not participate in the scheme. Purchased properties would move into the SRS – Owners could be given the ability for charges to be laid on the property to be repaid when sold, as an alternative to selling the property
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Regulation and enforcement – Funding – Direct action
Rationale	What is the rationale for focusing on this particular quality issue?	– Area-based improvements deliver efficiency savings and have the potential to create a significant impact on neighbourhoods – By focusing on areas with the worst housing conditions, those worst affected by poor quality housing will have their housing conditions transformed
Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– There is a long history of area-based improvement programmes in England, however funding for such programmes has been absent for the better part of a decade and this has likely resulted in the loss of local expertise in the management of these initiatives – It is likely that there would be considerable opposition to the compulsory purchase of properties in which owners or landlords refused to engage with the programme. Even the option of compulsory purchase may be seen as an unacceptable threat – Grant levels would likely need to be substantial to encourage owners and landlords to invest, particularly in areas of lower income – Whilst the programme would be high cost and require substantial investment, it also presents an opportunity to deliver cost-savings through area-based targeting, and to improve large areas of poor-quality housing stock
Time frame	Will the initiative be time-limited or ongoing?	– Time-limited pilots potentially expanding to a longer-term, mainstream programme

Intervention 7: Housing Renewal Grant A mean-tested grant, funded by central government available to low-income homeowners to fund repairs and maintenance		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– To improve poor housing conditions in the private sector – provide major improvements in the physical condition of the home – promoting improvements in a sector under-served by current policies
Ambition	What will success look like?	The aim will be to provide grants that serve to: – drive a major uplift in the number of properties improved – minimise the number of households exposed to hazards, including poor hygrothermal conditions, pollutants, inappropriate space, lighting, noise and security conditions and infection The key outcomes will be increased comfort and wellbeing for occupants, and protection of a major national asset - housing stock – for the benefit of future generations.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Owner-occupiers – households most in need of assistance and living in the worst conditions – owners least able to secure loan finance / afford the costs of improvements – deficiencies attributable to the design, construction and/ or maintenance of the dwelling
Policy realm	Under which policy area does the intervention primarily sit?	– Housing; renewal
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Local housing authorities, given their general power to give financial assistance for home repair, improvement and adaptation, whilst having regard to fairness, giving priority to the most vulnerable households and taking account of people's ability to contribute

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Ring-fenced funding from central government, allocated to local authorities on the basis of a common measure of need – Targeted at individual households – enabling and facilitating access to repairs for those struggling to afford the costs of improvements – The grant could be registered as a charge on the property, requiring the grant to be repaid if the owner disposes of the property within a certain number of years of receiving the grant
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Voluntary – informing and encouraging engagement of individual owners
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Funding made available in the form of a grant. Separate pots might be made available for minor repairs (e.g. Home Assistance repair Grants up to £5,000, as long as not patching up the side effects of more substantial problems)) and more major works (e.g. Housing Renewal Grant up to £10,000) – Information and advice regarding undertaking improvements – Recording (e.g. via building control checks on work carried out)

Rationale	What is the rationale for focusing on this particular quality issue?	Incentivises homeowners to undertake improvements where the costs are prohibitive. – The Regulatory Reform (Housing Assistance) Order 2002 (SI 2002 No. 1860) provides local authorities with the general power to provide financial assistance for the purposes of improving the quality of private sector housing stock. However, local authorities often struggle to identify resources for this purpose and many also encounter difficulties facilitating the availability of loan finance to owners for repairs and renewal – The allocation of funds by central government can serve to ensure a geography of provision that reflects variable levels of poor older privately owned housing – Targeting resources via a means-test targets households most in need of assistance and living in the worst conditions; older people more likely to benefit if the means test does not take account of housing equity – Applicants can be signposted to less intensive services, e.g. information on maintenance, home repair surgeries, help with basic DIY, handyperson services, tool schemes
Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– Local authorities have the power to carry out means testing and to set the conditions under which financial assistance is provided – Targeting people most in need addresses the concern that grants discourage homeowners with resources from carrying out the work themselves – Can be delivered alongside a more enabling focused local authority approach that might lever in loan finance for households unable to access grant aid – Potential to generate notable savings for health and social care
Time frame	Will the initiative be time-limited or ongoing?	– Ongoing

Intervention 8: Regulatory Enforcement in the PRS Targeted funding to resource private rented housing and environmental health teams to fulfil duties to monitor conditions, inspect properties to assess hazards, and intervene where housing conditions are unacceptable		
	Critical Question	**Options**
Dimension of quality	What is the problem or challenge that the intervention will address?	– Poor housing conditions in the private rented sector, the tenure with the highest proportion of poor quality homes that is home to some of the most vulnerable older people – Restricted enforcement of regulations and standards, undermining efforts to improve housing quality in the sector
Ambition	What will success look like?	The aim will be to facilitate more intensive enforcement of existing regulations by local authorities, in order to – Promote a more proactive approach to identifying poor conditions and enforcing remedial works to address Category 1 and 2 hazards – Minimise the number of households in the PRS exposed to hazards, including poor hygrothermal conditions, pollutants, inappropriate space, lighting, noise and security conditions, infection and fall hazards The key outcomes will be increased comfort and wellbeing for private rented tenants, and protection of a major national asset - housing stock – for the benefit of future generations.
Focus and targeting	Who are the intended beneficiaries and how will the initiative be targeted?	– Private sector tenants
Policy realm	Under which policy area does the intervention primarily sit?	– Housing; environmental health
Sector and agencies	What sector and which agencies are best placed to deliver the intervention effectively and efficiently?	– Local authorities have powers under the Housing Act 2004 to assess the seriousness of hazards and take enforcement action against landlords based upon this assessment – Local housing authorities, given their general power to give financial assistance for home repair, improvement and adaptation, whilst having regard to fairness, giving priority to the most vulnerable households and taking account of people's ability to contribute

Funding	How will the intervention be funded and how will resources be targeted and allocated?	– Central government
Enforcement	Will engagement be voluntary or a requirement to be enforced?	– Enforcement
Mechanisms	What mechanisms will be employed to achieve the intended outcomes?	– Ring-fenced funding from central government, allocated to local authorities on the basis of dedicated spend on private housing and environmental teams and the enforcement of statutory duties to monitor housing conditions, inspect properties and enforce remedial action to address identified hazards – Local authorities will fulfil their duty to develop a comprehensive appreciation of the incidence and occurrence of hazards in the local housing stock, supporting efforts to prioritise action on those with the most serious impact on health or safety
Rationale	What is the rationale for focusing on this particular quality issue?	– The private rented sector has grown rapidly in recent years and accommodates around one in five households. More than one in four private rented dwellings fail to meet the governments decent home standard. – Local authorities have experienced a notable reduction, which is reported to have left officers tasked with addressing poor conditions struggling to fulfil their responsibilities and protect tenants. – Local authorities have a range of enforcement options to address hazards in the private rented sector, including serving improvement notices, and hazard awareness notices. – Housing and Planning Act 2016 provided local authorities with powers to impose a civil penalty as an alternative to prosecution for certain housing offences under the Housing Act 2004, but these powers do not appear to be providing the funding required to resource effective enforcement

Viability	Is the intervention likely to prove viable given contemporary (social, economic and political) priorities and practices?	– The intervention is consistent with existing regulation and associated duties
Time frame	Will the initiative be time-limited or ongoing?	– Ongoing

Appendix 3 Past policies for housing quality improvement

Introduction

This appendix presents a compendium of previous interventions designed to improve housing quality. It was generated through an extensive review of existing evidence. Policies and programmes are organised under a series of key themes:

- energy efficiency
- area-based initiatives
- housing repair and improvement (social sector)
- housing repair and improvement (private sector)
- falls prevention and safety; adaptations
- digital connectivity

This compendium represents a key source for the understanding and knowledge drawn upon to develop the three key recommendations presented in this report.

Energy efficiency

Energy efficiency programmes – early developments	
Policy and approach	**1976-1989 – Energy Survey Scheme** provided grants to industry for energy surveys, advice, and support for energy management **1977** - £407m four year programme aimed at cutting energy demand by 10%. Included a ten-year programme to bring housing up to a basic level of insulation, supported by the **Home Insulation Scheme**, funding to improve insulation and heating controls in public sector buildings **1987** – EEO (part of Department of Energy) budget cut and programmes constrained to interventions that did not directly interfere with the operation of free markets, e.g. information and advice **1990s** – rise of climate policies, especially driven by EU regulation, leading to the **Home Energy Efficiency Scheme**, 1991, providing insulation and central heating grants for poorer households (around £75m in grants annually to low-income families and pensioners). 1991-1997 around £350m spend on 2 million households **1992** – UN framework Convention on Climate Change signed. Government agreed to return UK CO2 emissions to 1990 levels by 2000. New levy on energy bills announced to fund an **Energy Saving Trust**, but legality was challenged and pilots cancelled **2001** – HEEP rebranded as **Warm Front** and given significant funding increase
Key references	(Mallaburn and Eyre, 2014)

Aspect of Intervention	Description
Policy Name	**Home Energy Conservation Act (HECA)**
Policy field	Energy & climate change
Aims	– The Act required local authorities to consider for the first time the energy efficiency of private as well as public housing stock – Authorities were given a duty to produce a strategy for the improvement of residential energy efficiency in their area by 30% in the next 10-15 years – Intention was to provide a focus for local authority activities in the energy field, bringing together housing investment, environmental initiatives, and fuel poverty programmes
Population of interest	Applied to local authorities with a responsibility for housing provision, who became Energy Conservation Authorities (ECAs)
Form	Legal
Funding	N/A
Costs	N/A
Implementation	State
Timeframe	1995
Key outputs / outcomes	– Through the HEC Action programme (administered by the Energy Saving Trust) schemes were set up in local authorities to develop partnerships and generate private sector investment – Some authorities set up revolving loan funds offering low or no interest loans to enable lower income customers to afford investments
Programme mechanisms	– Some success in attracting private sector finance using small amounts of public sector money
Barriers / learning	– It was illegal for ECAs to grant loans to individuals, although this could be arranged through a third party such as a credit union – Lack of resources found to be the biggest constraint
Key references	(Jones et al., 2000)

Aspect of Intervention	Description
Policy Name	**Energy Efficiency Standards of Performance (EESoP)**
Policy field	Energy & climate change
Aims	– Targets were set on Public Electricity Suppliers, and from 2000 on all licensed gas and electricity suppliers with at least 50,000 domestic customers, to delivery energy efficiency measures to domestic households
Population of interest	– Most customers assisted under EESoP in its first four years were disadvantaged – In EESoP2 and 3, suppliers were required to focus two-thirds of their expenditure on this group
Form	Regulation
Funding	Levy of £1 per customer bill year (£1.20 in 2002)
Costs	– Supplier cost targets were £101.7m for EESoP1, £48.1m for EESoP2, and £110m for EESoP3 – Based on spending £1.20 per customer per fuel per year, but the onus was to meet targets as effectively as possible, and they were not required to spend a fixed amount of money
Implementation	Private
Timeframe	1994-2002
Key outputs / outcomes	– Suppliers set up schemes to deliver energy efficiency measures, mainly: insulation, lighting, heating, and appliances – Insulation has been the most common measure delivered by suppliers as it provides the greatest benefit in terms of saving customers money and improving their comfort – it is also the most cost effective measure to install in terms of supplier expenditure against energy saved – Around 3 million households benefited from EESoP1, with savings of around £120 over the lifetime of the measures – Benefits from reduced energy bills and improved comfort – Most benefits have been enjoyed by disadvantaged customers – programmes were required to have a social focus to mitigate against the regressive impact of imposing a levy on all consumer's bills to pay for energy efficiency measures

Programme mechanisms	– Among the most successful way of targeting disadvantaged groups was to integrate schemes with social housing providers, offering energy efficiency savings to low-income consumers at little or no cost by levering in additional funds from housing providers – Some suppliers also targeted their own customers who were in debt – As competition was introduced in the supply market, the focus became more on the outcome (the energy saving) rather than the input (the expenditure), to develop a market mechanism that delivers savings through cost-effective measures. However, may also focus attention on the 'low hanging fruit'
Barriers / learning	– Suppliers had little practical experience of working on such programmes – Some concern that the definition of disadvantage was too broad – this was more tightly defined under the EEC – There will be contraction in the social housing market in the longer term – question of how to overcome barriers in the owner-occupied and PRS
Key references	(Ofgem and Energy Saving Trust, 2003)

Aspect of Intervention	Description
Policy Name	**Warm Front [replaced Home Energy Efficiency Scheme - 1991-2000]**
Policy field	Energy & climate change
Aims	– Improve energy efficiency for vulnerable households in fuel poverty in the PRS and owner occupation – Alleviate fuel poverty – Reduce CO2 emissions from housing
Population of interest	– Private tenure households – In receipt of certain household benefits – From 2011 – properties with a SAP rating of <55
Form	Intervention
Funding	State
Costs	– At its peak, eligible households entitled to grants of up to £3500 (or £6000 where particular technology was recommended) – Remainder paid by household or local authority / third sector – Hard to treat homes (max. grant £6000) were three times as likely to pay a contribution than homes not classed as hard to treat – Grants were 83% of scheme expenditure in 2007/8 – Public expenditure of around £3.4bn
Implementation	Private (contracted out by DECC)
Timeframe	2000-2013
Key outputs / outcomes	– 2.3m households assisted 2000-2013 – 2005-2013 922,000 properties received at least one major measure (insulation, boiler replacement, draught proofing) – On average, 2 measures were installed per household (excluding light bulb replacements) – The scheme improved energy efficiency and increased indoor temperatures; coldest properties benefited the most – Positive impacts on mental health, respiratory problems in children, and reducing deaths of older people
Programme mechanisms	– Grant funding was a key success factor – evaluation data showed that most participants surveyed would not have installed the measures without the scheme

Barriers / learning	– Level of funding restricted type of work undertaken, e.g. unlikely to cover radiators and pipework – From 2010 funds were reduced leading to criticism that fewer households could be assisted – By limiting eligibility to those in receipt of certain benefits, the scheme may have missed significant numbers who were eligible but had not claimed all the benefits to which they were entitled – 82% of 2.8m eligible households not in fuel poverty; 62% of fuel poor households not eligible – Qualitative research suggested that most beneficiaries had not undertaken any further work to improve energy efficiency after receiving Warm Front actions
Key references	(Broc, 2018; Green and Gilbertson, 2008; Ipsos MORI and University College London, 2014; Watson and Bolton, 2013)

Aspect of Intervention	Description
Policy Name	**Energy Efficiency Commitment [replaced EESOP]**
Policy field	Energy & climate change
Aims	– Requires energy suppliers to achieve targets for the promotion of improvements in energy efficiency – EEC targets were over three times the size of those required under EESoP3
Population of interest	– Suppliers are required to obtain equal energy savings from priority and non-priority groups
Form	Regulation
Funding	Levy on energy bills (fee per household)
Costs	– Cost to meet the targets is £690m – Cost effectiveness: for every £1 spent by energy suppliers, householders have benefited by £9 – Priority households contributed £26m towards the measures they received (primarily retail offers on appliances and CFLs) – Non-priority customers contributed £145m towards the measures received
Implementation	
Timeframe	2002-2005
Key outputs / outcomes	– 17 measures account for 99% of the energy saving – Most savings came from insulation, with lighting making the next biggest contribution – At least 20% of households benefited directly from EEC due to sales of CFLs and white goods appliances – Suppliers spent 55% of their direct budget for energy efficiency measures on the priority group – 23.7m CFLs were delivered to priority households, and 0.23m cavity wall insulations

Programme mechanisms	– Although there was a steady growth in condensing boiler sales during the programme, the main government action which has resulted in more than 80% of boilers now being condensing was a change in Building Regulations in 2005 – Only about half of the boiler market was actively subsidised by EEC, with the rest of the growth in the market attributed to 'free drivers' – Impact has been most marked where there was an opportunity to change the purchasing decision of the consumer to a more energy efficient solution, e.g. white goods, condensing boilers – As insulation is primarily about creating, rather than changing, a purchase decision, there were no significant signs of market transformation and suppliers had to offer insulation measures at considerable discount in order to attract sufficient sales – Without the financial incentives available to encourage consumers to choose more energy efficient products, evaluations doubted whether the same level of transformation would have been achieved
Barriers / learning	– Change in Building Regulations, coupled with incentives, and work to promote energy efficient boilers, enhanced the knowledge of heating installers
Key references	(Eoin Lees Energy, 2006)

Aspect of Intervention	Description
Policy Name	**Carbon Emissions Reduction Target (CERT)** [replaced Energy Efficiency Commitment, 2005-2008]
Policy field	Energy & climate change
Aims	– The Carbon Emissions Reduction Order 2008 required certain energy suppliers to achieve targets for a reduction in carbon emissions in the domestic sector by promoting the uptake of energy efficiency measures in domestic properties – Requires energy companies to set up schemes to promote and deliver energy saving measures to domestic energy users – Ultimate focus is to drive carbon savings
Population of interest	– Energy efficiency measures available to all consumers, but a proportion of reduction to come from low-income households – At least 40% of the target had to be met by promoting to Priority Group consumers – those in receipt of certain income-related benefits, or over 70 – 16.2 Mt CO2 had to be met by promoting to Super Priority Group (those receiving a narrower set of benefits)
Form	Regulation
Funding	Levy on consumer bills, estimated to cost £24/year for each fuel
Costs	– CERT and its extension is estimated to have cost £3.6bn – CERT delivered at an average cost to obligated parties of £13.17 per tonne of CO2 saved in nominal terms
Implementation	Private
Timeframe	2008-2012
Key outputs / outcomes	– Main areas of activity: insulation, lighting, heating, micro-generation and Combined Heat and Power (CHP), behavioural, demonstration actions, and appliances – In the first three years, insulation and lighting measures contributed the highest proportion of carbon savings. CERT extension – after 2011, compact fluorescent lamps (CFLs) were removed from CERT, leading to more focus on insulation and heating measures – Insulation measures accounted for 66% of total carbon savings, including 2.8m homes DIY loft insulation, 3.9m homes professional loft insulation, 2.57m homes cavity wall insulation, 60,000 homes solid wall insulation – 19% of all domestic properties in GB received a CERT measure over the programme. Variation geographically – just over 10% of domestic properties in London received a CERT measure, compared to 25% in the North West

Programme mechanisms	– Principal delivery mechanisms included offering measures direct to consumers, and partnering with social housing providers – Activity with social housing providers was popular with energy companies as it enabled them to target large numbers of priority and super priority group householders, and they could leverage additional funding towards the cost of measures – In many cases, insulation was offered free to private household in the priority group, and some offered cash incentives to attract those in the super priority group – Stakeholders noted benefits of area-based approaches
Barriers / learning	– Private sector households sceptical of free offers – Whilst CERT was widely delivered to private tenure households (90% of those surveyed in a national survey were owner occupiers), there were challenges engaging in the PRS – Concerns among stakeholders that CERT left a legacy of expectations among customers that measures such as loft insulation and cavity wall insulation should be free or very low-cost – Focus on 'low hanging fruit' – incentive structure encouraged delivery of the lowest cost measures, resulting in an emphasis on the easier to treat properties in more accessible areas (remote areas, and dense urban areas where access costs were higher, were less likely to benefit) – CERT beneficiaries were often not the neediest – more likely to be on higher incomes and less likely to be concerned about their financial situation. A relatively high proportion of customers claimed that they would have undertaken the measures without the discount
Key references	(Ipsos MORI et al., 2014; Ofgem, 2013; Preston and Croft, 2012)

Aspect of Intervention	Description
Policy Name	**Community Energy Saving Programme (CESP)**
Policy field	Energy & climate change
Aims	– To significantly reduce the fuel bills of low-income households – To improve the energy efficiency of existing housing stock in order to reduce CO2 emissions
Population of interest	– Area-based approach focused on low-income areas – Whole house approach (house-by-house and street-by-street) – Intention to engage with every household in specified area
Form	Regulation; intervention
Funding	Levy on energy bills (fee per household) (an obligation on energy suppliers, and later also on electricity generators)
Costs	– Lack of cost information for specific measures – Estimated cost incurred by obligated parties: £702 million – Delivery partners reported that contributions from obligated parties to CESP measures ranged from 10% to 100% - far lower than anticipated – This may in part reflect the competitive nature of CESP, which encourages energy companies to meet their obligation in the most cost-effective way – which includes finding partners willing to contribute to the direct cost of measures in order to minimise their own – Scheme achieved at a price to obligated parties of £32.85 per tonne of CO2 saved
Implementation	Multiple (may be managed by energy company, or funding provided to local authorities, housing associations, or other third parties to deliver)
Timeframe	2009-2012

Key outputs / outcomes	– Slow progress – by June 2011, 201 proposals had been submitted to Ofgem, equating to around 50% of target. Ultimately, most measures were delivered through 491 individual schemes – most delivered through social housing providers working in partnership with private households – Energy companied have favoured just a small number of the 15 possible measures – generally, preference for solid wall insulation plus one other measure – Of measures installed under CESP, 40% were insulation measures, 39% were heating measures – external solid wall insulation (26% of measures), heating controls (20% of measures), replacement boilers (15% of measures) – External wall insulation contributed to the majority of unadjusted CO2 saved – Feedback from recipients showed over ¾ felt warmer and were able to heat their homes adequately. All those who said it was too expensive to heat their homes before installation were now able to.
Programme mechanisms	– Previous studies have found that area-based schemes bring significant benefits in terms of take-up and cost-effective delivery – Intensive marketing and engagement in local areas improve take-up – Local authorities are critical in the successful delivery of area-based schemes –building trust, awareness, local expertise, resources – Geographical concentration delivers operational efficiencies in surveying and installation – Most stakeholders reported that CESP had successfully focused delivery on low-income areas – Knowledge, experience, and effective partnerships were crucial, particularly local authority and housing association expertise, and good stock data – CESP was often aligned with existing stock refurbishments, enhancing projects already 'ready to go', and levering in additional funding – Evaluation of Nottingham programme – 40% of those who signed up were motivated by improving home conditions. Improvements to modernise kitchens and bathrooms in addition to energy upgrade works seemed to promote higher uptake levels (upgrades occurred alongside decent homes work) – Key factor in successful engagement of private households was offering measures for free, but this was rare. Other drivers were: hearing about benefits from social housing neighbours, low-interest loans where measures were offered at cost, and the visibility of external wall insulation aided marketing to private households

Barriers / learning	– As CESP targets low-income areas, affordability issues for private households was not surprising – Unlike with social housing, there was a lack of match funding for private households, and much higher transaction costs for delivery (dealing with individuals households rather than a large landlord) – May not be possible to provide the cost of additional works under CESP, if local authority and housing association investment already committed to other areas – Significant amount of stock data needed to judge a scheme's viability – Three-year timeframe seen as too short by many stakeholders – Targeted at most deprived 10% of LSOAs, but those living in fuel poverty are not necessarily based in these areas
Key references	(CAG Consultants et al., 2011; De Laurentis et al., 2017; Elsharkawy and Rutherford, 2018; Ipsos MORI et al., 2014)

Aspect of Intervention	Description
Policy Name	**Green Deal**
Policy field	Energy & climate change
Aims	– To ensure no capital costs to landlords in the PRS, thereby tackling the 'principal-agent' problem (mismatch between who pays for measures and who benefits from them
Population of interest	– Private households and energy consumers
Form	Intervention
Funding	Pay as you Save (PAYS) finance mechanism – loan financed efficiency measures, paid back over time through energy bills
Costs	– Estimates of the potential impact of the Green Deal and ECO showed costs of £10bn in installation and £17.3bn total costs, with benefits of £25.6bn, including £15bn in energy savings and £3.5bn in comfort benefits – However, it failed to attract householders or investors in large numbers and was withdrawn after a short period of implementation – Government costs of £240m, but the NAO assessed expenditure as failing to generate additional energy savings, and not value for money
Implementation	Private
Timeframe	2012-2015 (Green Deal loans funding ended 2015)
Key outputs / outcomes	– About 6,000 homes a year were retrofitted using Green Deal finance. Discontinued in 2015 after 20,000 home energy improvements funded across 14,000 homes – By the end of 2014, 14,000 households had taken Green Deal loans – Only 50% of loan applications ultimately resulted in one being arranged – Further 'nudge' mechanisms were introduced after poor uptake of the Green Deal, e.g. council tax holidays, voucher schemes, cashback funds of up to £7,600per household for installing approved measures (Green Deal Home Improvement Fund) – Cashback scheme was very successful – demand for grants far exceeded expectations, but the scheme was capped at £120m over one year – the first phase of the fund lasted 6 weeks, and funds provided during the second phase were spent in just one day – Lasting damage to the retrofit sector due to loss of momentum – sharp drop in energy efficiency measures installed in British homes. By mid-2015 the average delivery rate for loft insulation had dropped 90%, cavity wall insulation was down by 62% and solid wall insulation had declined by 57% compared to 2012. By 2017, home insulation rates were 5% of the 2012 peak rate

Programme mechanisms	– Government wanted households that benefited from measures to pay for them, rather than all energy consumers contributing as under previous schemes – Underpinned by 'Golden Rule' that that the loan is repaid at an annual rate no higher than the estimated annual energy savings gained from the new efficiency measures – Intended to overcome the landlord-tenant dilemma where the landlord bears the costs of making energy efficiency improvements, but the tenant reaps the benefits of energy cost savings. Also addressed the high upfront costs of financing improvements by tying loans to the building rather than the occupant, and paid through instalments on energy bills – therefore emphasised financial savings, and failed to engage with a broader narrative – Research into the decision-making of homeowners who undertake energy efficiency retrofitting indicates that while financial concerns are important, so are context, routine and disruption – but the Green Deal gave primacy to a neoclassical economic framing, assuming that the major barrier to action was a lack of capital – The scheme was also designed to address uncertainty and lack of information by guiding households through stages, from home energy assessments to contractor selection
Barriers / learning	– If was difficult to persuade people to pay for measures themselves. Even where there was consumer interest, people were initially put off by the complexity of arranging a loan – The Golden Rule constraint meant that the average size of a Green Deal loan was £3,500, which was insufficient to finance measures such as solid wall insulation, a heat pump, or deep retrofits – Around 11% of Green Deal assessors and 14% of installers were suspended from the scheme because of poor workmanship – Pay-as-you-save schemes are better suited to well-off homeowners, whilst poorer households might require grants, and PRS households other mechanisms due split incentives between landlords and tenants – Rather than economic incentives, highlight aesthetics, comfort, health and wellbeing, alongside guaranteed energy savings and low-cost financial model – Emphasis on increasing comfort, quality of life, and value of the property may have a wider appeal as part of a home improvement scheme, rather than an environmental / green improvement scheme – Whole house retrofits and a one-stop shop that simplifies the customer interface

	– Whole house approach may appeal to homeowners interested in renovation who may not have considered energy efficiency measures – there is evidence that energy efficiency is of potential appeal to all households considering major renovations in their homes, regardless of the renovation they are considering. Energy efficiency improvements are more likely to therefore be incorporated into other types of home improvement – or at particular trigger points such as house purchase/sale – Given that renovation decisions are often taken over a long time period, there is an opportunity to engage homeowners during the decision process, and inform how they improve their homes – Operation in the PRS – research with PRS landlords in Wales highlighted lessons for the operation of the Green Deal: landlords understood their properties had poor energy ratings, but normalised this, emphasising very few properties nearby would achieve more than this due to the nature of the housing stock – For most landlords in this research, improvements which yielded only energy efficiency benefits were less of a priority compared to those which enhanced appearance and amenity – tenants viewed as attaching little importance to energy performance – Concern about requirements to make repayments on loans during void periods or if the tenant defaulted – suggests importance of understanding different geographical market contexts – Lack of coherence and consistency in policy creates uncertainty that hinders private sector investment – Finance mechanisms did not encourage take up of measures at the scale required for success, often due to high interest rates which averaged between 7% and 10%. Levering investment at the household level is not viewed as a viable large-scale solution – the level of finance required suggests the need to for new financial mechanisms. A low-interest mortgage or loans with rates of 2-3% is an attractive proposition, but this would likely require government guarantees of loans or subsidies to financial organisations offering such rates
Key references	(Ambrose, 2015; Bergman and Foxon, 2020; Hall and Caldecott, 2016; Marchand et al., 2015; National Audit Office, 2016; Pettifor et al., 2015; Rosenow and Eyre, 2016)

Aspect of Intervention	Description
Policy Name	**Energy Company Obligation (ECO)**
Policy field	Energy & climate change
Aims	– To improve homes' energy efficiency by placing an obligation on energy suppliers to install measures in homes that will cumulatively reduce CO2 emissions by a set amount – To help household keep their homes warmer and reduce their energy bills – Alongside the Green Deal, it replaced CERT and Warm Front
Population of interest	– Energy companies were told that most of the ECO target should be met by improving the energy efficiency of harder-to-treat homes (however, this requirement was reduced in late 2013) – In 2017, the scheme was changed to focus on low income, vulnerable and fuel poor households – targeted 70% of the obligation (Affordable Warmth) to low income and vulnerable households. The remaining 30% (the Carbon Emissions Reduction Obligation) was open to all households, focused on reducing carbon emissions of housing stock – July 2018 – the scheme became a 100% Affordable Warmth scheme
Form	Regulation
Funding	Suppliers pass on their costs to all customers through energy bills
Costs	– NAO did not receive data on households' contribution to measures installed under ECO, or how much measures cost suppliers – First year evaluation of ECO was delivered at an estimated cost of £1.54bn
Implementation	Suppliers can install measures or contract installers, either directly or through a brokerage platform
Timeframe	2013-
Key outputs / outcomes	– 97% of home energy improvements between 2013 and 2015 were paid for by the ECO or one of the government's subsidy schemes – just 1% funded by Green Deal finance – 1.4m homes improved under ECO, installing 1.7m measures (up to 2016) – As of September 2018, delivered 2.4m improvements in around 1.9m homes – Activity skewed towards cheaper measures such as hard-to-treat cavity wall insulation – Failed to develop a market for solid wall insulation, in part due to the scale of hard-to-treat cavity wall insulation – Suppliers installed 525,000 measures, mostly boilers, through Affordable Warmth – a sub-obligation of ECO aimed at reducing bills for low-income households (to 2017)

Programme mechanisms	– Focus on harder-to-treat homes – based on analysis suggesting that previous supplier obligation schemes had absorbed most of the potential demand for cheaper measures, e.g. loft insulation – Instead of ECO blending with Green Deal finance to fund more expensive measures, ECO could act in competition, with households only installing measures using ECO
Barriers / learning	– The focus of the Affordable Warmth strand on replacing boilers in urban, gas-heater homes left rural households disadvantaged
Key references	(Department for Business, Energy and Industrial Strategy, 2019; Hall and Caldecott, 2016; National Audit Office, 2016)

Aspect of Intervention	Description
Policy Name	**Central Heating Fund**
Policy field	Energy & climate change
Aims	– Introduced by the Department of Energy and Climate Change to achieve statutory fuel poverty targets and implement the principles of the fuel poverty strategy for England in off-gas areas – To incentivise the installation of first time central heating systems in the properties of fuel poor households who did not use mains gas as their primary heating fuel
Population of interest	– Qualification under the Energy Company Obligation, or – Household income below £16,010 and a health condition, or – Assessed as fuel poor – And property located within 23 metres of the gas main
Form	Intervention
Funding	State
Costs	– East Riding of Yorkshire Council – awarded a CHF grant of £1m, with another £1.1m in match funding through the ECO and Fuel Poverty Network Extension Scheme, the Green Deal, and some local authority and household / landlord funds – Devon – awarded £1.1m, with an additional £1.1m in match funding
Implementation	Multiple (local authority, energy companies, third sector)
Timeframe	2015-2017
Key outputs / outcomes	– Local evaluations suggest the schemes targeted vulnerable households, improving self-reported physical and mental health and wellbeing, and improving energy efficiency – East Riding of Yorkshire scheme – completed measures to 251 households. Pre-intervention, average SAP score was 32 (range: 1-55); after the average was 64 (range: 27-74). Householders reported increased ability to keep comfortably warm in cold weather – Cosy Devon partnership – central heating installations in 187 properties, resulting in improved ability to achieve affordable warmth. Harmful practices, e.g. under-heating and cutting back on essentials were reduced. Pre-intervention, the average SAP score was 39 (range: 1-71) whilst after the average was 67 (range: 41-89). 65% of installations were in owner occupied homes, 34% in PRS

Programme mechanisms	– East Riding of Yorkshire scheme – 77% conversion rate from application to approvals suggested the scheme was effectively targeting eligible individuals – Advertising was a useful way to generate referrals to the scheme – Devon scheme – good links with health professionals, and up-skilling health professionals to generate referrals. However, the conversion rate from application to installation was only 29%, raising questions about how effectively the scheme was targeted at those most in need of assistance
Barriers / learning	– Requirement to be within 23 metres of the gas main made considerable numbers of households ineligible – Difficulty in confirming eligibility, e.g. health conditions required a letter from a medical professional, confirmation of income was required, and surveys to assess the SAP rating of the property were needed – contributed to delays – Software or system to manage project delivery may enhance efficiency and data sharing – Delays nationally – most installations delivered after the original scheme completion date – Operational complexity of the scheme, the need for sequencing of support between partners, and to share data across discrete policy programmes (e.g. ECO) also contributed to delays – underlines the challenge of time-limited forms of funding. Establishing partnerships and investing in systems is more likely with ongoing funding streams
Key references	(Stephenson and Ruse, 2017a, 2017b)

Aspect of Intervention	Description
Policy Name	**Warmth for Wellbeing**
Policy field	Housing
Aims	15 month pilot project to offer interventions to those in fuel poverty
Population of interest	– Individual occupants – Fuel poor or cold in their homes – Brighton
Form	Legal duty; regulation and enforcement; targeted intervention; information and advice
Funding	Private (British Gas Energy Trust 'Healthy Homes' programme)
Costs	Not reported
Implementation	Third sector
Timeframe	Time-limited (2015-2017)
Key outputs / outcomes	– Reached 555 households living in cold homes, offering in-depth advice, hardship grants, energy efficiency adaptations – Hard (boiler replacement, draft repairs, insulation) and soft measures (debt advice, energy saving lightbulbs, tariff switching) – but far fewer hard measures implemented, in part due to tenure issues – Only 2 boilers replaced, 1 wall insulation, compared with 37 draught repairs, 84 LED bulbs and energy monitors
Programme mechanisms	– Individuals referred by partner organisations, or directly by phone. Active approach, e.g. GP surgeries providing contact to individuals at risk; leaflets at flu vaccination clinics – Partnership approach noted as key success factor – In-depth case work, several face-to-face meetings, follow up phone calls – hardship payments early on encouraged engagement in the longer-term process
Barriers / learning	– Clients concerned landlords would perceive negotiation about home improvements negatively – A significant proportion of clients required multiple forms of intervention to be able to heat their home adequately
Key references	(Darking and Will, 2017)

Aspect of Intervention	Description
Policy Name	**SSE Warm at Home Programme**
Policy field	Housing
Aims	– To improve the energy efficiency and / or thermal comfort of the homes of vulnerable homeowners
Population of interest	– Targeted at owner-occupiers who were: over 60, on a low-income, or with a disability / long-term illness
Form	Intervention
Funding	Private – from a financial penalty imposed by Ofgem on SSE for failure to meet obligations under a previous energy efficiency scheme
Costs	– Average cost of an intervention was £241 – Funding over £500 was exception, with only 15% of households where work was identified receiving this level of funding – For every £1 of WAH funding provided, an additional £2.42 (minimum) was levered in from other sources
Implementation	Multiple (private; third sector – managed by Foundations Independent Living Trust)
Timeframe	2015-2016
Key outputs / outcomes	– A wide range of measures were eligible for funding, from draught proofing and fitting reflector radiator panels, to central heating system replacement – 3678 home energy assessments took place – 71 HIAs acted as delivery partners, in 183 district councils in England – 2647 warm homes measures took place – 70% of respondents in the evaluation reported that it was easier to heat their home to a comfortable temperature following the work – The greatest health and wellbeing improvements were reported by those who received a replacement or installation associated with their heating system, and for those whom highest cost work (£1000>) was undertaken – Smaller, practical improvements could also make a big difference to daily lives, enhancing wellbeing and independence

Programme mechanisms	– Funds were channelled through 33 Home Improvement Agencies operating across England, with a central pot held by FILT for applications – Broad eligibility criteria meant that HIAs could help people who would not have qualified for other schemes – There were fewer restrictions on what could or could not be funded, enabling HIAs to use their judgement in order to meet clients' needs – HIAs were well-placed to reach more vulnerable households – HIAs were knowledgeable about other sources of funding, enabling them to lever in other funds, e.g. local authority hardship funds, money from CCGs, from ECO, and other charitable funds – Older clients were reassured by the involvement of a trusted organisation, highlighting the importance of vetted contractors and handyperson services, which were seen as safe and trusted
Barriers / learning	– HIAs typically used handyperson services to install draught proofing and smaller measures, and vetted contractors for larger work – Flexibility of funding meant that HIAs were able to install 'enabling' measures, such as carrying out loft clearances, which was able to then facilitate other measures, e.g. ECO, and to put together the most appropriate solution for household circumstances
Key references	(Bennett et al., 2016)

Aspect of Intervention	Description
Policy Name	**Arbed** (Wales)
Policy field	Energy & climate change
Aims	– To reduce domestic energy demand and promote the diffusion of micro-renewables as part of a transition towards sustainability in the build environment – To bring environmental, social, and economic benefits to Wales through coordinating investments into the energy performance of Welsh homes – Reduce fuel poverty and carbon emissions – Support the energy efficiency and renewables supply chain
Population of interest	– Targeted at regeneration areas with low incomes – Mixed tenure communities of public and private ownership preferred – Whole house (house-by-house, street-by-street approach)
Form	Intervention
Funding	Phase 1: Funding from Welsh Assembly and leveraged funding from energy suppliers (through CERT and CESP), housing associations, local authorities and gas distribution network providers. Phase 2: European Regional Development Fund and Welsh Assembly
Costs	– Phase 1: £30m from Welsh Assembly and UK DECC; £10m from energy suppliers through CERT and CESP; £20m from RSLs and local authorities bringing forward maintenance and renewal budgets
Implementation	State; private
Timeframe	2010-2015
Key outputs / outcomes	– Phase 1 measures installed: over 7500 measures, including solid wall insulation, solar PV and hot water, heat pumps, fuel switching from coal or electric – 57% of properties improved were owned by RSLs, who were key drivers in securing funding under Phase 1. 25% were owned by local authorities, and 20% owner occupied – External wall insulation was the most common measure – Phase 2: bids invited on annual basis from local authorities for up to 2 scheme areas per year, 10-20 schemes per year, with a private and social mix of 55:45

Programme mechanisms	– To develop a retrofit pathway that was distinct from the market-let pathway (exemplified by the Green Deal) promoted by the UK government – The Welsh Assembly framed retrofitting as a vehicle to promote a wider sustainability agenda – energy efficiency and carbon reduction translated into improving and sustaining people's quality of life, wellbeing of people and communities, and social justice. This provided a motivating 'vision' to draw actors together – Arbed focused on targeting the right areas first, with the worst performing stocks, and vulnerable communities, compared to the Green Deal focus on the individual house – A key driver for social housing improvements in Wales is the Welsh Housing Quality Standard, which requires that everyone has the opportunity to live in a good quality home within a safe and secure community – Phase 1 – 15 energy wardens were employed to work with Warm Wales (a community interest company) and the main contractor, to support community engagement and provide aftercare to residents. They were trained to deliver Home Energy Assessments, provide energy advice, and install Real Time Displays
Barriers / learning	– Although the scheme aimed to take a whole house approach, most properties received one or two measures – Key drivers of a large scale retrofit programme included: a good contractor who is efficient, organised, and resourced to take 'well-planned' risks; large scale funding – at an average rate in excess of 80% grant – enabled the work to go ahead and for risks to be taken, e.g. using technologies that RSLs and local authorities had not previously utilised
Key references	(De Laurentis et al., 2017; Patterson, 2012)

Aspect of Intervention	Description
Policy Name	**NEST** (Wales) [replaced Homes Energy Efficiency Scheme (Wales)]
Policy field	Energy & climate change
Aims	– Improve the energy performance of housing stock, targeting groups at the highest risk of fuel poverty – To provide advice on saving energy, money management, fuel tariffs, benefit entitlement checks and referrals to other schemes, for all householders
Population of interest	– Targets the most inefficient properties (SAP rating F and G) and households on the lowest incomes (in receipt of certain means tested benefits) – For owner occupiers or privately rented homes
Form	Intervention
Funding	Mixed – approx. £58m funding 2011-2014, leveraged an additional £4.2m of ECO funding into Wales
Costs	– Funding for intervention measures capped at £8000 for on-grid and £12000 for off-grid properties – British Gas data showed an average on-grid intervention cost of around £2500 – Improvements are free for those in receipt of certain means tested benefits
Implementation	Private (contract managed by British Gas, who subcontract the advice / first point of contact service to the Energy Saving Trust. BG carry out home assessments and coordinate installation)
Timeframe	2011>
Key outputs / outcomes	– Takes a whole house approach – Differs from CERT and CESP by focusing on hard to treat homes – Household assessors recommend the most cost-effective package of measures to improve the SAP rating of the house to reach band C where possible – Scheme data suggests it has been successful in reaching older people and those with limiting illnesses – Advice and support to over 61,000 households – Referred over 20,000 households to third parties, e.g. money advice, eligibility assessment for fuel discounts – 15,603 households provided with free energy improvement measures (18,481 measures), increasing the SAP rating of 94% of properties to E or higher (from F/G)

	– Gas boilers accounted for the majority of measures (almost two thirds of interventions), followed by oil (11%) and loft insulation (10%) – Whole house approach – households received up to four measures, although the majority (84%) received only one measure – 59% of respondents reported installing new heating controls, e.g. a thermostat, following advice from NEST, 45% had an energy assessment carried out – Just over half of those surveyed who received advice from NEST reported being better able to head their home, whilst this was 89% for those who had received an installation
Programme mechanisms	– Successful targeting requires a robust evidence base and data matching from a variety of sources, e.g. data on housing quality, data and knowledge of local authorities – Widespread support and praise for the whole house approach, but the majority of households have only received one measure
Barriers / learning	– Advice provision alone has been less effective than improvements in achieving fuel poverty outcomes – Targeting rural houses challenging – A cap of £12,000 for off-grid properties was rarely thought to be enough to pay for a 'whole house' package – Many of those who were ineligible for household improvements were forced to make similar choices about heating to those who were deemed eligible – suggests a risk that those equally in need are unable to access support as they failed to meet qualifying criteria. Those not in receipt of benefits could fall through the gaps between schemes – potential for improved targeting based on household income – Those over 80 or with disabilities may have a high level of need but be ineligible – new health based criteria introduced from 2019 in response – Does not always work in tandem with other programmes, e.g. ECO, to ensure people were getting a full package of measures – Some felt that ECO and other insulation schemes had improved the SAP rating of households to just above the threshold, meaning they were unable to benefit from the whole house approach offered by NEST – During the scheme, applications from tenants in the PRS where landlords had already had three properties improved under the scheme were sent to Welsh Government for a decision – followed reports of multiple landlord applications as a means of upgrading rental stock for free. However, this meant that some tenants may be excluded from the scheme
Key references	(Marrin et al., 2015)

Area-based initiatives

Aspect of Intervention	Description
Policy Name	**Housing Action Areas (HAAs)**
Policy field	Regeneration
Aims	– raising housing quality and removing underlying causes of housing stress in local areas of multiple deprivation (i.e. areas of around 300 dwellings)
Population of interest	– neighbourhoods with a relatively high percentage of households sharing facilities, living at high densities, in privately-rented accommodation and with a concentration of low income households, including old age pensioners – No threshold was asserted, and LAs could use their own judgement to designate areas. The decision as to which areas are selected appears to have included a range of political and resource issues, in addition to measures of housing deprivation – An English HAA typically includes a few streets of pre-1919 terraced houses with back extensions and corner shops
Form	Grant funding
Funding	State and private owner - as part of the drive to improve housing quality in HAAs the 1974 Act raised the level of improvement grants in HAAs to 75 % of costs (90% in cases of hardship). The level was set at 50% elsewhere and 60% in GIAs.
Costs	Lack of data available
Implementation	It has been estimated that 700,000 dwellings are in areas which are suitable for HAA declaration. If we assume that there should be approximately 300 dwellings in each HAA this means that there are roughly 2333 potential HAAs in England and Wales. By mid-1977 only 219 HAAs containing 70,978 dwellings had been declared.
Timeframe	Introduced by the Housing Act 1974; HAAs and GIAs were replaced by 'renewal areas', under the Local Government and Housing Act 1989
Key outputs / outcomes	– It was estimated that 700,000 dwellings are in areas which are suitable for HAA declaration. Assuming there should be approximately 300 dwellings in each HAA this means that there are roughly 2333 potential HAAs in England and Wales. By mid-1977 only 219 HAAs containing 70,978 dwellings had been declared. – By March, 1976, 94 HAAs had been declared; but there were an estimate of 2,000 potential HAAs in 1976. – Early HAA s were slow to start - in many areas, housing improvement was not completed at the end of HAA declaration after five years. Furthermore, the number of housing improvements within HAAs were not impressive compared to the general pattern of grant distribution.

Programme mechanisms	– Focus on designated area, with a concentration of poor quality housing – HAAs were supposed to be 'areas where the physical conditions of the housing and conditions of the residents combine to produce a situation of poor housing conditions, and an inability on the part of the residents to improve these conditions without special help~ – Improvement grants available to owners with HAA areas to cover the large majority of improvement costs – In an HAA a local authority has the power of compulsory purchase and improvement – Key element of HAA programme was the important role played by housing associations; of first 81 HAAs declared in England and Wales, 55 were being run in co-operation with housing associations and three were run solely by HAs. – HAs registered with the housing corporation operated in HAAs by buying property from landlords, owner-occupiers and the LA, improving and converting these properties and then allocate housing to households as social rented properties. Funds for acquisition came from the housing corporation or the local authority (increasingly the former)
Barriers / learning	– level of HAA declaration did not match the potential number of HAAs. The main reason is reported to be reduction in government funding i.e. LAs didn't have the resources required to designate and support HAAs. Also, there was reported to be a sluggish response amongst some local authorities linked to staffing, resources and/or commitment to a large housing improvement scheme. – Even with substantial grants, the repair costs could not be covered by the low incomes of many owner occupiers and landlords in HAAs. This served to undermine take-up of improvement grants. – Power of compulsory purchase and improvement rarely used by LAs; landlords unwilling to sell and LAs unwilling to enforce given politically-sensitivities. Voluntary acquisition was the main mechanism, but not used extensively – implicit assumption is that housing can be substantially improved by an area-based policy. BUT analysis suggests that the majority of people living in poor quality housing as measured in HAAs would not be included in a HAA area, given designation criteria – argued that by concentrating inadequate resources in a few selected areas the government and the local authorities did little to substantially improve poorer quality housing

	– encouragement approaches, involving incentives, are likely to have limited impact, particular on low income and older owners. They can prove a notable incentive for some landlords and 'well-established' owner occupiers, however, who can afford the costs and might either be able to secure greater rental returns on renovated properties or maximise value of the property upon sale – success depends upon grant uptake and grant uptake is highest reported to be highest where opportunities for profit maximisation exist
Key references	(Christiansen, 1985; Short and Bassett, 1978)

Aspect of Intervention	Description
Policy Name	**New Deal for Communities (Housing and the Physical Environment)**
Policy field	Area based interventions
Aims	– The NDC Programme was one of the most important area based initiatives (ABIs) ever launched in England. The programme's primary purpose is to reduce the gaps between 39 deprived neighbourhoods and the rest of the country. – The Programme was designed to achieve the holistic improvement of 39 areas by improving outcomes across six themes: three 'place related' outcomes - crime, the community, and housing and the physical environment; and three 'people related' outcomes - education, health, and worklessness
Population of interest	– The 39 areas, each on average accommodating about 9,800 people, NDC partnerships implemented approved 10-year delivery plans. Each delivery plan attracted approximately £50m of Government investment i.e. a Programme average per capita investment between 1999–00 and 2007–08 of just under £450 per annum
Form	Common components to the overall programmes of NDCs in relation to housing were – achieving the Decent Homes standard – improving the residential environment – undertaking improvements to the private housing sector – intensive housing and neighbourhood management – demolition and new build – development of community facilities.
Funding	Government investment and leverage of funds from other sources
Costs	Each delivery plan attracted approximately £50m of Government investment i.e. a Programme average per capita investment between 1999–00 and 2007–08 of just under £450 per annum – Spending on housing and the physical environment in the NDC Programme amounted to £427.3m from 1999–00 to 2007–08. This is 31 per cent of total NDC spend, and 13 percentage points higher than what has been spent on any of the other five themes. – NDC partnerships are estimated to have levered in around £298m of complementary funding to support their own measures equivalent to £0.70 for every £1 of NDC spend. The data is not available to enable any comparison with other area-based programmes, but one can compare this with the leverage ratios in other NDC domains: £0.88 per £1 in worklessness, £0.49 per £1 in health, £0.47 per £1 in crime, £0.43 per £1 in education, £0.19 per £1 in community development and an overall leverage ratio of £0.54 per £1 – the sustainability of housing and the physical environment outcomes depended on partner organisations mainstreaming initiatives that previously relied on NDC support.

Implementation	Quality relevant interventions included: – efforts to achieve the Decent Homes standard, including investing directly to support the modernisation of social housing, funding improvements to the exterior, such as gardens and fencing, as well as increasing security – improvements to private housing through block improvements, which included facelifts to property exteriors, energy efficiency improvements, repairs to roofs and chimneys and environmental improvements to gardens and alleyways
Timeframe	
Key outputs / outcomes	**OUTPUTS** - between 1999–00 and 2007–08 housing and physical environment outputs from the programme have included: – 31,057 homes improved or built; just under 19,800 of these dwellings were estimated to be 'additional': that is, they would not have been improved or built without the presence of the NDC Partnership – 126 other buildings in the neighbourhoods have been improved and brought back into use; 96 are estimated as 'additional' – 170 waste management recycling schemes have been implemented, of which 133 are estimated as 'additional'. **OUTCOMES** – by 2008, 84 per cent of NDC residents stated that they were either very, or fairly, satisfied with their accommodation; 2% points higher than in 2002, and the same degree of change as amongst comparator area residents – by 2008, 74 per cent of NDC residents were very, or fairly, satisfied with their area as a place to live, fully 13 % points higher than in 2002. This change was significantly greater than in comparator areas (8 % points) – between 2002 and 2008 there was no change in the proportion of NDC residents wishing to move from their current home, at 39 per cent; this compared with a 1 percentage point fall in the comparator areas and a 3 percentage point fall nationally – average property price in NDC areas increased by 70 % between 2001 and 2007 to £154,000; this was a greater increase than witnessed in comparator areas (58 per cent) or parent local authorities (63 per cent) during the same period
Programme mechanisms	– the housing element of NDC included 'inward-looking' initiatives, seeking to improve dwellings and neighbourhood infrastructure primarily for the benefit of existing residents, and 'outward-facing' programmes designed as more ambitious transformation of neighbourhoods, enhancing connectivity to external housing and labour markets and seeking to attract more demand from households living outside the neighbourhood

Barriers / learning	– differences in change in satisfaction with accommodation between different NDC partnerships can be partly explained by three factors: the starting position is the most significant influence (those areas with low ratings in 2002 showing the largest increases by 2008), followed by the level of total NDC spend across all outcomes (the higher the spend, the larger the rate of increases in satisfaction) and those NDC areas that can be classified as 'escalators' according to the 2009 CLG typology of deprived neighbourhoods. Taken together, these three factors can explain 40 per cent of the variation in the change in levels of satisfaction – in some partnerships, a tension emerged between community preferences focused on the concerns of current residents, and housing market options focused on the long term future of the area and its sustainability. Reconciling the commitment to a bottom-up, community-led interventions and the expert advice about market conditions and how to achieve sustainability often provided challenging – There was a close correlation between effective partnership working between key housing an regeneration agencies (LA housing and planning, HAs and private developers) and success in delivering housing objectives. – change in satisfaction with accommodation was found to be a function of change in satisfaction with repair of accommodation; satisfaction with area; vertical trust, fear of crime; visual problems with the environment and problems with social relations.
Key references	(CRESR, 2010)

Housing repair and improvement (social sector)

Aspect of Intervention	Description
Policy Name	**Decent Homes**
Policy field	Housing condition
Aims	– To improve the condition of homes for social housing tenants and vulnerable households in private sector accommodation in England – A 'decency' standard was set and in certain cases funding was enabled to achieve improvements. The Programme recognised improvements might be achieved from wider neighbourhood renewal. – The Programme also aimed to improve housing management standards and increase tenant involvement in local housing decisions.
Population of interest	– Social housing providers – Social housing tenants – Vulnerable households in the private sector
Form	Regulation
Funding	– The Department's primary means of securing value for money from Decent Homes funding was to scrutinise the options appraisals prepared by local authorities and assess any bids for funding required to facilitate stock transfers or the setting up of an ALMO. – Local authorities with sufficient resources (including from the then newly-introduced Major Repairs Allowance) could implement the programme and retain the day-to-day management of their housing stock. Where additional resources were required LAs could: – Establish an ALMO – Use a PFI – Transfer stock to an RSL – Allocation of funding was scrutinised regularly, drawing on advice from the Building Research Establishment, using existing Regulatory Framework of Audit Commission inspections and RSL registration with the housing regulator to ensure social landlords in receipt of funding were well placed and would deliver.
Costs	– Approximately £22bn to DCLG
Implementation	State
Timeframe	2000

Key outputs / outcomes	– Improved housing conditions for over a million households, reducing the percentage of non-decent homes to 14.5% as at April 2009. – RSLs have reduced the percentage of their non-decent homes to eight per cent from a maximum of 21 per cent. – Tenants were involved in local delivery, with many having a significant influence over their housing service. – Improvements to the function of housing associations, including better management of housing services, asset management process and job creation. – Improvements to purchasing efficiency and economics by using procurement consortia (estimated savings at £160m in 2009 with potential savings of up to £590m).
Programme mechanisms	– DCLG (at the time) were responsible for ensuring targets were met through setting policy and exercising oversight. – The responsibility for delivery of the Programme in the social housing sector was with RSLs and local authorities. – RSLs were expected to make their homes decent from their own resources, and local authorities were expected to use existing funds, including the Major Repairs Allowance). – The Decent Homes Standard aimed to make homes warm, wind- and weather-tight and with reasonably modern facilities.
Barriers / learning	– More could have been done to promote value for money through devolved delivery by preparing an estimate of making homes decent by 2010 before announcing the policy to do so. Initial estimates only considered local authority stock. – More could have been done in terms of guidance to providers on estimating costs of provision and investment and better monitoring processes, reporting and use of information as well as reviewing the programme earlier to determine value for money and good practice. – Some criticisms of DHS are that the standards were too low, or too narrowly focused on the property itself and more attention could have been paid to energy efficiency measures and environmental works. – Concerns also raised around ability to maintain or enhance the DHS for their properties in the medium to long term following on from pressures to public expenditure post global financial crash. – DHS did not adequately address the upkeep of common areas and parts, which often carry high upkeep costs and exceeded the funding available. – DHS did not extend beyond the property, omitting other aspects that are vital to long-term neighbourhood sustainability such as enhancements to local environments and facilities, reductions in anti-social behaviour, and diversification of stock and tenure.
Key references	(Bennington et al., 2010; National Audit Office, 2010)

Housing repair and improvement (private sector)

Aspect of Intervention	Description
Policy Name	**Improvement and repair grants in private sector housing**
Policy field	Housing
Aims	– To improve poor housing conditions in the private sector
Population of interest	– Initial focused on Housing Action Areas and General Improvement Areas (neighbourhoods with high concentrations of deprivation and poor housing conditions) – from 1980s extended to pre-1919 housing outside these areas – From 1990, targeted low-income households
Form	Intervention
Funding	State – capital grants
Costs	– Amounts of capital grant varied across the programme. Whilst recipients covered up to 50% of the repair cost at one point, there was no means test
Implementation	
Timeframe	1949-2003 (in various forms – powers revoked in 2003 by RRO)
Key outputs / outcomes	– 1949-2000 more than 4.5m grants provided in England and Wales, but declining significance since 1980s – 1969 Housing Act substantially increased levels of grant, included new forms of repair, and relaxed conditions for recipients to continue living in the dwelling – Grant contributions were 50% of approved costs, increasing to 75% in 1971 in certain economic development areas – Take-up averaged 75,000 granter per year in the late 1970s, compared to 130,000 in the 1969-74 period – 1974 – Repair Grant – intended to assist with repair rather than improvement – 1982 – extended to pre-1919 dwellings and increased to cover 90% of costs – rapid increase in applications to local authorities. In 1979 only 500 repair grants were provided across England and Wales, but this increased to 33,000 in 1982, peaking at 135,000 in 1984 – Mid-1980s – local authorities added enveloping to policies to tackle private sector housing (improving external elements of whole blocks or terraces) – in most cases owners or landlords were not required to contribute to the schemes – 1985 – grant was made available as a right (subject to a means test) for all works necessary to make a dwelling fit for human habitation – 1989 Housing Act – Repairs Grant dropped. Introduction of mandatory means tested house renovation grants based on a fitness standard – 1990 – new small grant for minor works assistance for older people – Replaced in 1996 by home repair assistance (maximum value of £2000) available to those in receipt of certain benefits and older people

	– 1996 Housing Grants, Construction and Regeneration Act – shift from mandatory to discretionary grants – DOE Circular 17/96 – emphasis on homeowner responsibility in private sector renewal activity – The means test targeted resources on those on low incomes, in many cases alleviating the need for any contributions to works (1994/5, 59% of renovation grants covered 100% of the cost of works) – older people likely to benefit because the means test did not take account of housing equity – Rationing tactics employed in the 1990s to cope with demand for statutory rights to grant aid could not be continued indefinitely, and in 1996 government legislated to remove the right to grant aid to remedy unfitness, revering to the earlier discretionary approach
Programme mechanisms	– Belief that minimum repairs (e.g. patch repairs to remedy unfitness) were poor value for money, so grant aid was typically provided to resolve the underlying problem (e.g. full roof replacement) – as a result, mandatory grant levels reached £10,000 in England and £18,000 in Wales in 1993 – far higher than the estimate of £3000. An upper limit was introduced, and local authorities were required to meet a higher proportion of grant costs from their own resources – Growing opposition to housing clearance led to further revisions to grant provision in 1974 to provide more assistance to low-income owner occupiers (e.g. 75% grant rate) – Hope that improving whole areas, e.g. through enveloping, would encourage owners to invest in internal works – But, looking back at a sample of properties that had received grant aid over 15 year period – evidence of rapid deterioration of conditions, lack of subsequent maintenance. Grant aid may be dealing with symptoms rather than the underlying causes of under-investment – low incomes and savings, lack of awareness, difficulties organising solutions – Grants were seen as part of a package of measures to support owner occupation – government drew back from this position from mid-1980s, arguing that owners must carry the primary responsibility for keeping their property in good repair – Decline in grant resources led initiatives to be developed by local authorities, e.g. HIAs – generating significant additional investment, improving quality of work, and increasing the proportion of spending devoted to essential repair works – Whilst there are powers to compel repairs, enforcement action is limited by complexity and – with owners particularly – about the acceptability of compulsory action – In Scotland, 1995-1997 resources devoted to private sector grants fell by two thirds after ring fencing removed from budgets

Barriers / learning	– Reverting to a discretionary approach form 1996 turned repair grants into a lottery, where a small number of recipients, selected somewhat randomly from the population of those living in poor housing, received relatively large grants – a much larger group of householders with similar problems received nothing – To cater for demand, local authorities suspended or abandoned planned renewal strategies focused on particular neighbourhoods, and when restrictions were re-introduced many had a backlog of applications entitled to a higher grant rate, which then dominated provision for many years – Concern in London over private landlords using grant aid to renovate PRS housing and then sell them to more affluent owner occupiers – Most applications came from dwellings that were not in the worst condition, and a proportion of applicants had incomes that suggested they may have been able to afford the work in the absence of grant – Grants were not targeted at cities with the highest levels of older privately owned housing – Older homeowners and private landlords were under represented amongst applicants, but their dwellings were most likely to be in poor condition – The 1982-84 regime of 90% grants without any income-related eligibility criteria in areas of pre-1919 housing led to a shift in expectations, that local authority grant may be available for all future major repair work in older privately owned homes – therefore could have been a major disincentive to undertaking further work, rather than an incentive as planned – Need less intensive services, e.g. advice and information on maintenance, home repair surgeries, home surveys, help with basic DIY, handyperson services, tool schemes – Tax incentives may encourage homeowners to invest, e.g. setting the cost of works done or interest on loans against tax obligations
Key references	(Leather, 2000a, 2000b; Stewart et al., 2006)

Aspect of Intervention	Description
Policy Name	**Regulatory Reform (Housing Assistance) Order 2002**
Policy field	Housing
Aims	– Local authorities' powers to provide renovation grants and home repair assistance revoked and replaced with a new system – Created a general power to provide assistance in any form to any person for the purposes of repairing, improving, adapting and rebuilding residential premises
Population of interest	– Privately owned housing in need of repair or adaptation
Form	Legal
Funding	State; private partnerships
Costs	– Authorities have the power to carry out means testing and charge for labour or materials, to set the conditions under which financial assistance should be repaid and over what term – Expenditure on grant averaged around £250m per year 2001-2004 – compares to an estimated cost of addressing non-decent homes in the private sector of £41bn
Implementation	State
Timeframe	2002
Key outputs / outcomes	– Housing Grants, Construction and Regeneration Act (1996) gave local authorities powers to give grants or loans to help private sector owners or landlords repair or renovate their homes – the Act still governs mandatory DFGs in England and Wales – Powers were revoked under RRO 1 year after it came into force – Assistance provided under the RRO is discretionary – Authorities have a general power to give financial assistance for home repair, improvement and adaptation, but must have regard to fairness, give priority to the most vulnerable households, ensure that loan applicants are fairly advised, and take account of people's ability to contribute (including to equity release loans)

Programme mechanisms	– 1996 Act controls were seen as inhibiting local authorities' ability to address local needs – Belief that widespread grants as part of area renewal work would discourage homeowners with resources from carrying out the work themselves – Together with provisions in the Housing Act 2004, focused on an 'enabling' approach by local authorities, and introduced the notion of leverage and loan finance to reduce dependency on grant aid – The aim of loan provisions was to stretch resources further, but also to ensure that owners were made aware of the financial responsibilities of homeownership and reassert the message that – in most cases – owners are responsible for repair and maintenance – Area-based activity seen as giving way to client-based programmes – Concentration on vulnerable households shifts focus of private sector renewal policies from the condition of housing stock per se, onto the households most in need of assistance and living in the worst conditions – Reassertion of importance of preventative action (dominant in 1980s), that providing advice and encouraging owners to act earlier may avert a more expensive solution later
Barriers / learning	– Developments towards the PRS and preventative approaches have been disappointing; main focus has been in the area of energy efficiency – Many local authorities were unable to reach agreement with local lenders over the availability of loan finance – key to securing enhanced programmes of repairs and maintenance in the private sector is to mobilise private finance and ensure low-cost loan products are available and underpinned by grant aid for those in need – Limitations of small numbers of staff working on private sector housing renewal activity – may be a low priority politically in some areas
Key references	(Department for Communities and Local Government, 2007; Groves and Sankey, 2005; Stewart et al., 2006; Wilson, 2017)

Aspect of Intervention	Description
Policy Name	**Home Cash Plan**
Policy field	Housing
Aims	– To provide people with reliable individual advice on options – Enabling people on benefits to draw small amounts from the value of their home – Giving people the confidence to investigate these options
Population of interest	– Equity release pilots targeting older homeowners in receipt of Pension Credit
Form	Intervention
Funding	Equity release
Costs	– Low-income homeowners could draw an initial minimum of £5,000 – Further sums of £2,000 could be drawn on demand, up to a total of £30,000, without an additional fee – Any property considered mortgageable could be offered as security
Implementation	Multiple (Joseph Rowntree Foundation; Just Retirement Solutions – a financial advice firm; pilot local authorities)
Timeframe	2010-2011
Key outputs / outcomes	– Local authorities and partners brought the scheme to the attention of potential recipients – Just Retirement Solutions provided financial advice – After 18 months, there were 20 enquiries – A sound solution was found for ten, of which nine pursued that option – Six pursued equity release (two used the Home Cash Plan, and four others another equity release product)
Programme mechanisms	– Collaboration between private sector and local authorities, without legal agreements

Barriers / learning	– Major deterrents to older people drawing on the value of their home through equity release include: reluctance to reduce the amount they would leave their family; complexity; needing to borrow considerably more than they needed; concern over reducing means tested benefits – Set up fee was substantial in comparison to the initial drawing – only became less significant if subsequent drawings were made – The response to the pilots was limited by: the poor reputation of equity release; lack of contact with those who may benefit from the scheme; legal and policy constraints on initiating contact with those who might be helped; and underestimating how long it would take for people to make a decision. – A product offering smaller and more flexible drawdowns can be commercially viable for lenders, and may broaden appeal of equity release – Local authorities have an important role to play in helping people to think positively about drawing on the value of their home in later life as a way of achieving greater quality of life
Key references	(Terry and Gibson, 2012)

Aspect of Intervention	Description
Policy Name	**Home Improvement Loan** (Parity Trust)
Policy field	Housing
Aims	– To meet the needs of homeowners to finance essential repairs and adaptations to properties following decline in local authority grants (post-Regulatory Reform Order 2002) – To offer an alternative to borrowing from a bank or building society, and at a lower cost than many credit providers
Population of interest	– Homeowners
Form	Intervention
Funding	Multiple (Parity Trust received capital funding from the Single Regeneration Budget and revenue funding from Portsmouth Housing Association, the Big Lottery Fund, Lloyds TSB and the Portsmouth and South East Hants Partnership, and £100,000 raised through shareholders). Recyclable loan fund, with repaid monies being on-lent to future customers
Costs	– Local authorities contributed 75% of capital loaned, Parity Trust 25% – Customers charged competitive interest rate – A range of repayment options for customers, including interest only loans with capital repaid at the end of the loan, and typical capital repayment loans (repaying capital and interest)
Implementation	Multiple (private; state; third sector)
Timeframe	2006-2011
Key outputs / outcomes	– £5.13m in secured loans and mortgages since 2006 – 1411 face-to-face financial reviews – £1.85m in recycled funds – Over 500 jobs allocated to local contactors – 827 beneficiaries – 140 loans have supported independent living – 76% of homes approved had at least one occupier aged 60+ – 320 applicants may have struggled to access finance elsewhere due to income levels – 26 Disabled Facilities Grant top-ups, reportedly extending independent living for older people by around 4 years – Typical work completed through the scheme included: roof, windows/doors, damp/heating, general repairs, adaptations, DFG top-ups, major works. More than half of completed works were in repairs to roof, windows/doors, and damp/heating

Programme mechanisms	– The first Community Development Finance Institution of its kind
Barriers / learning	– Identified a gap in the market for older borrowers whose interest-only mortgages were coming to an end but did not have the ability to repay
Key references	(Higgs, 2017)

Aspect of Intervention	Description
Policy Name	**Loans and equity release for housing improvements**
Policy field	Housing
Aims	– To assess the suitability and potential take-up of loan and equity release packages developed to support vulnerable private sector households maintain and improve their homes
Population of interest	– Low-income homeowners
Form	Intervention
Funding	Varied
Costs	– Survey of local authorities suggested cost of providing loans (engaging and supporting clients) was £500 to £3000 per loan – The cost of providing housing advice and a decent homes survey was estimated at £1000 per loan, and the cost of independent financial advice £500 per loan
Implementation	Mixed public – private partnerships
Timeframe	2003>
Key outputs / outcomes	– Limited data available on take-up (2007) but suggests conversion of 2-3% per year among vulnerable homeowners targeted for awareness raising – This would translate to 4-6,000 loans per year nationally, which private lenders noted would be insufficient to lever in private finance – For local authorities, developing a service for this small group would be inefficient due to the high administrative cost
Programme mechanisms	– Long history of interventionist grant policy for home repairs – concern over culture of dependency on grants – Based on need to encourage owners to invest more in basic repair work and tackle larger jobs – to borrow against equity tied up in their houses – Regional partnerships may have most potential for levering in private finance because of economies of scale, accelerated development, and promote common standards and approaches – Home Improvement Agencies play a key role in engagement, advice, guidance, and project management

Barriers / learning	– The threshold at which wholesale lenders will seriously consider engagement with the market was estimated at 2-3,000 loans per year, assuming an average loan of £15,000 at the regional level – Many lenders are unwilling to lend under £25,000 because the loan then becomes subject to the provisions of the Consumer Credit Act, which increases the administrative costs of setting up the loan and raises the prospect of the loan becoming void in some circumstances – Historically, it has been more straightforward for local authorities to offer nationally prescribed grants with established objectives, than a range of largely untested options locally – Given low disposable incomes, for the most vulnerable owner occupiers, no service loans represent the only real choice, bringing in the importance of equity alone in delivering sufficient funds to enable repairs – Interest free secured loan – most attractive as no monthly payment and lowest overall cost for individuals – Property Appreciation Loan – Shared appreciation mortgages – a loan with some of all interest charges discounted in return for giving up a share of future equity growth. However, providers may not be attracted to lower value dwellings in poor condition – Rolled up interest schemes – minimises accumulation of interest charges by allowing clients to draw down small sums for specific purposes – market for small loans <£2000 for repair and maintenance work – Commercial lenders reluctant to provide small sums, and relatively high costs with small secured loans, e.g. set up costs >£500 – Rochdale Council – subsidised repair and improvement loan set up costs by providing loans itself, then recycles funds by selling loans to a commercial lender – Nottingham Home Improvement Trust – low-cost packages covering legal fees and financial advice, administered by HIAs – Insurance schemes for emergency repairs – but less success in developing this market for routine and cyclical maintenance – The point at which dwellings are bought and sold provides the opportunity to scrutinise dwelling condition – including by lenders – Vulnerable owner occupiers require intensive support in relation to loans – HIAs reported handling smaller caseloads as a result – Key issue emerging in research with residents in a local authority area was that of choice – what an owner would choose to spend 'housing' funds on, compared to what a local authority might strategically wish this expenditure to fund, e.g. repairing the outside of the building – loss of grants to some extent means loss of local authority control over local private sector housing conditions – Barriers to repair for low income homeowners were primarily financial – not only in terms of the cost of repair, but also unforeseen costs and redecoration
Key references	(Leather, 2000a, 2000b; Stewart et al., 2006)

Falls prevention and safety

Aspect of Intervention	Description
Policy Name	**Housing Health and Safety Rating System (HHSRS)**
Policy field	Housing
Aims	– HHSRS replaced a pass or fail Housing Fitness Standard (in place since 1990)
Population of interest	– Applies to all housing (including social sector) but in practice most work is carried out in relation to the PRS
Form	Legal
Funding	Local government
Costs	Not reported
Implementation	State
Timeframe	2006>
Key outputs / outcomes	– A risk based assessment tool, used by environmental health officers to assess the likelihood and severity of hazards – Judgements are made with reference to those who – mostly based on age – would be most vulnerable to the hazard, even if people in those age groups are not actually living in the property at the time – Few if any national statistics on accidents in the home – Local interventions, e.g. Wirral Health Homes – targeted 1000 properties, offered a free home safety check and advice to point out hazards in the home. 2010-2013, 836 surveys and 966 referrals to partners
Programme mechanisms	– More nuanced judgement to replace the Fitness Standard, which it was felt did not distinguish between defective dwellings and genuine health and safety hazards – although HHSRS also involves subjective judgements – Enforced by serving improvement notices, prohibition orders (both of which can be suspended, e.g. where a hazard exists but the occupant is not vulnerable to it) – Hazard awareness notice may be a response to a less serious hazard, to draw attention to the desirability of remedial action – Local authorities can take emergency remedial action – Requires conditions to be extremely poor before it can be implemented, and relies on conditions being brought to the attention of the local authority – either by the tenant, or a third party

Barriers / learning	– Survey with 142 professionals found that 94% of those who expressed a view felt that the protections offered by current laws are undermined by lack of enforcement – all respondents noted local authority reluctance to enforce housing standards, and differing practices between authorities – Dilemma of legal intervention – may lead to rent increase and the loss of a tenant's home. Weak consumer rights in PRS – Research by the CIEH found that 97% of environmental health professionals working in housing wanted to see an update to HHSRS, with 53% reporting that they encountered hazards not addressed by the rating system – Private landlord associations may offer 'soft' regulation, e.g. through advice and training, and expelling members who do not comply with requirements – Could require regular training in HHSRS as part of CPD – Worked examples in HHSRS guidance are worst cases – lack of borderline worked examples to assist with scoring
Key references	(Adcock and Wilson, 2016; Ambrose, 2015; Carr et al., 2017; Stewart, 2013)

Aspect of Intervention	Description
Policy Name	**Falls prevention programmes**
Policy field	Health
Aims	– In an environmental assessment, the home environment is assessed and recommendations for safety are made – Home modifications seek to change the home environment to improve people's safety and independence – Study in New South Wales sought to determine the prevalence and determinants of uptake of home modifications and exercise in the older population living in households with private phones – Fall prevention RCT in Australia – included a home hazard assessment and recommendations
Population of interest	– Older people living in their own homes in the community
Form	Intervention
Funding	N/A
Costs	– Studies of the economic effectiveness of home modifications for community-dwelling older people report mixed impacts – three studies suggest negative cost-effectiveness, whilst four reported a positive effect – There have been no cost effectiveness studies on single-factor home modifications, therefore it is not possible to compare the cost effectiveness of different dimensions of modification
Implementation	State
Timeframe	Multiple
Key outputs / outcomes	– Systematic reviews suggest that multifactorial interventions, which include home modification, can reduce the likelihood of falls and injury, reduce fear of falling, and improve the confidence of those at risk of falls in community dwelling older populations – Reviews of RCTs suggest that environmental assessment and modification significantly reduces the number of falls that people experience and the number of people who fall – In a study of older community-dwelling population in NSW, 26% of the older population reported undertaking home modifications in order to prevent falls. The proportion increased with increasing age, from 17% in those aged 65-74 undertaking modifications, to 48% of those aged over 85. The most common modification was installing handrails. Removing mats and rugs, and replacing steps with ramps was reported by 5%. Other modifications were rarely reports

	– The strongest factors associated with having made home modifications were increasing age group, problems undertaking usual activities, having certain comorbidities, and fair/poor health. A high perceived likelihood of falling and high fear of falling were also associated with uptake of modifications. Respondents who received advice from a physiotherapist or occupational therapist, or other health professional, were more likely to have undertaken modifications than those who saw fall prevention in the media. Less than 1% of the older population reported speaking to an occupational therapist about home modifications to prevent falls, but of these, 72% undertook modifications – Home hazard assessment in Australia – RCT. In the intervention arm, 277 recommendations were made, of which 49% had been completed at 6 month follow up. The most likely recommendations to be implements were installing grab rails in the short and toilet, non-slip bath mats, bed sticks, and stair rails. Participants were least likely to implement recommendations such as using over toilet frames and shower chairs, altering floors, and removing clutter – Cross-national research highlights the importance of considering the person-environment 'fit' rather than environmental barriers alone, as the relationship between the occupant and their home environment was a stronger predictor of falls in older people than the number of environmental barriers alone – A home assessment with an occupational therapist, in which individuals over 70 with a history of falling discussed hazards and possible solutions, found that fall rates in the following 12 months were approximately half that of a control group
Programme mechanisms	– Cochrane review – home safety assessment and modification interventions were effective in reducing fall rates and risk of falling. They were most effective in people at higher risk of falling. Home safety interventions appear to be more effective when delivered by an occupational therapist – Advice from a physiotherapist or occupational therapist was strongly associated with uptake of modifications in NSW. Frailer individuals were also more likely to accept modifications – RCT evidence suggests the biggest impact in fall reduction or prevention were interventions carried out with high risk groups, delivered by occupational therapists, and of high intensity (a comprehensive, functional assessment of participants in their home environment, with follow-up, rather than an environmental screening checklist with no functional observation) – suggests that active participation of the householder is important, to address how the environment is used by older people. By contrast, objective assessment and modification of purely environmental fall risk hazards is unlikely to be effective

	– Many older people are reluctant to make modifications to their home – factors that facilitate compliance are a belief that modifications will reduce risk of falls, a perception that falls are not an inevitable part of ageing, and a past behaviour of home modification – Home hazard assessment intervention in Australia – frailer individuals were more likely to accept modifications, and the type of recommendation can impact on adherence, with 'normal looking' modifications such as stair rails and bath rails appearing more acceptable than other types of equipment – Previous research suggest that adherence is complex – the older person perceiving greater control over their environment has been linked to increased adherence – Comparing home hazard assessments with an occupational therapist versus unqualified trained assessors, an RCT suggests that the professional background of the person delivering the intervention influences its effectiveness – the difference in falls suggests OTs were doing the assessment better, ensuring greater adherence, or doing more than undertaking the assessment. For example, an enhanced understanding of the effect of the environment on function, or a problem-solving approach working with the participant to prioritise action may explain the lower rate of falls
Barriers / learning	– One of the main gaps in evidence is the lack of studies measuring home modifications as a single-factor intervention, meaning that in many cases the true effects of the home modification (for example, versus exercise) cannot be determined – Varied definitions of home modifications – Environment checklists show high variability in terms of the number of items assessed and which parts of the home are considered – the lack of standardised assessment limits cross-study comparisons – Although the causes of falls are multi-factorial, environmental hazards are implicated in as many as one-third of falls among older adults. Many studies of environmental hazards seem to conceptualise the environment as a static entity, ignoring how older adults interact with their environment. Assessments of person-environment fit (the functional capacity of the person) could be more effective at reducing falls than environment hazard assessment based on a checklist targeting the environment alone – observational studies suggest that the mere presence of hazards is not associated with falls. Furthermore, they need to account for the dynamic nature of some hazards, e.g. wet vs dry bathroom, changing lighting conditions – Handyperson schemes can support people to improve the safety of their homes, delivered in partnership with Home Improvement Agencies
Key references	(Blanchet and Edwards, 2018; Buck and Gregory, 2013; Carnemolla and Bridge, 2020; Currin et al., 2012; Gillespie et al., 2012; Harvey et al., 2014; Iwarsson et al., 2009; NHS Confederation, 2012; Pighills et al., 2011, 2016)

Adaptations

Aspect of Intervention	Description
Policy Name	**Disabled Facilities Grant**
Policy field	Housing
Aims	– To pay for essential home adaptations to give disabled people better freedom of movement into and around their homes, and provide access to essential facilities within the home (Adams and Hodges, 2018)
Population of interest	– Individuals (homeowners or tenants) with disabilities who require an adaptation to the home in order to meet their needs
Form	Legal
Funding	Mandatory Local Authority grant (under certain conditions) funded by national allocation (currently to the Better Care Fund) and local authority contributions. National funding for DFG has increased from £220m per year from 2013 to £468m in 2018/19, but local contributions have decreased, especially following the introduction of austerity measures from 2010
Costs	– The maximum grant in England is £30,000 and in Wales £36,000 – Local authorities can provide discretionary top-up grants or loans where the cost of carrying out works exceed the grant (through 'housing renewal assistance') – It is means tested for adults, with income and savings taken into account in assessing eligibility (outgoings or the value of the home is not considered) – Most DFGs are less than £5000, 34% are between £5001-£15,000, and 8% between £15001-£30,000 – For homeowners, a grant repayment charge may be placed on the property recoup some of the cost when the property is sold, but this is dependent on the policy of each local authority. Foundations report that there is evidence of greater take-up of this option, for adaptations costing over £5,000
Implementation	Mixed (local housing authorities, social care, landlords, HIAs)
Timeframe	1989> (became part of the Better Care Fund – a pooled health and social care budget in 2014)

Key outputs / outcomes	– DFGs are provided by local authorities to fund adaptations to the home for those with disabilities – National data does not record timescales for the completion of DFG work, or the type of work carried out. Evidence from a survey of local authorities suggests that major adaptations can take from 5 to 23 months (18 months on average), depending on the complexity of the work – The most common adaptations facilitate access to the bathroom, bedroom, living room and kitchen, as well as in and out of the home. Most adaptations are to bathrooms and for stair lifts or ramps – On average, DFG helps around 40,000 people with adaptations to their homes – Around 70% of DFGs are awarded for adaptations to the homes of people over 60 – Most grants go to owner occupiers, but social housing tenants receive 1/3 of all DFGs – Powell et al (2017) concluded that small home adaptations can improve outcomes and quality of life for those in later life, are cost effective in preventing injuries when combined with other repairs, and delivered in a timely manner, in line with the goals of occupants. However, delays in installing adaptations can reduce their effectiveness – Local authorities have highlighted the need to better quantify outcomes and benefits, e.g. savings to the NHS, but this evidence is not widely or consistently available – Of those who are assessed as needing an adaptation, it is estimated that about one third drop out of the process, usually due to financial reasons – In-depth studies suggest that while there may be challenges associated with accessing and the processing of adaptations, once installations had taken place recipients reported positive outcomes in relation to mobility, the completion of daily tasks, reduced falls, ease of movement around the home, and mental health
Programme mechanisms	– A DFG must be provided if certain conditions are met (e.g. the person must intend to live in the property as their only or main home for at least 5 years, and the grant must be requested for a specific purpose that is necessary and appropriate to meet the needs of the occupant) – Minor aids and adaptations to aid daily living or assist with nursing, under £1000, are not chargeable – DFG usually works through a 2-part process, with assessment by social care services and then a grant application to housing; this can be a complex and lengthy journey for applicants

	– Although local authorities are supposed to make decisions on DFG applications within six months, it cannot process an application without an occupational therapy report to confirm the adaptations are necessary and appropriate. Guidance suggests that urgent cases should complete this stage in five working days, and 20 working days for non-urgent cases. However, in practice delays are common – There are different ways in which work may be provided under the DFG. A local authority may refer an applicant to an HIA – nearly half of DFGs are delivered through HIAs, and they will usually manage contractors to ensure the work is carried out appropriately – It could be argued that one of the ways in which the DFG functions is to avoid triggering demand. With little proactive analysis of local needs, and minimal advertising of the programme, individuals who may otherwise utilised the fund are deterred. Research has noted that there is a belief that stretching out budgets by building delays into processes will protect local authorities from greater demand. However, it also leaves potentially eligible households in inappropriate housing.
Barriers / learning	– Whilst local authorities are required to provide good quality information and advice about home adaptations and repairs in the Care Act 2014, current provision is patchy and there is no minimum standard against which provision is assessed – Research suggests more people do not know about the DFG, and that people outside the social rented sector, who are more isolated, are the least likely to find out about it; this suggests that information needs to be better targeted at those who need help, e.g. by GP referrals – Whilst in other areas of health a consistent standard of care is sought nationally, and NICE guidelines are in place with particular targets, in adaptations provision is highly localised and varied – Local authorities sometimes refuse to consider DFG applications from social tenants, saying the landlord should pay, but DFG is supposed to be tenure-neutral – However, most evidence suggests that tenure inequality in the delivery of DFGs favours social housing tenants, with a higher proportion of grants going to social housing providers when disabled people are increasingly living in the PRS – For tenants in the PRS, it can be difficult to obtain a landlord's permission for adaptations and a certificate to confirm that they will remain living in the property for 5 years, given the common nature of short-term tenancies. These are seen as major problems – Previous research has shown that whilst there has been an increase in national funding for home adaptations, this has not resulted in a significant change in improvements to local provision

	– The preventative benefits of adaptations, including cost savings to other policy areas, may therefore be lost due to the time individuals have to wait for help – Local authorities have considerable discretion in defining grants for home adaptations, and some have introduced fast-track processes for some adaptations, and non-means tested grants for smaller work. This can speed up adaptations with a positive impact for occupiers. Given that around 58% of grants are less than £5,000, there seems considerable scope for streamlined delivery – For some adaptations, trusted assessors could make 'prescriptions' for work, reserving the capacity of Occupational Therapists for more complex cases. Face-to-face assessments for minor adaptations are still common, and given evidence that Occupational Therapist time can account for up to 80% of the total cost of the work, there is scope for efficiencies here – This suggests a highly variable picture of local provision, with long waits in some areas, and underspent budgets in others. Reworking the allocation formula may help to resolve some of these issues, but this would require better local authority level data about needs, service delivery, and the outcomes achieved (including the impact on health and social care spending) – Good practice has been highlighted to include: proactive awareness raising and 'one-stop-shops'; accessible information; fast track services for different types of work; and involvement of the user in selecting the right type of adaptation for their needs (which will contribute to its use and success) – Mackintosh and Leather (2016) also note that the majority of older and disabled people will not be eligible for a DFG and therefore there is a need to provide non-statutory advice and support to enable independent living. This suggests it is important to consider one-stop shops
Key references	(Adams and Hodges, 2018; Age UK, 2020; Curtis and Beecham, 2018; Foundations, 2010; Hodgson et al., 2018; Mackintosh et al., 2018; Mackintosh and Leather, 2016; Powell et al., 2017)

Aspect of Intervention	Description
Policy Name	**Handyperson services**
Policy field	Housing
Aims	– HIAs are not-for-profit organisations run by local authorities, housing associations and charities to support older people to remain living independently in their own homes
Population of interest	– The provide a range of services including advice on housing condition and improvement, energy efficiency, housing options, and advice on benefits, finances, grants and loans
Form	Intervention
Funding	Changes to the use of Supporting People funding enabled the commissioning of handyperson services on longer contracts – services may be provided by HIAs, but also other organisations such as Age Concern and Help the Aged. Whilst there has been funding for handyperson service pilots, from 2011 funding was allocated to local authorities as part of Area Based Grant funding, and therefore is subject to local decisions on its use. The largest funding source for HIA handyperson services is social services
Costs	– HIAs with a handyperson service reported costs of around £30-40,000 per handyperson employed, with an average cost per job completed of £70-90. Differences in costs reflected rural and urban locations, with higher costs in cities – National evaluation of the DCLG handyperson programme pilots noted that delivery is often very simple and low-cost. Conservative modelling suggested that the benefits achieved by the handyperson programme outweighed the costs by 13%, in addition to non-quantifiable benefits such as improved quality of life and wellbeing – In the national pilots, the average cost per client in 2010/11 was £67
Implementation	Multiple
Timeframe	1980s>
Key outputs / outcomes	– National evaluation of the DCLG handyperson programme pilots showed that services were assisting large number of older, disabled and vulnerable people to live independently, in greater comfort and security. Services were also rated highly by users and were seen as reliable and trustworthy – Key areas of action include small repairs and minor adaptations, home security measures, hospital discharge schemes, and energy efficiency checks and measures – Most clients of HIA handyperson services are older homeowners. The proportion of work carried out in the PRS is lower than the percentage of older people living in that tenure, and it may be that the service needs to be clearly targeted at preventative outcomes for individuals in the PRS – HIAs with a handyperson service completed an average of 1019 jobs each over a year, comprising around 105,000 individual households in which services have been delivered

Programme mechanisms	– Many HIAs run their own handyperson services for small home improvements, minor repairs and adaptations, and energy efficiency measures. Most people self-refer to the service, with occupational therapists the next most common route – Stakeholders and research have noted that local handypersons services are an effective way to provide low-cost help with minor repairs and adaptations, that they offer value for money, are preventative, and tailored to individuals' needs – Research suggests that help with small odd jobs and essential repairs are viewed key services by older people – Providing older people with independent information and practical help was a key driver in the creation of HIAs in the 1980s, and access to information is frequently highlighted as a barrier to individuals adapting and improving their homes today. Despite the continuing need of this provision, HIAs have been reducing due to loss of funding – Serves the preventative agenda – the national evaluation of the DCLG pilots notes that a fulltime handyperson can make up to 1,200 visits per year, informally checking on large numbers of older people living alone, who may be reluctant to contact other services. Such a visit can be the first step in identifying risks and unmet needs
Barriers / learning	– Existing research has demonstrated the important role of HIAs, and they should be available in every local area – Handyperson services should be designed to meet local needs, which may vary across the country; this avoids duplication of other local programmes, which a standardised approach may risk – Person-centred focus is key – Providing a handyperson service with the capability to assess needs as well as carry out work (e.g. via a HIA) can free up occupational therapists to concentrate on the more complex cases
Key references	(Croucher et al., 2012; Foundations, 2009, 2010)

Aspect of Intervention	Description
Policy Name	**Home Improvement Agencies**
Policy field	Housing
Aims	– HIAs are not-for-profit organisations run by local authorities, housing associations and charities to support older people to remain living independently in their own homes – They contribute to the vision for an integrated health and care system which promotes wellbeing at home, and provide preventative services to reduce, delay or remove the need for institutional moves
Population of interest	– Older, disabled and vulnerable people in any tenure - typical focus on homeowners – The provide a range of services including advice on housing condition and improvement, energy efficiency, housing options, and advice on benefits, finances, grants and loans
Form	Intervention
Funding	One of the main sources of funding for HIAs is the Disabled Facilities Grant, but this is now a part of the Better Care Fund, which is administered by Clinical Commissioning Groups
Costs	– There is limited information available, but a survey of HIAs
Implementation	Multiple (providers are a mix of local authority services, housing associations, charitable trusts, industrial and provident societies and PLCs)
Timeframe	1980s>
Key outputs / outcomes	– HIAs operate in around 80% of local authority areas in England – They typically offer holistic, caseworker-led support, major and minor adaptations, handyperson services, hospital discharge services, home safety audits, falls prevention services, repairs and maintenance, information and advice, and housing options services – In 2015 they dealt with over 250,000 enquiries and completed 160,000 handyperson jobs – HIAs project managed half of all DFG-funded home adaptations

Programme mechanisms	– Providing older people with independent information and practical help was a key driver in the creation of HIAs in the 1980s, and access to information is frequently highlighted as a barrier to individuals adapting and improving their homes today. Despite the continuing need of this provision, HIAs have been reducing due to loss of funding – Budget pressures have impacted on HIA services, and the sector has become more focused on the delivery of DFG-funded adaptations – While HIAs are sometimes viewed as a mechanism for processing DFGs, Foundations reports that the need for adaptations usually occurs at the same time as other needs that require housing-related action. The integrated and holistic approach of HIAs is therefore advantageous in considering a wider range of action to improve housing for residents – The Care Act 2014 requires local authorities to prevent or delay the need for care, and to provide information and advice – HIAs are an important way in which these obligations can be met locally
Barriers / learning	– Existing research has demonstrated the important role of HIAs, and they should be available in every local area – Some adaptations equipment can be recovered and reused, and HIAs have helped to improve the availability of second hand equipment – Opportunities for HIAs to open up new markets, building on their areas of expertise, helping to keep people healthily at home. The customer base for HIAs might broaden, e.g. into delivery of preventative services to a larger population of self-funded individuals. This will require a scaling up of activity. Most older and disabled people do not benefit from DFG as they either do not need the service or are ineligible for statutory assistance due to savings or income levels – whilst most providers offer a service to self-funders, they are a small minority of those assisted by HIAs. This suggests strong potential for HIAs to develop services for self-funders and meet the Care Act's drive for early, preventative action – Need for stronger partnerships with health and wellbeing boards, who will assume the role for commissioning DFG services; will need clear information on the role / potential of HIAs
Key references	(Adams and Hodges, 2018; Age UK, 2020; Foundations, 2010, 2016)

Digital connectivity

Aspect of Intervention	Description
Policy Name	**Digital Connectivity**
Policy field	Digital Connectivity
Aims	– Despite increased use of digital service and more people accessing the internet (especially in mid to later life) there are still significant numbers of people not accessing the internet. – There needs to be greater access to the internet and digital service for those who want to engage but are unable to do so. – For older populations aged between 65-74 years old there has been a marked increase in the number of people accessing the internet (rising from 52% in 2011 to 83% in 2019). However, there are still approximately 4 million people who have never used the internet.
Population of interest	– Widespread population of interest, but particular concerns with a digital divide between urban and rural populations and people mid to later life.
Form	Intervention
Funding	Private investment to cover 90% of full fibre deployment to UK premises. Public funding to cover the remainder.
Costs	The delivery of full fibre to premises is expected to cost £33 billion.
Implementation	Multiple (central government, local authorities, telecommunication providers)
Timeframe	N/A
Key outputs / outcomes	– The Government has recognised that connectivity is an essential utility and has introduced the broadband Universal Service Obligation (USO) to reduce the divide between urban and rural areas.
Programme mechanisms	– DCMS established a Barrier Busting Task Force to work with local authorities to overcome key challenges to digital infrastructure deployment. – There is currently no overarching digital inclusion programme for older people in the UK

Barriers / learning	– UK full fibre coverage is still lagging behind other develop economies, having only 8.1% compared to some areas that have achieved nearly 100% coverage. – Market regulation and competition and high deployment costs are key barriers to a full-fibre roll out. – Rolling out fibre broadband is met by barriers when trying to coordinate the work. In London, for example, across the thirty-two boroughs and the City of London each can take different approach to applying rules and permits to the planning permission. – There are complexities and challenges between property owners and landlords and a telecommunications provider granting right of access to undertake work (known as 'wayleave')
Key references	(Centre for Ageing Better, 2018a, 2020b; House of Commons DEFRA Committee, 2019; London First, 2019)

References

Adams S (2019) Existing Homes Programme: Stakeholder engagement results. Care & Repair England.

Adams S and Hodges M (2018) Adapting for ageing: Good practice and innovation in home adaptations. Centre for Ageing Better.

Adcock A and Wilson W (2016) The Housing Health and Safety Rating System (HHSRS). House of Commons Library.

Age Concern and Help the Aged (2010) Introducing another world: Older people and digital inclusion. Age Concern / Help the Aged.

Age UK (2018) Digital Inclusion (UK). Age UK.

Age UK (2020) Home improvements and repairs. Age UK.

Ambrose AR (2015) Improving energy efficiency in private rented housing: Why don't landlords act? Indoor and Built Environment 24(7). SAGE Publications Ltd STM: 913–924. DOI: 10.1177/1420326X15598821.

Archer P, Murie A, Turkington R, et al. (2016) Good housing, better health. The Academic-Practitioner Partnership.

Atkinson, AB and Stiglitz, J (1980) Lectures in Public Economics. McGraw-Hill: New York.

Barr, N (2020) Economics of the Welfare State (6th Edition). OUP: Oxford.

Bennett E, Dayson C, Eadson W, et al. (2016) Warm, safe and well: The evaluation of the Warm at Home Programme. CRESR / Foundations.

Bennington J, Cole I, Crisp R, et al. (2010) Assessment of the Decent Homes Programme. CRESR.

Bergman N and Foxon TJ (2020) Reframing policy for the energy efficiency challenge: Insights from housing retrofits in the United Kingdom. Energy Research & Social Science 63: 101386. DOI: 10.1016/j.erss.2019.101386.

Blanchet R and Edwards N (2018) A need to improve the assessment of environmental hazards for falls on stairs and in bathrooms: results of a scoping review. BMC Geriatrics 18(1): 272. DOI: 10.1186/s12877-018-0958-1.

Broc JS (2018) Warm Front scheme (England) - Case study. IEECP.

Buck D and Gregory S (2013) Improving the public's health: A resource for local authorities. The King's Fund.

CAG Consultants (2018) The Warm Arm of the Law: Tackling Fuel Poverty in the Private Rented Sector. https://www.theade.co.uk/assets/docs/resources/Ebico-Policy-Report.pdf

CAG Consultants, Ipsos MORI and Building Research Establishment (2011) Evaluation of the Community Energy Saving Programme. Department of Energy and Climate Change.

Care and Support Alliance (2016) Written evidence submitted by the Care & Support Alliance. http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/health-committee/impact-of-the-comprehensive-spending-review-on-health-and-social-care/written/27303.html

Carnemolla P and Bridge C (2020) A scoping review of home modification interventions – Mapping the evidence base. Indoor and Built Environment 29(3). SAGE Publications Ltd STM: 299–310. DOI: 10.1177/1420326X18761112.

Carr H, Cowan D, Kirton-Darling E, et al. (2017) Closing the gaps: Health and safety at home. University of Bristol / University of Kent.

Cattaneo C (2019) Internal and external barriers to energy efficiency: which role for policy interventions? Energy Efficiency 12(5): 1293–1311. DOI: 10.1007/s12053-019-09775-1.

CCC (2019) UK Housing: Fit for the Future? London: Committee on Climate Change.

Centre for Ageing Better (2018a) The digital age: New approaches to supporting people in later life get online. Centre for Ageing Better.

Centre for Ageing Better (2018b) Homes that help: A personal and professional perspective on home adaptations. Centre for Ageing Better.

Centre for Ageing Better (2019) Home truths: Housing options and advice for people in later life: Learning from communities in Leeds. Centre for Ageing Better.

Centre for Ageing Better (2020a) Home and Dry: The need for decent homes in later life. Centre for Ageing Better / Care & Repair England.

Centre for Ageing Better (2020b) How has COVID-19 changed the landscape of digital inclusion? Centre for Ageing Better.

Centre for Sustainable Energy (2014) Evaluation of the ECO: summary of findings.

Christiansen S (1985) Housing and Improvement: A comparative study Britain-Denmark.

CIEH (2019) Written evidence submitted by the Chartered Institute of Environmental Health. Written evidence - Chartered Institute of Environmental Health (parliament.uk)

CIH and CIEH (2019) A Licence to Rent. Chartered Institute of Housing and the Chartered Institute of Environmental Health. a-licence-to-rent.pdf (cieh.org)

Cole, I et al (2010) Interventions in housing and the physical environment in deprived neighbourhoods. Evidence from the New deal for Communities Programme. DCLG: London.

CRESR (2010) Interventions in housing and the physical environment in deprived neighbourhoods: Evidence from the New Deal for Communities Programme. DCLG.

Cromarty H (2020) Housing conditions in the private rented sector (England). House of Commons Library.

Croucher K, Lowson K and Fountain M (2012) National Evaluation of the Handyperson Programme. Department for Communities and Local Government.

Currin ML, Comans TA, Heathcote K, et al. (2012) Staying Safe at Home. Home environmental audit recommendations and uptake in an older population at high risk of falling. Australasian Journal on Ageing 31(2): 90–95. DOI: 10.1111/j.1741-6612.2011.00545.x.

Curtis L and Beecham J (2018) A survey of local authorities and Home Improvement Agencies: Identifying the hidden costs of providing a home adaptations service. British Journal of Occupational Therapy 81(11). SAGE Publications Ltd STM: 633–640. DOI: 10.1177/0308022618771534.

Darking M and Will C (2017) Warmth for Wellbeing: Final evaluation report. University of Brighton / University of Sussex.

DCLG/HCA (2016) Estate Regeneration Programme – Prospectus for 2016-17. DCLG: London.

De Laurentis C, Eames M and Hunt M (2017) Retrofitting the built environment 'to save' energy: Arbed, the emergence of a distinctive sustainability transition pathway in Wales. Environment and Planning C: Politics and Space 35(7). SAGE Publications Ltd STM: 1156–1175. DOI: 10.1177/0263774X16648332.

Department for Business, Energy and Industrial Strategy (2019) Energy Company Obligation 2018-2022. DBEIS.

Department for Communities and Local Government (2007) Loan finance to improve housing conditions for vulnerable owner occupiers. DCLG.

Elsharkawy H and Rutherford P (2018) Energy-efficient retrofit of social housing in the UK: Lessons learned from a Community Energy Saving Programme (CESP) in Nottingham. Energy and Buildings 172: 295–306. DOI: 10.1016/j.enbuild.2018.04.067.

Eoin Lees Energy (2006) Evaluation of the Energy Efficiency Commitment 2002-05. Defra.

Equalities and Human Rights Commission (2018) Housing and disabled people: Britain's hidden crisis. EHRC.

Fenwick E, Macdonald C and Thomson H (2013) Economic analysis of the health impacts of housing improvement studies: a systematic review. Journal of Epidemiology and Community Health 67(10): 835–845. DOI: 10.1136/jech-2012-202124.

Foundations (2009) The Future Home Improvement Agency: Handyperson services report. Department for Communities and Local Government.

Foundations (2010) Adapting for a lifetime. Foundations.

Foundations (2016) The collaborative home improvement agency. Foundations.

Frederiks ER, Stenner K and Hobman EV (2015) Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour. Renewable and Sustainable Energy Reviews 41: 1385–1394. DOI: 10.1016/j.rser.2014.09.026.

Gibb, K and Christie, L (forthcoming) Investment Appraisal, Cost Benefit Analysis and Housing Interventions, in Gibb, K, et al (editors) Routledge International Handbook of Housing Economics. Routledge: London.

Gibb, K, Maclennan, D and Stephens, M (2013) Innovative Financing of Affordable Housing: International and UK Perspectives. Policy Press: Bristol.

Gilchrist K and Craig T (2014) Home energy efficiency - review of evidence on attitudes and behaviours. James Hutton Institute.

Gillespie LD, Robertson MC, Gillespie WJ, et al. (2012) Interventions for preventing falls in older people living in the community. Cochrane Database of Systematic Reviews (9). John Wiley & Sons, Ltd. DOI: 10.1002/14651858.CD007146.pub3.

Glennerster, H (2017) Understanding the Cost of Welfare. Policy Press: Bristol.

Gram-Hanssen K (2014) Retrofitting owner-occupied housing: remember the people. Building Research & Information 42(4). Routledge: 393–397. DOI: 10.1080/09613218.2014.911572.

Green Finance Institute (2020) Financing energy efficient buildings: the path to retrofit at scale. GFI: London.

Green G and Gilbertson J (2008) Warm Front Better Health: Health impact evaluation of the Warm Front scheme. Sheffield Hallam University.

Groves R and Sankey S (2005) Implementing new powers for private sector housing. Joseph Rowntree Foundation.

Hackett P (2018) The hidden costs of poor quality housing in the North. Smith Institute / Northern Housing Consortium.

Hall S and Caldecott B (2016) Better homes: Incentivising home energy improvements. Bright Blue.

Harris, J., Cowan, D. and marsh, A (2020) Improving compliance with private rented sector legislation Local authority regulation and enforcement. Glasgow: CaCHE.

Harrison M (2004) Defining housing quality and environment: disability, standards and social factors. Housing Studies 19(5). Routledge: 691–708. DOI: 10.1080/0267303042000249152.

Harvey LA, Mitchell RJ, Lord SR, et al. (2014) Determinants of uptake of home modifications and exercise to prevent falls in community-dwelling older people. Australian and New Zealand Journal of Public Health 38(6): 585–590. DOI: 10.1111/1753-6405.12243.

Higgs K (2017) Home Improvement Loans: A social impact review. Parity Trust.

Hodgson P, Aitken D, Bailey C, et al. (2018) How do people access and experience home adaptations? Perspectives from people in later life and practitioners. Housing LIN.

Hope AJ and Booth A (2014) Attitudes and behaviours of private sector landlords towards the energy efficiency of tenanted homes. Energy Policy 75: 369–378. DOI: 10.1016/j.enpol.2014.09.018.

House of Commons Business, Energy and Industrial Strategy Committee (2019) Energy efficiency: building towards net zero. House of Commons.

House of Commons DEFRA Committee (2019) An update on rural connectivity. House of Commons.

House of Commons Housing, Communities and Local Government Committee (MHCLG) (2018) Private rented sector: Fourth Report of Session 2017-19. London: House of Commons.

Ipsos MORI and University College London (2014) Process Evaluation of the Warm Front Scheme. Department of Energy and Climate Change.

Ipsos MORI, CAG Consultants, UCL, et al. (2014) Evaluation of the Carbon Emissions Reduction Target and Community Energy Saving Programme: executive summary. Department of Energy and Climate Change.

Iwarsson S, Horstmann V, Carlsson G, et al. (2009) Person—environment fit predicts falls in older adults better than the consideration of environmental hazards only. Clinical Rehabilitation 23(6). SAGE Publications Ltd STM: 558–567. DOI: 10.1177/0269215508101740.

Jones E, Leach M and Wade J (2000) Local policies for DSM: the UK's home energy conservation act. Energy Policy 28(3): 201–211. DOI: 10.1016/S0301-4215(00)00002-1.

Leather P (2000a) Crumbling Castles? Helping owners to repair and maintain their homes. Joseph Rowntree Foundation.

Leather P (2000b) Grants to Home-owners: A Policy in Search of Objectives. Housing Studies 15(2). Routledge: 149–168. DOI: 10.1080/02673030082333.

Leather P and Mackintosh S (1994) Care or repair? Home improvement agencies in the UK. Building Research & Information 22(3). Routledge: 150–158. DOI: 10.1080/09613219408727371.

LETI (2020) Embedded Carbon Primer: Supplementary Guidance to Climate Emergency Design Guide. LETI: London.

Littlewood A and Munro M (1996) Explaining disrepair: Examining owner occupiers' repair and maintenance behaviour. Housing Studies 11(4). Routledge: 503–525. DOI: 10.1080/02673039608720872.

Local Government Association (2017) Housing our ageing population. LGA.

Local Government Association (LGA) (2019) Local Government Association briefing. Debate on local government funding. https://www.local.gov.uk/parliament/briefings-and-responses/lga-briefing-debate-local-government-funding-house-commons

London First (2019) Enhancing Digital Connectivity: The role of operators and local authorities. London First.

Mackintosh S and Leather P (2016) The Disabled Facilities Grant: Before and after the introduction of the Better Care Fund. Foundations.

Mackintosh S, Smith P, Garrett H, et al. (2018) Disabled Facilities Grant (DFG) and other adaptations: External review. UWE / Foundations / BRS / FIS.

Maclennan, D (1994) Spillovers, Expectations and Residents‘ Benefits in a Housing Revitalisation Programme: Glasgow 1977–1987, Tijdschrift voor economische en sociale geografie, 84 (4), pp.294-303.

Maclennan, D and Gibb, K (1993) 'Political Economy, Applied Welfare Economics and Housing in the UK', in Barr, N and Whynes, D (editors) Current Issues in the Economics of Welfare. Basingstoke: Macmillan

Mallaburn PS and Eyre N (2014) Lessons from energy efficiency policy and programmes in the UK from 1973 to 2013. Energy Efficiency 7(1): 23–41. DOI: 10.1007/s12053-013-9197-7.

Marchand RD, Koh SCL and Morris JC (2015) Delivering energy efficiency and carbon reduction schemes in England: Lessons from Green Deal Pioneer Places. Energy Policy 84: 96–106. DOI: 10.1016/j.enpol.2015.04.035.

Marrin K, Smith M, Hudson H, et al. (2015) Evaluation of the Nest energy efficiency scheme. Welsh Government.

MHCLG (2020a) English Housing Survey Profile and condition of the English housing stock, 2018-19. London: Ministry of Housing, Communities and Local Government

MHCLG (2020b) English Housing Survey: Headline report, 2018-19. Ministry of Housing, Communities and Local Government.

National Audit Office (2010) The Decent Homes Programme. NAO.

National Audit Office (2016) Green Deal and the Energy Company Obligation. NAO.

NHS Confederation (2012) Falls prevention: New approaches to integrated falls prevention services. NHS Confederation.

Ofgem (2013) The final report of the Carbon Emissions Reduction Target (CERT) 2008-2012. Ofgem.

Ofgem and Energy Saving Trust (2003) A review of the Energy Efficiency Standards of Performance 1994-2002.

Patterson J (2012) Arbed 1 Scheme: Evaluation of the Warm Wales Programme. Cardiff University.

Pettifor H, Wilson C and Chryssochoidis G (2015) The appeal of the green deal: Empirical evidence for the influence of energy efficiency policy on renovating homeowners. Energy Policy 79: 161–176. DOI: 10.1016/j.enpol.2015.01.015.

Pighills A, Ballinger C, Pickering R, et al. (2016) A critical review of the effectiveness of environmental assessment and modification in the prevention of falls amongst community dwelling older people. British Journal of Occupational Therapy 79(3). SAGE Publications Ltd STM: 133–143. DOI: 10.1177/0308022615600181.

Pighills AC, Torgerson DJ, Sheldon TA, et al. (2011) Environmental assessment and modification to prevent falls in older people. Journal of the American Geriatrics Society 59(1): 26–33. DOI: 10.1111/j.1532-5415.2010.03221.x.

Poll H and Rogers C (2019) Getting the house in order: How to improve standards in the private rented sector. Citizens Advice.

Powell J, Mackintosh S, Bird E, et al. (2017) The role of home adaptations in improving later life. Centre for Ageing Better / BRE / UWE.

Preston I and Croft D (2012) Environmental and Social Levies: Past, present and future. Centre for Sustainable Energy.

Robinson, R (1979) Housing Economics and Public Policy. Basingstoke: Macmillan

Rose, E. (2020) The UK's Enforcement Gap 2020. https://www.unchecked.uk/wp-content/uploads/2020/11/The-UKs-Enforcement-Gap-2020.pdf

Rosenow J and Eyre N (2016) A post mortem of the Green Deal: Austerity, energy efficiency, and failure in British energy policy. Energy Research & Social Science 21: 141–144. DOI: 10.1016/j.erss.2016.07.005.

Rothenberg, J (1967) Economic Evaluation of Urban Renewal. Brookings Institute: Washington DC.

Rothenberg, J, Galster, G, Butler, R and Pitkin, J (1991) The Web of Urban Housing Markets: Theory, Evidence and Policy. University of Chicago Press: Chicago.

Rugg J and Rhodes D (2018) The evolving private rented sector: Its contribution and potential. Centre for Housing Policy, University of York.

Savills (2019) Additionality of Affordable Housing – Research Report to G15, NHF and HFN. Savills: London.

Scanlon K, Blanc F and Whitehead C (2020) Later life borrowing in a world that's living longer. LSE / The Family Building Society.

Short JR and Bassett K (1978) Housing Action Areas: An Evaluation. Area 10(2). [Royal Geographical Society (with the Institute of British Geographers), Wiley]: 153–157.

Stephenson A and Ruse J-L (2017a) Evaluation of the Central Heating Fund: East Riding of Yorkshire. National Energy Action.

Stephenson A and Ruse J-L (2017b) Evaluation of the Central Heating Fund in Devon. National Energy Action.

Stewart J (2003) Encouraging home-owners to maintain their homes: Initiatives in the Bellenden Renewal Area, Peckham. Journal of Environmental Health Research 2(1).

Stewart J (2013) Effective strategies and interventions: environmental health and the private housing sector. Chartered Institute of Environmental Health.

Stewart J, Clayton J and Ruston A (2006) Encouraging and enabling low-income owner-occupiers to maintain their homes: An exploratory study. Property Management 24(5). Emerald Group Publishing Limited: 449–463. DOI: 10.1108/02637470610710510.

Stiglitz, J (2000) Public Sector Economics (3rd Ed). WW Norton and Co: New York

Terry R and Gibson R (2010) Can equity release help older home-owners improve their quality of life? Joseph Rowntree Foundation.

Terry R and Gibson R (2012) Assessment of equity release pilot schemes. Joseph Rowntree Foundation.

Thomson H, Thomas S, Sellstrom E, et al. (2009) The health impacts of housing improvement: a systematic review of intervention studies from 1887 to 2007. American Journal of Public Health 99 Suppl 3: S681-692. DOI: 10.2105/AJPH.2008.143909.

Trotta G (2018) The determinants of energy efficient retrofit investments in the English residential sector. Energy Policy 120: 175–182. DOI: 10.1016/j.enpol.2018.05.024.

Unison (2018) Environmental health - how cuts are putting individuals and communities at risk and damaging local businesses and economies. London: Unison.

van Leeuwen KM, Loon x Miriam S. van, van Nes FA, et al. (2019) What does quality of life mean to older adults? A thematic synthesis. PLoS One; San Francisco 14(3). San Francisco, United States, San Francisco: Public Library of Science: e0213263. DOI: http://dx.doi.org.sheffield.idm.oclc.org/10.1371/journal.pone.0213263.

Watson C and Bolton P (2013) Warm Front Scheme. House of Commons Library.

Webb J, Emden J and Murphy L (2020) All hands to the pump: A home improvement plan for England. IPPR.

Wilson C, Crane L and Chryssochoidis G (2015) Why do homeowners renovate energy efficiently? Contrasting perspectives and implications for policy. Energy Research & Social Science 7: 12–22. DOI: 10.1016/j.erss.2015.03.002.

Wilson W (2017) Assistance with home repairs / improvements. House of Commons Library.

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