Linking Housing Conditions and Health

A Report of a Pilot Study into the Health Benefits of Housing Interventions

Warwick Law School
with
Building Research Establishment

This is a report on the findings from a pilot study carried out by Warwick Law School working with the Building Research Establishment. This report is targeted at policy-makers at local, regional and national levels, in particular, those in the housing and the health sectors. It is hoped that the findings from the study will encourage these sectors to co-operate to remove threats to health and health inequalities.

The School was commissioned by the Regional Leaders Board for the North West of England, 4NW, to investigate the health impact of housing interventions, in particular, the delivery of the Decent Homes Programme in the Private Sector. The project team included –

David Ormandy, Warwick Law School (Project Manager) now based in the Institute of Health, School of Health and Social Studies
John Bryson, Warwick Law School
Stephen Battersby, Warwick Law School
Simon Nicol, Building Research Establishment
Rob Flynn, Building Research Establishment
Kevin White, Building Research Establishment
Viv Mason, Building Research Establishment

The project team acknowledge and thank the members of the steering group for their advice, suggestions, and encouragement. The team also thank the staff of the six local authorities for their co-operation and help in providing information and answering questions – Rochdale Metropolitan Borough Council, Blackpool Council, Manchester City Council, St Helens Council, Bristol City Council, and Derby City Council. However, the opinions expressed in this report are those of the project team and not the local authorities nor the Regional Leaders Board.

The photographs and case studies are given as a few illustrations of the types of properties that are the subject of the Decent Homes Programmes and examples of some of the works carried out through such programmes. Permission has been given to use these photographs provided individual property details were not indicated.

February 2010

THE UNIVERSITY OF WARWICK

Executive Summary

- Although a pilot study, the findings may well have major implications, not only for the local authorities involved, but also across the country. The findings will inform policy-makers in the housing and the health sectors in devising their strategies, including Local Strategic Partnership and Local Area Agreements, by showing the connection between poor housing and health. Also, they may be of particular interest to Social Services, the Department for Communities and Local Government, the Department of Health, the Health Protection Agency, and National Health Service.
- This study used a methodology developed by the Building Research Establishment to compare the cost of improvement works with the estimated cost benefit to the National Health Service. This was possible because of the health focus of the Housing Health and Safety Rating System.
- Using this methodology, this pilot study has confirmed that the one-off cost of works to improve poor housing gives an annual financial saving to the health sector. This is also supported by work carried out by the Audit Commission that states 'Every £1 spend on providing housing support for vulnerable people can save nearly £2 in reduced costs of health services, tenancy failure, crime and residential care.'
- Using this approach the BRE has been able to show that **poor housing** in England is costing the National Health Service in excess of **£600 million a year**. This saving to the health sector is thought to be around 40% of the total cost saving to society.
- It has also shown that low cost interventions give particularly good value in terms of health and well-being benefits. For example, minor works carried out through the Home Improvement Agencies and Handyperson Schemes to deal with hazards such as Falling on Level Surfaces, Falling on Stairs, and Entry by Intruders can give a payback period (the time for the cost of the works to balance with the cost saving to the health service) of one or two years.
- While the financial benefits of low cost interventions appear particularly attractive, this does not mean that such interventions should be given priority over dealing with other hazards. The approach adopted here only looks at the cost saving to the health sector, estimated to be around 40% of the total cost to society attributable to poor housing conditions. Other benefits could include energy conservation, and well-being and mental health gains.
- The Decent Homes initiative encourages local authorities to concentrate on the unacceptable hazards (so-called Category 1 hazards). This ignores the potential health gains from other still significant but less severe hazards. Local authorities should review their policies to promote dealing with such significant hazards as well as the major unacceptable ones.
- Although not possible in this study, local authorities should consider reviewing the defects and deficiencies contributing to those hazards that appear expensive to

deal with to see if alternative and possibly less expensive works could achieve the same or similar results.

- Examples of good practice that may be worthy of consideration by other local authorities identified by the project include –
    - Mail shots about the Decent Homes Programme to council tax and housing benefit claimants in the private sector
    - Making meeting the Decent Homes Standard a requirement of a Landlords' Accreditation Scheme
    - Adopting a priority area approach for the delivering of the Decent Homes Programme
    - Alley-gating and target hardening schemes can have a positive benefit in reducing crime and the fear of crime
- Although the objective of this project was the delivery of the Decent Homes Programme, it became clear that it was the Housing Health and Safety Rating System that made the cost benefit analyses possible. To develop this financial scrutiny further, we recommend that local authorities adopt a systematic approach, fully recording the pre- and post intervention assessment of the conditions.
- Local authorities should make full use of well-constructed data collection and recording systems. Such systems could then be used to demonstrate the positive contribution to the individual householders and society as a whole of housing interventions. They will also show that housing interventions are an effective tool to deal with health inequalities.

Linking Housing Conditions and Health

Money spent on dealing with poor housing is money invested in health – when local authorities act to improve housing conditions, there is a resulting financial benefit to the health sector.

The opposite is also true – if money is not spent to improve poor housing, then society will pay, again and again.

It is also clear that low cost interventions can give value for money.

This study concentrated on the saving to the health sector in financial terms, and did not take account of any other benefits to society. The study has clearly shown that the activities of the local authorities in private sector housing have produced financial savings to the health sector. We have also shown that if local authorities adopt a simple data collection system, they will be able to give robust information on the cost benefits of a range of housing interventions, and a means to evaluate the cost effectiveness of remedial actions.

Equally important is the anecdotal evidence that investment in housing improves the quality of life for the occupiers.

We believe that this is an important study, the findings from which will have major implications for the local authorities involved, the North West region and across the country. It will inform policy-makers in both the housing sector and the health sector in the development of housing and health strategies. In addition, the results will have significant implications for the health and wellbeing of residents in the areas, and for tackling inequalities in health.

The findings should also inform those involved in developing Local Strategic Partnership and Local Area Agreements. They will be of particular interest to the Social Services, the Department for Communities and Local Government, the Department of Health, the Health Protection Agency, the National Health Service. and actions following Joint Strategic Needs Assessment.

1. Housing Conditions, Health, and the Cost to Society

1.1. There is a growing body of evidence demonstrating the link between housing conditions and the health of occupiers. However, for various reason, and because it is about people's homes, it is often difficult to show a clear and measurable 'cause/effect' relationship. Nonetheless, there is clear evidence relating the condition of buildings (including houses) to health and safety[1].

1.2. Once it is accepted that unsatisfactory housing conditions can have a negative effect on health, it is logical to assume that there will be a cost to society. For some time, Ambrose has investigated this cost to society[2], and it is based on such work that the Audit Commission has recently stated that –

> *Every £1 spend on providing housing support for vulnerable people can save nearly £2 in reduced costs of health services, tenancy failure, crime and residential care.*[3]

1.3. Recently completed work by the Building Research Establishment (BRE) included the development of a methodology that provided the means to compare the cost of housing interventions with the potential savings to the health services[4]. The BRE used data from the English House Condition Survey (EHCS)[5] on the cost of dealing with unsatisfactory conditions, and compared this with the cost savings to the National Health Service.

> Using this approach the BRE has been able to show that **poor housing** in England is costing the National Health Service in excess of **£600 million a year**. This saving to the health sector is thought to be around 40% of the total cost saving to society.

1.4. The BRE model was made possible because of the adoption of the Housing Health and Safety Rating System (HHSRS – see para 3.5 below), which focuses on the potential threat to health and safety of occupiers from unsatisfactory conditions – **the effect of defects**.

1.5. In this pilot study, we adapted the BRE's model and, using data on housing interventions in the private sector from six local authorities, have been able to calculate the resulting financial savings to the health sector.

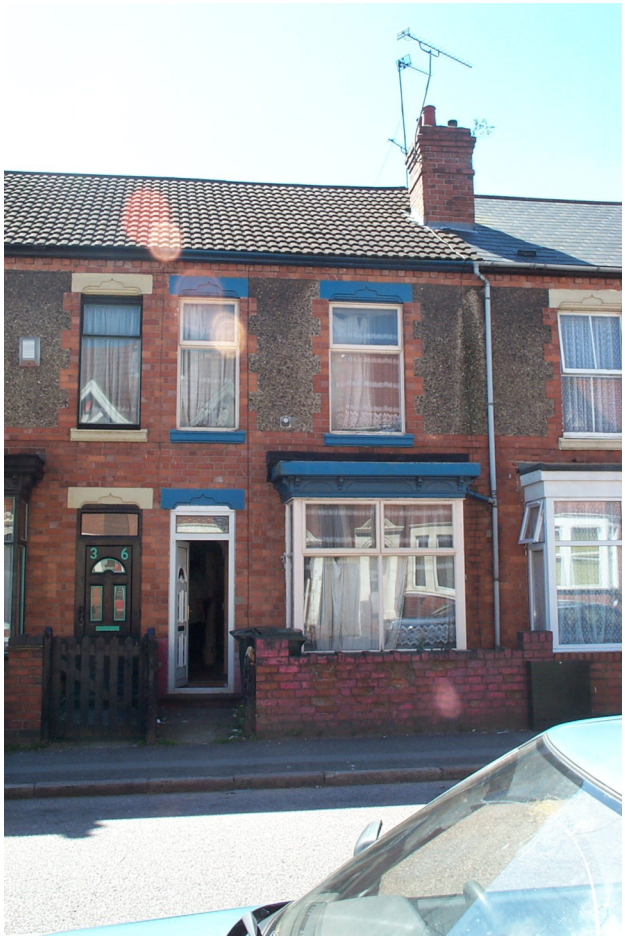
1.6. We have also shown that if local authorities adopt a simple data collection system, they will be able to give robust information on the cost benefits of a range of housing interventions.

2. The Format of this Report

2.1. We believe that the most important finding from this pilot study is how we were able to compare the one-off cost of remedial works with the annual cost saving to the health service. So, the report does not follow the chronology of the study, but reflects relevance and importance.

2.2. Nonetheless, we need to set the scene by explaining some of the vital ingredients, so the format and content of this report is as follows –

- Some definitions
- Cost benefit evaluations
- Evidence of good practice
- Recommendations
- Conclusions
- Appendix –
  - Summary of 'How we did it'
  - The case study local authorities
- References



3. Some Definitions and Explanations

3.1. This study focussed on the activities of local authorities in dealing with unsatisfactory conditions in private sector housing, in particular, the delivery of the Decent Homes Programme. To explain what we did and how we did it, it is important to give some clear definitions.

3.2. Decent Homes Standard

3.2.1. The **Decent Homes Standard** is a target standard set by central Government. To be **Decent** a dwelling must[6] –

- be free of any **Category 1 Hazard** under the **Housing Health and Safety Rating System** (see para 3.5 below);
- be in a reasonable state of repair;
- have reasonably modern facilities and services; and
- provide a reasonable degree of thermal comfort.

3.2.2. The Decent Homes Standard is a **minimum non-statutory** standard to highlight where interventions including investment should be directed. Delivering Decent Homes is a commitment in the national strategy for neighbourhood regeneration and has a key role to play in narrowing the gap between deprived neighbourhoods and the rest of the country. For each local authority, the Decent Homes Programme should be part of a holistic approach to regeneration which is about more than just 'bricks and mortar'. It should also make the right linkages to wider objectives such as improving health (including mental health) and education outcomes, renewing failing housing markets, tackling poverty and delivering mixed and sustainable communities.

3.2.3. Prior to the introduction of the Housing Health and Safety Rating System (HHSRS), the first of the criteria referred to the **Housing Fitness Standard**[7]. This Standard focused on the dwelling and what should or should not be present. This dwelling focused approach meant that defects were judged in terms of the cost and extent of any works necessary to remedy those defects. That meant that, while there may have been some public health principles behind the Standard, there was little regard to the health effects of housing defects on the existing and potential occupants. In 2006, the HHSRS replaced the Housing Fitness Standard bringing with it an explicit health and safety focus.

It is this health and safety focus of the HHSRS that has made it possible to compare the cost of improvement works with the cost benefit to the health service – before the introduction of the HHSRS this cost benefit analysis would not have been possible, nor would the findings from this study.

3.2.4. Initially, the target was for all **social housing** (housing owned and managed by local authorities or housing associations) to be made Decent by 2010. Subsequently, under (the then utilised) Public Service Agreement 7, the Government set local authorities a target of 70% of **all private sector housing occupied by Vulnerable Households** (see para 3.3 below) to be Decent by 2010[8].

3.3. Vulnerable Households

3.3.1. For the purposes of the **Decent Homes Standard**, a Vulnerable Household is defined as being a household **"in receipt of at least one of the principal means-tested or disability-related benefits"**. These include –

- Income support
- Housing benefit
- Council Tax benefit
- Attendance allowance
- Disability living allowance
- Pension credit

3.3.2. The definition is intended to include those low income groups most susceptible to health risks as a result of poor property condition, such as the elderly, the long term sick and disabled, and families with children.

3.4. Decent Homes Programme

3.4.1. Paragraph 3.2.2 brings attention to the fact that the Decent Homes Programme should be part of a holistic approach by each local authority. Local authorities should have considered all the relevant data, including housing conditions and levels of vulnerability, for their district and decided where to focus their attention. However, the delivery mechanisms they use will vary somewhat according to local circumstances and priorities.

3.4.2. From the six local authorities visited we found a wide range of advice and assistance on offer, the main ones being:

- **Home Repairs Assistance** – a local authority grant, usually non-repayable, for minor but essential repairs
- **Equity release** – many vulnerable occupants are equity rich but cash poor and there are a variety of products available, the most common of these being where the loan is repaid when the property is sold or changes hands. Usually there are interest charges or an agreed share of any increase in value at the point of disposal.
- **Handyperson scheme** – the Handyperson will carry out minor repairs and/or adaptations, reducing the risk of injury and illness (see paragraph 3.6.6 below for a fuller explanation).

- **Warm Front** – is a Government-funded initiative which makes homes warmer, healthier and more energy-efficient. The Warm Front Scheme[9] provides a package of insulation and heating improvements up to the value of £3,500, and upto £6,000 where oil fired central heating is recommended.
- **Energy Efficiency Loan** – loans provided by the local authority, for energy efficiency measures for persons not eligible for Warm Front assistance.
- **Disabled Facilities Grant** - is a local authority grant to help towards the cost of adapting a home to enable a person with disabilities to continue to live there.

3.4.3. There are other options and 'tools' some specific to the particular local authority. However, the basic approach remains the same - following the initial assessment of housing conditions, and a consideration of the occupants' physical and financial circumstances, an authority will offer the appropriate advice and assistance and try to put together a suitable package tailored to the household's needs.

Example of Decent Homes Assistance

This was a 2 bedroom, prefabricated Park Home located on a caravan and park home site. The dwelling was occupied by an elderly couple, the man was suffering from cancer. The construction of the dwelling was such that it had very poor insulation. Despite quite a good central heating system the dwelling did not feel warm.

External cladding was applied to the walls providing a significant increase in the thermal insulation of the walls. The occupants have subsequently felt a considerable improvement in the warmth within the dwelling and their general health had improved as a result.

3.5. The Housing Health and Safety Rating System

3.5.1. The HHSRS is a risk based approach to the assessment of housing conditions. Rather than concentrating on any defects and deficiencies to the building and facilities, it focuses on the potential threats to health and/or safety attributable to any deficiencies (the effect of defects)[10].

3.5.2. The HHSRS was introduced in April 2006 as the statutory prescribed method for the evaluation of potential risks to health and safety from any deficiencies identified in dwellings. Although not a standard in itself, the HHSRS replaced the Housing Fitness Standard as the means of determining whether action should be taken (under Part 1 of the Housing Act 2004). The HHSRS identifies 29 potential housing **Hazards**, all of which, to a greater or lesser extent, are attributable to the state and condition of the dwelling (none are included that are attributable solely to occupier behaviour). The HHSRS defines a **Hazard** as any risk of harm to the health or safety of an actual or potential occupier that arises from a deficiency - that is, the potential effect of conditions.

3.5.3. The HHSRS is founded on the logical evaluation of both the likelihood of an occurrence that could cause harm, and the probable severity of the outcomes from such an occurrence. It relies on the informed professional judgments of both of these to provide a simple means of representing the severity of any dangers present in a dwelling. The assessment using the HHSRS is made based on the condition of the whole dwelling. This means that, before such an assessment can be made, a thorough inspection of the dwelling should be carried out to collect the evidence of the condition. Although this does not involve a new approach to the inspection of dwellings, it does require an understanding and appreciation of the potential effects that could result from conditions and deficiencies which should have been identified during the inspection.

3.5.4. It is important to note that the HHSRS assessment is about determining the severity of the threats to health and safety, it does not indicate the remedial action appropriate to reduce the severity of those threats. This will depend on the defects giving rise to the Hazards and the form of construction of the dwelling.

3.5.5. The range of 29 HHSRS housing Hazards have differing characteristics; for some the outcome can be fatal; for some the occurrence may be almost instantaneous (such as a fall) while for others any health effect will only occur after a period of exposure (such as excess cold or dampness). In recognition of these differences, the HHSRS uses a formula to generate a **numerical Hazard score**, so enabling the comparison of the full range of Hazards. This, together with the simple but logical approach of assessing both the likelihood and harm outcome allows the comparison of highly likely events but with

minor outcomes and very unlikely events with major outcomes. Regardless of which Hazard that has been assessed, the higher the Hazard score then the greater the risk.

3.5.6. To give guidance on the **potential health outcomes** of Hazards, the Operating Guidance provides profiles for each Hazard, based on extensive reviews of the literature and by detailed analyses of statistical data on the impact of housing conditions on health. Thus for each Hazard examples of four Classes of Harm outcomes can be given – Class I being the most extreme, and Class IV being the most moderate, but still serious enough for medical attention to be sought.

These health outcomes have a cost to the health service (the cost of medical diagnosis, treatment and care), and, by putting figures on the relevant outcomes, the direct relationship between the housing Hazards and the cost to health service has been made possible.

3.5.7. The Housing Act 2004 defines two Categories of Hazards, primarily for the purposes of determining whether there is a duty to take enforcement action or a power to do so. The Act defines a **Category 1 Hazard** – one linked to the duty – as one with a Hazard score of 1,000 or more, and a **Category 2 Hazard** – one where there is a power to act – as one with a Hazard score of less than 1,000.

3.5.8. As noted above (at para 3.2.1) for a dwelling to be **Decent** it must be free of any **Category 1 Hazard**. And, although the Decent Homes Standard is not in itself a legally enforceable standard, local authorities have a statutory obligation under Part 1 of the Housing Act 2004 to take action where they are aware of any dwelling where there is one or more Category 1 Hazard.

3.5.9. As well as being used to assess the condition to determine the severity of threats to health and safety, the HHSRS also can be used to judge the effectiveness of remedial action by the assessment of the condition after the completion of remedial action.

These two assessments, the pre- and post remedial action assessments, form the basis of the cost benefit analysis developed in this study.

3.6. Some Other Relevant Matters

Enforcement Actions

3.6.1. Local authorities, under the Housing Act 2004, have duties and responsibilities to take action to deal with unsatisfactory dwellings. These include requiring owners (usually landlords) to carry out remedial works to reduce HHSRS Hazards. The action may include making financial assistance available toward the cost of the necessary works.

3.6.2. Such enforcement actions complement, and may be seen as part of, the activities under the Decent Homes Programme (see para 3.4 above).

Marmot Review

3.6.3. On 6 November 2008, the Secretary of State for Health announced that Professor Sir Michael Marmot would head the Post 2010 strategic review of health inequalities. The aim of the Review is to propose an evidence based strategy for reducing health inequalities from 2010. The strategy will include policies and interventions that address the social determinants of health inequalities. The review reported in February 2010[11].

3.6.4. The review has four tasks –

- identify, for the health inequalities challenge facing England, the evidence most relevant to underpinning future policy and action
- show how this evidence could be translated into practice
- advise on possible objectives and measures, building on the experience of the current PSA target on infant mortality and life expectancy
- publish a report of the review's work that will contribute to the development of a post-2010 health inequalities strategy

3.6.5. As the Decent Homes Programme is directed at poor housing occupied by vulnerable households, it is an example of interventions that address health and social inequalities.

Handyperson Schemes

3.6.6. These schemes have been operating, in various forms, for over 20 years and are provided through the local authority, Registered Social Landlords, or Care and Repair England. The services provided vary but many include minor repairs and adaptations, home safety checks, security checks and energy efficiency measures. As well as providing services requested and often paid for by householders themselves, Handyperson services are also funded to carry out similar work by statutory authorities such as housing, health, social services and the police. This includes the removal of all or some HHSRS Category 1 Hazards and other significant Hazards such as removing trip Hazards, so preventing potential falls, and 'target hardening' to reduce the prospects of entry by intruders.

3.6.7. Their contribution in providing practical support for older, disabled and vulnerable people to help maintain independent living was given a significant boost with the publication of a report by CLG[12] earlier this year. The report identifies a positive contribution through the Handyperson Schemes to 12 of the Government's National Indicators.

National Indicators

3.6.8. These are a list of 198 Indicators chosen to reflect the Government's national priorities and spending decisions that were part of the 2007 Comprehensive Spending Review (the process which determines the Government's priority outcomes and spending over the three years to 2010). The Indicators are the only measures on which central Government will performance manage outcomes delivered by local authorities working alone or in partnership[13].

3.6.9. Although the Decent Homes Standard and Programme are not specifically mentioned, tackling fuel poverty through energy efficiency measures is included (NI 187) and this is often achieved through the Programme.

Departmental Strategic Objective 2

3.6.10. An objective which focuses on the work of Communities and Local Government to improve the supply, environmental performance and quality of housing, ensuring that it is more responsive to the needs of individuals, communities and the economy. Specifically included in achieving this objective is making best use of the existing housing stock and meeting the housing needs of vulnerable people.

4. Cost Benefit Evaluations

Rochdale

4.1. Rochdale, as the first case study, became the pilot local authority, and supplied data on its activities in delivering the Decent Homes Programme in the private sector. This data was in the form of 388 cases on a spreadsheet and 369 individual reports on dwellings on a CD. The data included the results of the assessment that determined that a dwelling did not meet the Decent Homes Standard, and the cost of the works carried out to deal with the non-decency. Of particular interest was whether there were any Category 1 HHSRS Hazards, and the cost of dealing with those Hazards.

4.2. We realised that, by adapting the BRE's work on *The Cost of Poor Housing*, we would be able to relate the cost of dealing with Category 1 Hazards to the cost saving to the health service. Ideally, three sets of information were required –

- the HHSRS Hazard likelihoods and outcomes before any remedial works
- the HHSRS Hazard likelihoods and outcomes on completion of the remedial works
- the cost of the remedial works relating to each HHSRS Hazard

It is important to note that the BRE's work limited the **cost savings** to those attributable to the **health service**. This was because these are 'real' costs with information publicly available. Other costs, such as loss of earnings (and associated loss of tax revenue), under-achievement at school, social exclusion, and quality of life are more problematic to estimate and so may be subject to debate. However, based on the work of Ambrose and others, it is estimated that the savings to the health service are **around 40% of the total cost to society that may be attributed to unsatisfactory housing conditions**.

4.3. From the cases provided by Rochdale, the BRE selected 30 cases at random and imported data from these into a spreadsheet devised as part of the work on *The Cost of Poor Housing*. This spreadsheet uses differences between pre- and post- remedial works likelihoods and outcomes to calculate the value of benefits in savings to the health service of undertaking the works. Comparing these to the costs of works also allows calculation of payback periods.

4.4. In some cases, there was no information on the HHSRS assessment post remedial works (either because the assessment had not been done, or had not been recorded). For these, the assumption made was that the works had reduced the Hazard(s) to the national average for that Hazard as given in the HHSRS Operating Guidance.

4.5. The total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards in these 30 dwellings is **£34,900** against a **total one-**

off cost of **£310,000**. (If this represents around 40% of the total cost to society, the total annual cost benefit could be around £87,250.) This means that the payback period (the period when the cost of these housing interventions will be recovered) is nine years.

Before receiving the data from Rochdale, the project team had not envisaged being able to carry out a cost benefit analysis in this novel way. It was made possible because of the information included in the data Rochdale supplied and because of the BRE's work on *The Cost of Poor Housing*. However, it was clear that if the other authorities could supply the specified data, then the same exercise could be carried out.

As a result, the other five local authorities were then asked to provide, for each dwelling where they had intervened as part of their Decent Homes Programme –

- the pre-improvement HHSRS likelihood and outcomes for each Hazard identified
- the post-improvement HHSRS likelihood and outcomes for each Hazard
- the costs of reducing Hazards clearly attributed to each Hazard

4.6. Just giving the total or average figures hides some useful information. Identifying those Hazards where the mitigation works produced the **shortest payback time** gives an indication of value for money. For example, dealing the Hazards of **Falling on Level Surfaces** and **Entry by Intruders** gave payback periods of **one** and **two years** respectively. Such minor works may be ideally suited to those undertaken through the Handyperson Schemes.

4.7. It is also useful to review those Hazards where the mitigation works produced a very long payback period. These included **Fire** and **Excess Cold** – payback periods of **20** and **50 years** respectively. For such cases, the type and extent of the works specified should be reviewed to see whether alternative works could have produced similar results. However, it is worth stating that there will be other benefits from the works that are not included in the cost benefit analysis, such as wellbeing and quality of life.

Cost Benefit Analyses for the Other Five Authorities

4.8. It is not possible to compare cost benefit between authorities, or to cumulate the findings from these authorities at this time. This is because, while there may be consistency of HHSRS assessments within each authority, it is not clear that there will be consistency between authorities. In addition, while the individual HHSRS assessments may give a similar Hazard Score, the deficiencies leading to that assessment may be very different and there may be differences in construction, leading to different mitigation works to deal with similar problems. (It is only by using data from sources such as the English House Condition Survey that national cost benefits analyses can be carried out.)

4.9. However, within the authorities, data can be usefully compared, both for different Hazards, and for the extent of the works to deal with a Hazard. Authorities could build-up an evidence base that could be interrogated in various ways to inform policies and practices.

Bristol

4.10. Details of the HHSRS Hazards found in 156 dwellings were provided. If there were multiple Hazards at a dwelling, then one record was given for each Hazard, giving a total of 212 records.

4.11. Using the process described above, it was calculated that the total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards was **£58,972** against **a total one-off cost of £212,175**. for carrying out works to mitigate the Hazards identified.

4.12. The **average cost** for the mitigation works was **£1,020 (a one-off outlay)** and the **average annual cost benefit was £278**. The payback period for these works is around 3.6 years.

4.13. Again, just looking at the average costs hides information that is important. The **single lowest cost** was **£10** to address a **Falling on level surfaces** Hazard; and in this case the benefit to the NHS was **£21 per year**. Other low cost mitigation works dealt with **Falls associated with Baths**, and **Falling on Stairs**. Dealing with one case of **Excess Cold** also provided a short payback period of two years. The **longest payback periods** were for the Hazards of **Fire, Damp and Mould Growth**, and **Food Safety** – **33, 17, and 16 years** respectively.

Derby

4.14. Information was provided on 33 dwellings within the Rosehill Home Improvement Zone. If a dwelling contained multiple Hazards then it appeared multiple times, giving a total of 99 records. (What was not clear was whether this was the total number of dwellings in the Improvement Zone where interventions have been carried out or just a selection.) The records detailed the likelihood and harm outcome spread of Category 1 Hazards both before and after works to mitigate the Hazard.

4.15. The total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards in these dwellings provided is **£187 per dwelling per year** against an average **one-off cost of £560 per dwelling** (£18,468 for the 33 dwellings), with a payback period for these works of two years.

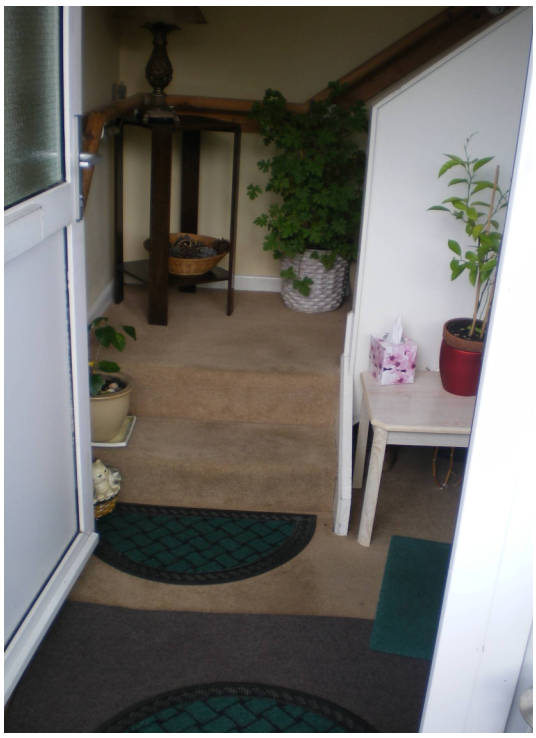
4.16. The single lowest cost was **£20** to address an entry by intruder hazard. The **benefit to the NHS** in this case is calculated as **£78 per year** with a **payback period of under 1 year**.

4.17. The single highest cost was **£3,015.40** to address the Hazard of **Excess Cold**. Although the likelihood of an outcome causing harm in this case was 1 in 56 before mitigation work and reduced to 1 in 1000 afterwards,

this still only yielded **a benefit of £312 per year** to the NHS. This illustrates the point that, while the likelihood can be reduced, the spread of outcomes do not change, with Class I (the most serious outcome) remaining the same after the mitigation works. (NB – The cost benefit analyses relate only to the savings to the NHS, and do not include other savings to society.)

Example of Decent Homes Assistance

A first floor single bedroom flat which is occupied by an elderly woman. Originally the external entrance door at ground floor was ill-fitting and draughty and the side panels to the door frame were made from asbestos sheets. From this external entrance there is an open plan staircase leading up to the flat which allowed cold air to flow up into the flat. Added to this problem was a lack of adequate loft insulation.



A new double glazed external door, frame and side panels have been installed, the loft insulation has been increased to current standards and a smoke detector has been fitted. Previously the occupant had felt quite cold in the flat; she was worried about the presence of asbestos and didn't feel particularly secure in her home.

Since the works have been completed she says she is now a lot warmer, she is less stressed and her general health has improved. She has also noticed that the external entrance works have also significantly reduced the noise from outside. "The improvements have changed my life! My health has improved and I can now go out again."

St Helens

4.18. Information was provided on Hazards in a sample of 30 dwellings selected by St Helens from their records, including multiple Hazards, there was a total of 50 records. The records detailed the likelihood and harm outcome spread of Category 1 Hazards both before and after works to mitigate the Hazard.

4.19. The total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards is **£6,413 per year (**£128.60 per dwelling) against a **total one-off cost** of **£189,995 for the 30 dwellings**.

4.20. The total payback period to recover this cost at **£6,413 per year** is just **under 30 years**. Again, this highlights the fact that the payback period is dependent on the particular Hazards identified, and the extent of the mitigation works. The single **highest cost** was **£11,600** to address the Hazard of **Excess Cold**, although this only yielded a **benefit of £296 per year** to the NHS. (As mentioned above, a reason for this is that although the likelihood will have been improved by the works, the spread of outcomes will not be affected.)

4.21. The single **lowest cost was £200** to address a **Falling on Stairs** Hazard. The **benefit** to the NHS in this case is calculated as **£62 per year** with a **payback period of 4 years**.

Blackpool

4.22. Data was provided on 58 Hazards, detailing the likelihood and harm outcome spread of each Hazard both before and after works to mitigate the Hazard. However, 21 of these Hazards were assessed as having **no** improvement following mitigation works so these were excluded from analysis.

4.23. The total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards in the sample provided is **£5,829 per year (**£158 per Hazard per year) against a **total one-off cost** of **£52,000 for the 37 Hazards**.

4.24. The **payback period** for these works is **8 years**. It should be noted that the payback period is dependent on the types of Hazards found. In the case of excess cold only 4 Hazards are included as only this number showed any improvement.

4.25. The **average cost** for the mitigation works was **£1,405.41** (a one-off outlay). The single **highest cost was £15,000** to address the Hazard of **Structural Collapse**. However, as discussed above in relation to Excess Cold, although the mitigation works dramatically improved the likelihood (from 1 in 3 to 1 in 5600) as there was no change to the outcomes the **benefit** to the NHS was only **£120 per year**.

4.26. The **lowest cost** to address a Hazard was **£500**, and the **earliest payback back period** is of **3 years** to address the Hazard of Falling on Level Surfaces.

Manchester

4.27. Information was provided on 30 Hazards and this included the likelihood and harm outcome spread of Category 1 Hazards both before and after works to mitigate the Hazard. Two of the Hazards are considered to be comparatively rare – Explosion and Lighting.

4.28. The total estimated **annual benefit** to the health service of works undertaken to reduce the Hazards in the sample provided is **£14,240 per year** (£474 per dwelling per year) against a t**otal one-off cost** of **£27,860 for the 30 Hazards**. The **payback period** for these works is **8 years**.

4.29. The **average cost** for all works was **£929** (a one-off outlay) and the average **annual cost benefit** was **£475**. The single **highest cost was £3,600** to address the Hazard of **Excess Cold**. As noted above, while the likelihood was improved significantly, as the outcomes remained the same this only yielded a **benefit of £288 per year** to the Health Service.

4.30. The single **lowest cost was £50** to address a **Falling on Stairs** Hazard, and in this case the **benefit was calculated as £353 per year** with a **payback period of within 1 year.**

Discussion

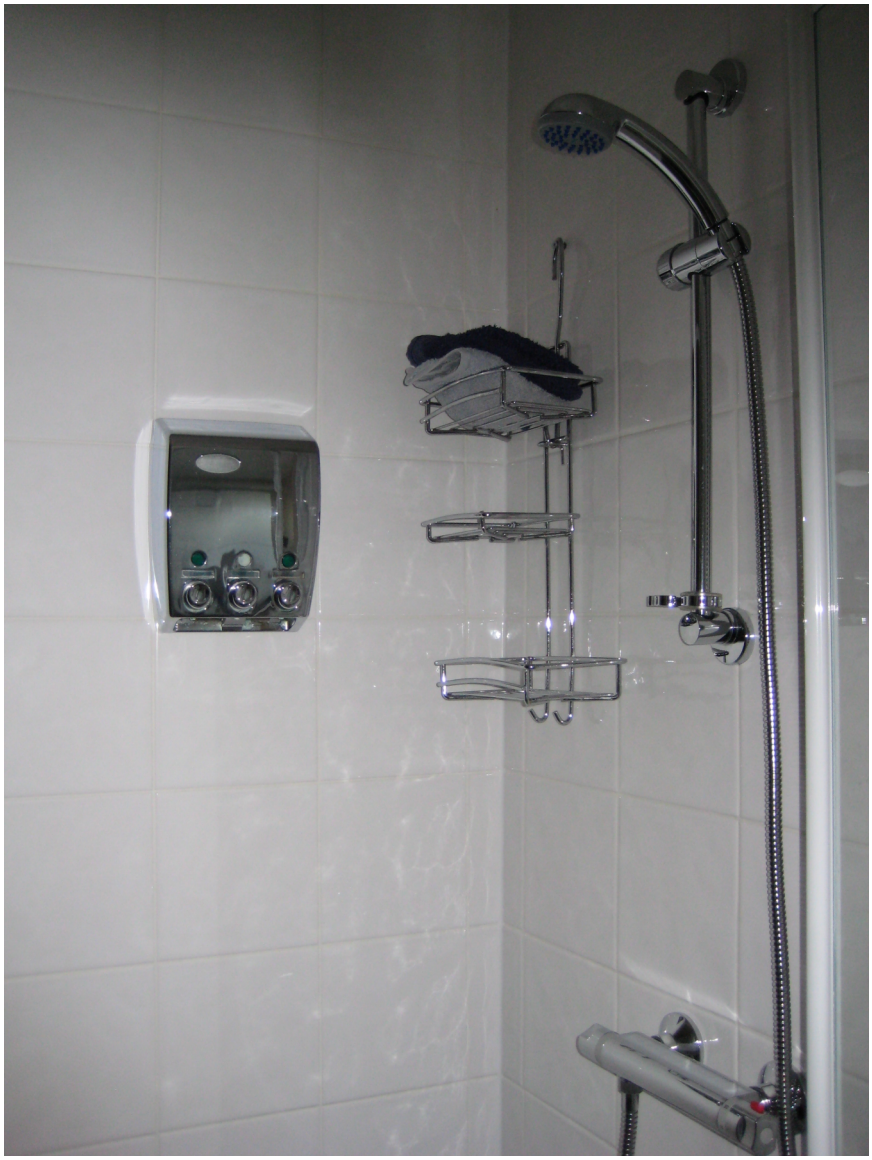
4.31. The figures given above for the individual local authorities hide some complexities. As can be seen by giving details of the low cost interventions and the high cost interventions, there can be considerable differences in the cost benefits to the health sector. Within authorities, it may be best to look at the distribution of each Hazard if the data is plentiful, or to look at individual cases if it is not, rather than to attempt the simple summaries of averages.

4.32. It seems quite clear that the l**ow cost interventions give a very good 'return'** in terms of value for money, and many of these are a **through the Handypersons Scheme** rather than the more complex grants and loans that local authorities can arrange. Generally, the most cost effective Hazards to tackle appear to include Entry by Intruders, and those related to Falls. Fall Hazards are particularly important as the evidence shows that unintentional fall injuries are the most common home injuries treated by the health sector.

4.33. While the cost benefit for those Hazards that show the best value for money appear particularly attractive, this does not necessarily mean they should be given preference over other Hazards more expensive to deal with, such as the majority of Excess Cold Hazards and Fire Hazards. **As well as the cost benefit to the Health Service attributable to other Hazards, there are other policy and well-being considerations**, such as energy conservation and the avoidance of the mental anguish resulting from losing possessions and home from a fire. What is suggested (and was not possible

in this study) is that there should be a review of the defects and deficiencies contributing to the apparently expensive Hazards to see if **alternative works could produce similar results**, while recognising the other benefits obtained.

4.34. As mentioned earlier, it is the HHSRS that has made this cost benefit calculation possible, and because the HHSRS Category 1 Hazards are included as the first criteria in the Decent Homes Standard. In delivering the Decent Homes Programme there appears to be a focus on Category 1 Hazards and Category 2 Hazards may be overlooked. However, it is clear that the **reduction of significant Category 2 Hazards** could be included in the cost benefit analyses and **contribute to the cost savings**.



5. Evidence of Good Practice

5.1. The visits to the six local authorities and reviews of the documents provided several examples of practice that could be considered by other local authorities. Below we summarise these examples –

5.1.1. Working with the authority's own finance section to send out a **mail shot to Council Tax Benefit claimants** in private sector housing. **Rochdale** has utilised an established mail-shot system used by another department of the authority giving the opportunity to inform potential **vulnerable households** about the Decent Homes Programme, and how to obtain advice and assistance if their home was non-decent.

5.1.2. Using the Decent Homes Standard as a qualifying condition for landlord accreditation. **Rochdale's Landlord Accreditation Scheme** includes a requirement that if a landlord wishes to join the scheme, then they must ensure that all their rented properties **meet the Decent Homes Standard**. This is seems common sense, particularly as being a part of the scheme entitles a landlord to certain incentives (such as free burglar alarms, security lights, smoke detectors, carbon monoxide monitors, gas safety certificates, and loft insulation,).

5.1.3. Adopting a **priority area approach** for the Decent Homes Programme. Both **Bristol** and **St Helens** have decided, based on a range of information including a house condition survey and deprivation data, to target those areas where non-decent homes and vulnerable households appeared to be concentrated. Having identified an area, they focus their resources on identifying the non-decent homes through a variety of means including door-to-door visits and leaflets.

5.1.4. Advertising the availability of assistance. As well as adopting a targeted approach **St Helens** has **advertised** borough wide that advice and assistance is available for those households that qualify.

5.1.5. Adopting a priority **area approach for community safety**. A few years ago **Blackpool** recognised that they should take steps to reduce crime in their district. Using data from a 2007 Home Office Report they identified three particular areas where, with **multi-agency task forces**, accessible and known to the local community, they worked with the residents to tackle problems quickly and directly. Schemes such as **alley-gating** and property **target hardening** have been implemented. While this is not an intrinsic part of the Decent Homes Standard or Programme it can have a significant effect in reducing crime and fear of crime, and improving the quality of life for the residents. It is worth noting that **Entry by Intruders** is one of the HHSRS Hazards and therefore a cost benefit could be assessed.

5.1.6. **Low cost, well directed interventions**, such as dealing with the Hazard of **Entry by Intruders** and **the Fall Hazards** appear to have

shown the **best value for money** in the cost benefits to the health sector and support initiatives such as the **Handypersons Schemes**.

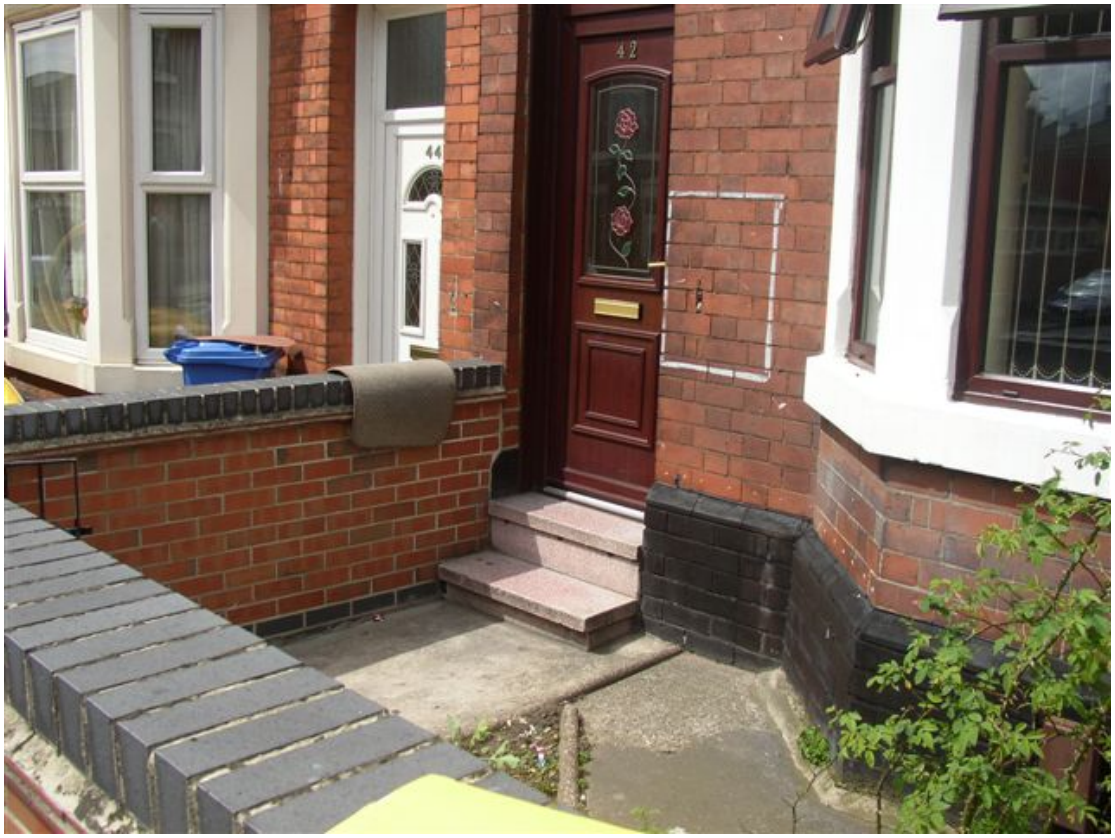
5.1.7. The development of a simple electronic **survey program** for use on handheld devices. A team in **Blackpool** has developed a simple program for capturing **survey data**. It has been used for surveying all properties in a particular area and gives a simple prioritisation and referral system. It is well integrated with the Council's Information Technology system and is being developed further to gather full data from HHSRS based inspections.

5.1.8. Using the HHSRS to rate Hazards **before** and **after** intervention. A local authority should ensure that there is a detailed assessment of the Hazards before taking action. Although not legally required to do so, officers in **Bristol** also make a further assessment or estimation of the result once the Hazard mitigation work has been completed, thus highlighting the potential health gains by reducing the risk to the occupant(s).

5.1.9. Adaptation of a **software** system that **tracks 'decency'**. In **Manchester** the private sector housing teams all use the same inspection proforma so that, whatever the purpose of the visit, the same level of information is recorded and input into a software database. If work is carried out, a second assessment is made and recorded. This provides a high level of information available for a variety of uses. This system of tracking decency facilitates interrogation, calculations, monitoring existing or new strategic initiatives and a link to geographical mapping.

5.1.10. Using geographical information systems (**GIS**) for inputting data, **analysis** and **identifying areas** to target. **Manchester** has taken the opportunity to process the data into other formats. In particular data can be exported into GIS which can be used to identify areas of particular interest to the authority, such as monitoring progress on decency. This gives the opportunity to overlay other data from other sources, so providing a sophisticated level of information which can inform strategic decision making.

5.1.11. Identifying **sources of data** that can be used to indicate areas of deprivation. As well as collecting data from different agencies visiting properties, **Bristol** use a wide range of data from other sources to target areas. The sources include housing data from the annual Quality of Life Survey, Bristol Indices of Deprivation as well as house condition survey data.


42
44

6. Recommendations

6.1. While all the suggestions below may not be appropriate for all local authorities or my not be possible, we feel that authorities should reflect on them and consider whether they can be adapted and adopted to suit their own particular policies and priorities.

6.2. Making the most of the HHSRS

6.2.1. Although the focus of this study was the delivery of the Decent Homes Programme in the private sector it is apparent that it would be difficult, if not impossible, to calculate the financial benefits to the National Health Service without HHSRS data. In fact, the cost benefit exercise can be used without reference to the Decent Homes Standard, and it may be that the reference to HHSRS Category 1 Hazards in the Decent Homes Standard has deterred assessment of significant Category 2 Hazards.

6.2.2. As this study has shown, HHSRS data can be used to both demonstrate potential health gains following housing interventions and to put a financial value on those gains. Clearly, the more accurate the data collected then the more reliable are the results. To make the most of this approach, local authorities should systematically record for each survey –

- the individual Hazard being assessed
- the likelihood and outcomes before intervention
- the works specified to reduce the individual Hazard
- the cost of the works associated with the individual Hazard
- the likelihood and outcomes after intervention

6.2.3. This should be done for all significant Hazards that can be reduced, and not just Category 1 Hazards.

6.2.4. The post intervention assessment is important to give accurate information on the effect of the works on reducing the Hazard. Without this, the assumption would be that the Hazard has been reduced to the National Average.

6.2.5. Authorities should build-up a database using this information. Such a database can then be interrogated to review the cost benefits, and to review the extent of works necessary to deal with Hazards. It also allows for monitoring of existing or new strategic initiatives. Even where activity is not directly related to the Decent Homes Programme, HHSRS actions can be monitored.

6.2.6. The collation of information described above provides an opportunity to process the data into other formats. In particular data can be exported into GIS, which can be used to identify areas of particular interest to the local authority. This then can be further utilised by

'overlaying' other data from other sources to provide a sophisticated level of information which can inform strategic decision making.

6.2.7. The collation of information described above also allows authorities to investigate their interventions. They can review and compare their activities by the types of work they identify, the works specified, the cost of mitigation and the benefits derived. This analysis can then be used to inform their future policies and practices.

6.3. Targeting Vulnerable Households

6.3.1. Authorities can use the opportunities provided to them by the Council Tax Benefits and Housing Benefits systems to target residents who are vulnerable and, potentially, occupying homes that do not meet the Decent Homes Standard. Appropriate information can be sent out either separately or with benefit mail-shots.

6.3.2. Local authorities often have priority areas for housing investment – Housing Renewal Areas for example. Different criteria may be used by authorities to determine area priorities, but most use housing stock condition survey data to determine where there are concentrations of properties that have Category 1 Hazards. Residents can be contacted by leaflet drop, public meetings or individual approaches.

6.3.3. There are many sources of data that can inform decisions on targeting. Some of these may be within the local authority, but others may be with other agencies. Local authorities should review the data sources they have and investigate other sources. In addition, authorities should investigate whether data can be exported into GIS, which can be used to identify areas of particular interest. This can be used to overlay data from other sources to provide a sophisticated level of information to inform strategic decision making.

6.4. Low Cost Interventions

6.4.1. Interventions that have low cost can have a very positive impact. This was always a underlying principle of the HHSRS – it is not the cost or extent of the remedial works, but the potential effect of the defect or deficiency on health and/or safety. What is a minor defect or deficiency in 'structural terms' can pose a major threat to health or safety. This principle is support by the evidence from this study.

6.4.2. Interventions to deal with the Hazard of Entry by Intruders and Fall Hazards have shown the best 'return' in terms of potential savings to the health sector.

6.4.3. Based on this finding, investment in, and promotion of, initiatives such as the Handypersons Schemes will provide a very positive benefit to householders and to society.

6.5. Linking the Decent Homes Standard to Other Initiatives

6.5.1. Bringing dwellings up the Decent Homes Standard can be achieved by linking the Standard and Programme to other incentives.

6.5.2. One positive example of this was that adopted by Rochdale, which made meeting the Decent Homes Standard a qualifying condition for private landlords who wanted to join the authority's landlord accreditation scheme.

6.5.3. Although not directly linked to the Decent Homes Programme, considerable benefits can be derived from Community Safety initiatives where improvements can be achieved in residents' well-being, and quality of life, as well as the potential health benefits. Such approaches are usually developed on an area basis where the local authority has used local crime statistics to identify crime 'hot-spots' indicating not only an increased risk of crime but also a fear of crime. Use of the HHSRS in relation to the Hazard 'Entry by Intruders' would make it possible to quantify the potential health gains.

7. Conclusions

7.1. There is a clear and significant finding from this study – that housing interventions by local authorities produce financial savings to the health sector. An equally important finding from the visits to improved properties is that investment in housing improves the well-being and quality of life for the occupiers, which is another benefit to society albeit one difficult to quantify.

7.2. From the cost benefit analyses it is apparent that low cost interventions can have a significant benefit to both householders and society. Initiatives such as the Handypersons Schemes show a benefit way beyond their perceived public health importance. They can enhance a sense of well-being, removing matters that concern an occupier, without a lot of disruption.

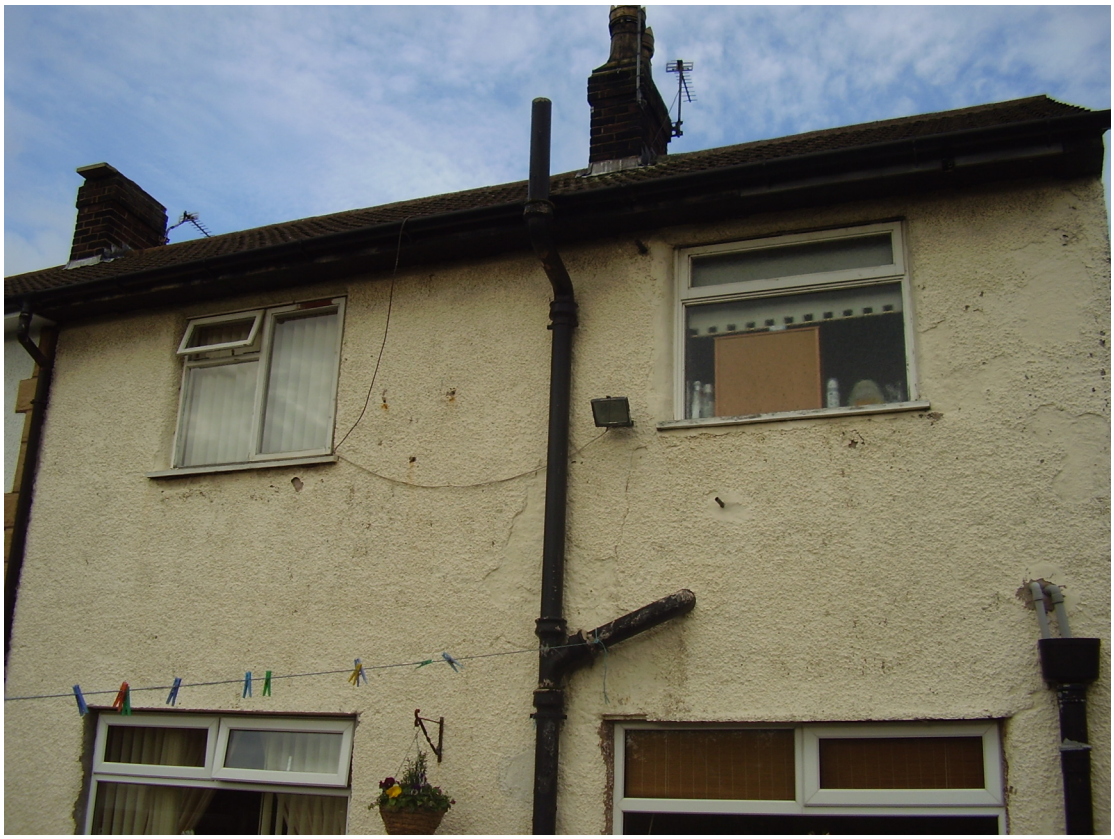
7.3. Although the study focused on the delivery of the Decent Homes Programme, it was the use of the HHSRS that made possible the cost benefit analyses. We believe that local authorities should make full use of the HHSRS, and, with well constructed data collection and recording, systems in place, will be able to produce robust and detailed evidence of the positive contribution to society (as well as the individual) made strategic housing programmes.

7.4. The Decent Homes Programme is targeted at non-decent homes occupied by vulnerable households. As such, it provides an effective tool to deal with inequalities. As this study has highlighted the potential health gains from the Programme, it means that it is an effective process to deal with health inequalities.

7.5. Although a pilot study, the findings will have major implications, not only for the local authorities involved, but also across the country. The findings will inform policy-makers in the housing and the health sectors in devising their strategies, including Local Strategic Partnership and Local Area Agreements.

Also, they will be of particular interest to Social Services, the Department for Communities and Local Government, the Department of Health, the Health Protection Agency, and National Health Service.

7.6. The study has also given some indications where further investigations, either by individual local authorities or at regional level, could review the specifications of improvement and mitigation works to ensure best value.



Appendix

8. Summary of 'How We Did it'

8.1. The original objectives for this study were to identify the health impact of the delivery of the Decent Homes Programme in six local authorities, and, through identifying good practice, make recommendation for maximising and monitoring the health impact.

8.2. The selected local authorities were Rochdale Metropolitan Borough Council, Blackpool Council, Manchester City Council, St Helens Council, Bristol City Council, and Derby City Council.

8.3. The specific tasks undertaken were –

- The Building Research Establishment conducted a thorough review of the data provided in the report "Establishing a Decency Baseline for the Private Sector in the Northwest" (the Decency Baseline Report).
- We prepared a Local Authority Matrix spreadsheet which was devised to capture some basic, but essential, information from the authorities. This included statistics such as number of private sector dwellings, number of non-decent homes, and budgets available for the Decent Homes Programme.
- Meetings were held with representatives of the case study local authorities. The nature and purpose of the Matrix was explained and the methodology for the two-day visits to the authority outlined, including the process of visiting a sample of dwellings where work had been carried out as part of their Decent Homes programme.
- Following the pilot visit to Rochdale members of the research team visited Bristol, Derby, Blackpool, Manchester and St Helens.
- An analysis of the local authority activities was conducted accepting that each was working with slightly different approaches so direct comparisons were not straightforward. Factors such as geography, economics, politics, finance, type and condition of housing stock, etc. will all influence and inform the policy decisions and priorities of each authority. For example, one local authority had outsourced its property surveys and another focussed its attention in specific areas in conjunction with area improvement schemes.
- The property visits carried out during the visits provided a visual impression of the work completed and an opportunity to speak to the occupiers and get some impression from them about the work carried out to their home.
- Further information obtained from the local authorities enabled BRE to carry out a more detailed analysis of the potential health benefits that were derived from their activities (the cost benefit analyses).

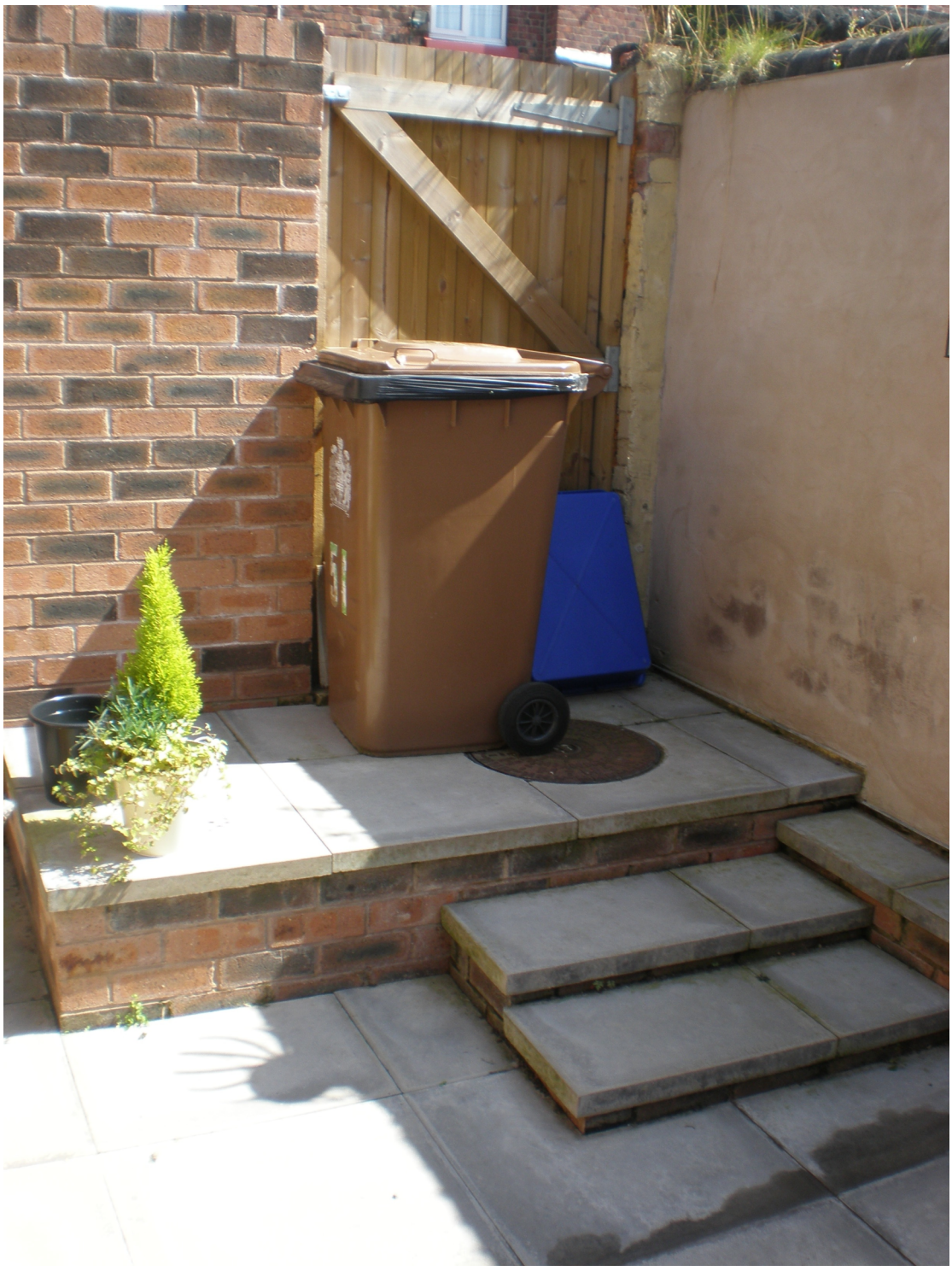
9. The Case Study Local Authorities

9.1. Information provided by each of the local authorities was gathered in a spreadsheet format. The aim was to have a simple means of showing the wide differences between the authorities; differences in size, in the scale of non-decency, and in resource allocation. The authorities were also asked to provide copies of policy documents, including Private Sector Renewal Policies, Enforcement Policies, and Accreditation Schemes. The data and the documentation provided the background for the visits to the local authorities.

9.2. The visits to the local authorities were over two days and gave an opportunity to discuss with staff involved in the delivery of the Decent Homes programmes some of the finer details and obtain clarifications. Also, visits were arranged to properties that had been the subject of improvement works. Based on the information gathered, reports were prepared outlining the policies and practices adopted.

9.3. The documents, data and visits provided the information for the suggested examples of good practice.

9.4. Originally, a telephone survey of the local authority was suggested to try to add information. However, it became apparent that any additional information obtained would not be that beneficial for the study. What did become clear was that the HHSRS data provided could be analysed to give an indication of the cost benefit of housing intervention. It was agreed that this would be a much more helpful and important exercise.



References

1 CLG (2008) *Review of Health and Safety Risk Drivers*, BD2518. Department for Communities and Local Government, London. Available at - http://www.communities.gov.uk/publications/planningandbuilding/reviewhealthsafety (accessed 17 November 2009)

2 See Ambrose P et al (1996) *The Real Cost of Poor Homes*. Royal Institute of Chartered Surveyors, London.

3 Audit Commission (2009) *Building better lives: Getting the best from strategic housing*. Audit Commission, London. Available at - http://www.audit-commission.gov.uk/nationalstudies/housing/buildingbetterlives/Pages/buildingbetterlives_copy.aspx (accessed 17 November 2009)

4 Davidson M, Roys M, Nicol S, Ormandy D, and Ambrose P (2010) *The Real Cost of Poor Housing*. IHS BRE Press, Bracknell.

5 For information on the English House Condition Survey see - www.communities.gov.uk/publications/corporate/statistics/ehcs2007headlinereport (accessed 9 November 2009).

6 Full details are given in *A Decent Home: Definition and guidance for implementation* (2006) DCLG. Available at – http://www.communities.gov.uk/publications/housing/decenthome (accessed 17 November 2009

7 Defined by s604 of the Housing Act 1985, now repealed.

8 The new National Indicators do not include the old PSA7 but Government have indicated they are still interested in progress against this indicator and it is still widely monitored

9 See http://www.warmfront.co.uk/ (accessed 4 December 2009)

10 Full details of the HHSRS are given in *The Housing Health and Safety Rating System: Operating Guidance* (2006) Office of the Deputy Prime Minister. Available at http://www.communities.gov.uk/publications/housing/hhsrsoperatingguidance (accessed 17 November 2009)

11 *Fair Society: Health Lives* (2010). Available at http://www.ucl.ac.uk/gheg/marmotreview/ (accessed 24 February 2010)

12 *The Future Home Improvement Agency - Handyperson services report*, CLG February 2009. Available at - http://www.communities.gov.uk/publications/housing/hiahandypersonservices (accessed 17 November 2009)

13 *National Indicators for Local Authorities and Local Authority Partnerships – Handbook of definitions*, CLG April 2008. Available at - http://www.communities.gov.uk/localgovernment/performanceframeworkpartnerships/nationalindicators/ (accessed 17 November 2009).