Making a Difference

Housing and Health: A Case for Investment

Executive Summary

2019

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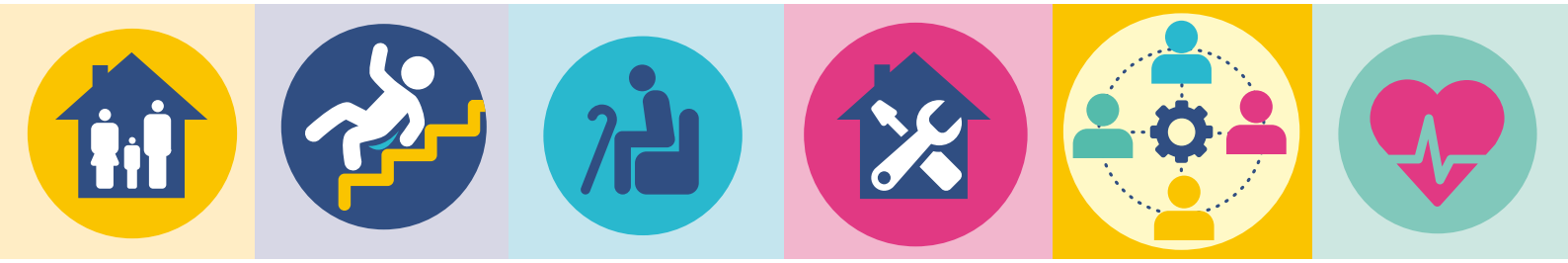


Contents

Purpose

This report is an extension of Public Health Wales' Making a Difference publications and aims to inform, support and advocate for wider health policy and cross-sector approaches and interventions offering benefits to the people, health system, society and the economy. The report summarises the impact housing (across tenure) has on health and well-being across the life course; sets out the case for investing in housing as a determinant of health by identifying which interventions work and offer value for money; and identifies priority areas for preventative action within Wales.

This report seeks to describe interventions that are supported by evidence and case studies which have shown a good return on investment and/or had a positive impact on health and well-being. Whilst acknowledging that the term 'housing' is broad and includes housing availability, affordability, planning and neighbourhoods, the report focuses on three themes:

Housing quality – such as those homes which are cold, damp or have mould

Unsuitable homes – such as provision of housing that is not suitable for those who require more support e.g. adaptations

Homelessness – such as street homeless or rough sleepers, and the hidden homeless who have temporary living arrangements, such as those sofa surfing, living in bed and breakfast accommodation

The report should be used as a tool to address social justice issues and tackle inequalities, for example by supporting the work of Regional Partnership Boards, Public Services Boards and other multi-agency partnerships in Wales.

Summary of economic, health and societal benefits of housing improvements

Housing quality (See Section 7.1, Main report)

The Building Research Establishment (BRE) estimated that **poor quality housing in Wales cost the NHS more than £95m per year** in first year treatment costs and the **cost to Welsh society was over £1bn**. With an estimated cost of £584m to mitigate poor housing, funding the removal of hazards in the home therefore offered a **payback period of 6 years where immediate health savings** were considered, or just over **6 months where societal savings** were included.

Evaluation of the Kirklees Warm Zone project estimated that **for every £1** spent on installing central heating, **42p worth of health benefits** was generated.

Evaluation of the Warm at Home programme by Sheffield Hallam University, which improved energy efficiency and helped vulnerable households keep warm, estimated that **for every £1** of funding distributed to vulnerable households **there were £4 of health benefits**.

In New Zealand, insulation interventions costing $1,800 resulted in $3,374 of benefits, of which 61% were health benefits. This means **for every $1 invested, $1.87 was returned.**

Improving heating and ventilation in Welsh homes led to 17% of children with severe asthma being classified as having moderate asthma compared to 3% in the control group, costing £12,300 per child, or **£1,718 per child treated**.

The Central Heating Evaluation programme (Scotland) found that **40%** of recipients of central heating improvements who had previously reported **respiratory, circulatory or rheumatic health conditions** said the condition had **eased or improved** post-intervention.

The Welsh Government's Warm Homes Nest scheme gives energy efficiency advice and improvements. It provides a health protective effect, **decreasing the number of GP visits** for respiratory conditions in the group of beneficiaries **by 3.9%**, compared to a 9.8% increase for the control group.

The initial cost of external wall insulation in Stockton-on-Tees was estimated to be **paid back in 7.9 years** when considering total benefits which included fuel costs, health care costs and health-related quality of life.

Welsh residents aged 60 years and over benefiting from upgraded council houses (receiving a range of housing improvements) were found to have **39% fewer hospital admissions** for cardiorespiratory conditions and injuries compared to those living in homes that were not upgraded.

Unsuitable homes (See Section 7.2, Main report)

Bridgend County Care & Repair Improvement Agency aims to support **older people** to live independently in their own homes. Given the operating costs, a social return on investment for bed days saved was estimated at **£5.50 per £1 invested, with potentially £9 saved per £1 invested** if re-admissions, post discharge care and falls were prevented.

Home modifications such as handrails, grab rails, outside lighting and slip resistant surfaces could **reduce the rate of injuries requiring medical treatment** caused by falls at home **by 26% per year.**

Interventions to mitigate falls on stairs among households with an adult aged 65 or over were estimated to provide a **return of £1.62 for every £1 invested**, and a payback period of less than eight months.

In England, the annual cost to the NHS of not undertaking preventive interventions was estimated at £414 million, with an additional £115 million in avoidable reactive adaptations. Adaptations that reduce falls **pay back in five to six years** in terms of NHS costs.

Analysis by Care and Repair Cymru of the Rapid Response Adaptations programme identified that every **£1 spent generated £7.50 of cost savings** for health and social care associated with quicker hospital discharge, prevention of people going into hospital and prevention of accidents and falls in the home.

Preventive health care and day-to-day chronic illness support at extra care schemes showed 19% of older residents reverted to a 'resilient' state from a 'pre-frail' state, helping to reduce overall NHS costs, with frail residents' **health costs** on average **reducing from £3,374 to £1,588** per person per year.

Homelessness (See Section 7.3, Main report)

The estimated **savings** in **preventing homelessness** through appropriate interventions at an early opportunity were between **£3,000 to £19,500** per person per year, compared to allowing homelessness to persist for 12 months. On average, preventing homelessness for one year resulted in a **reduction in public expenditure of £9,266** per person.

For every £1 invested in solutions to move people directly out of homelessness, **£2.80 was generated in benefits.** Examples of cashable savings for every £1 invested included:

- **£3.70 for people living in emergency accommodation without a plan for rapid rehousing**
- **£2.60 for long-term supported accommodation**
- **£1.90 for supported accommodation solution for young people**

The **Housing First pilot project** in North Wales (section 7.3, Main report), which involves supporting homeless individuals with complex needs into permanent housing, was shown to **generate £3.60 in benefits** for every £1 spent.

Making a difference to improve housing

Housing quality

The evidence is clear - **poor housing conditions are associated with ill-health**, particularly around falls and cold hazards (Section 6.4, Main report). Findings from the latest Welsh Housing Conditions Survey estimate that **18% of the housing stock** contains a **deficiency posing a health and safety risk** to the occupant (see Section 8.1, Main report). **Wales has the oldest housing stock in the UK** and, proportionately, the highest treatment costs associated with poor housing and also has some of the least energy efficient housing in Europe.

In 2018, 12% of households were estimated to be in fuel poverty (spending over 10% of net income on fuel costs), of which the majority contain someone who is elderly, a child, disabled or living with a long-term illness. Excess cold has a notable effect on those over 65, resulting in increased death and illness for example due to cardiovascular and respiratory disease, and mental health problems. Approximately **10% of excess winter deaths can be attributed directly to fuel poverty** and people living in the least energy efficient quarter of homes are a fifth more likely to die during winter than householders in the warmest properties. Living in a cold home can lead to social isolation, stress and worry about heating bills and debt, affecting children as well as adults and can have a negative impact on various aspects of life, including attainment at school.

Homes with **damp or mould** can cause a 30-50% increase in respiratory problems, with children being particularly affected. Asthma and respiratory infections result in work and school days lost, affecting both the household and the national economy and educational attainment.

Local authority environmental health teams have powers to effect improvements to the **private rented sector**, but the level of activity is insufficient to address the scale of the problem. Based on current activity, it would take almost 14 years to address the most serious hazards in the private rented sector, assuming no new hazards emerge.

Unsuitable homes

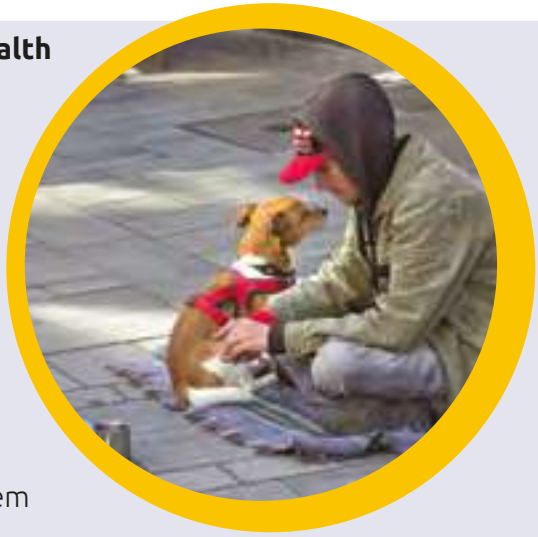
The main **fall hazards** affecting older people are falls in baths, falls on stairs and falls on level surfaces (trips and slips). **Falls are common** for people over 65 years of age, with 30% of this age group having a fall each year, increasing to 50% for the over 80s.

Of the over 65 age group, 76% currently live in their own homes. With the population aged over 65 years projected to increase by 33% by 2035, adapting homes (particularly owner-occupied houses) is a key factor in meeting the needs of current and future populations, so that older people are able to remain in their homes and communities.

Higher levels of **overcrowding** are seen in social and private rented sectors. Overcrowding can lead to psychological distress and mental health disorders, especially those associated with childhood development and a lack of privacy. Overcrowding does not occur in isolation and is linked to a range of issues including household financial stress, violence, alcohol abuse and depression.

Homelessness

Having a home is a stabilising factor that brings benefits such as access to employment and education, and supports improved health and reduced health inequalities.



Homelessness is a complex and intractable public health issue. In Wales, homelessness is on the rise (see Section 6.1, Main report), for example over the last 3 years rough sleeping has doubled. The underlying **causes of homelessness** may be **structural** such as housing supply and access, or poverty; or **individual** such as experience of violence or relationship breakdown (see Sections 6.1 and 6.3, Main report). The most common causes of homeless are loss of rented or employer-provided accommodation, relationship breakdown, or where parents are no longer willing or able to accommodate. 33% of homelessness in Wales is also reported to be caused, at least in part, by a health problem (see Section 6.3, Main report).

Ill-health is both a cause and consequence of homelessness, for example ill-health may contribute to job loss or relationship breakdown, which in turn can result in homelessness. Once homeless, a person's health and well-being deteriorates and is far worse than that of the general population. Homeless people aged 16-24 have twice the chance of dying as the general population; this increases to a fivefold risk for those aged 35-44 years. The **average age at death** of homeless people was **44 years for men, 42 years for women** and **44 years for all persons** between 2013 and 2017. **Healthcare costs** for people who are homeless **are four times higher for use of A&E and eight times higher for hospital inpatient services** compared with the general population. Access to healthcare can also be problematic, with large proportions of homeless people not being registered with mainstream health services or experiencing difficulties with obtaining medical appointments and facing waiting lists for mental health issues.

A recent survey of young homeless people showed that 25% have been in care, 90% have at least one current mental health issue and 15% have had an involvement with youth offending services. Homelessness is associated with an individual having experienced at least one Adverse Childhood Experience (ACE) before the age of 18, with those reporting **4 or more ACEs being 16 times more likely to experience homelessness in adulthood.** Homelessness in adulthood is also associated with exposure to parental addiction, domestic violence, and living in social housing or local authority care as a child.

Priority areas for preventative action

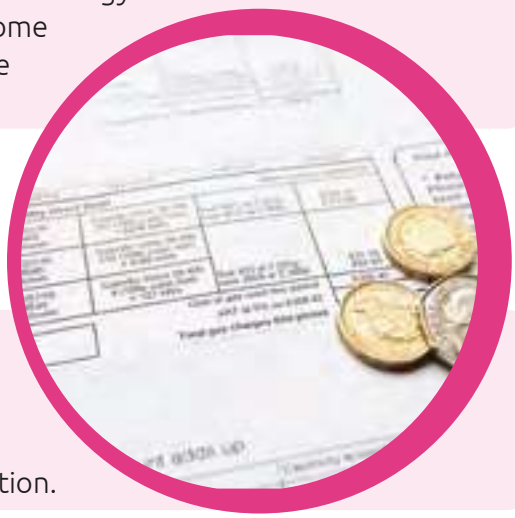
Action to improve housing quality, housing suitability and tackle homelessness is complex and multi-faceted. Structural issues such as poverty or availability of low-cost accommodation, inequality created by service design and funding structures, and promotion of social change to encourage householders to plan for older age or persuade home owners or landlords of the benefits of safe healthy homes all need addressing. Everyone in Wales is a stakeholder as anyone could find themselves requiring support to find suitable accommodation to meet their needs at some point in their lifetime. Integrated services and joint working are therefore required.

Housing quality (See Section 10.1, Main report)

Healthy and safe housing should be available to all, across every tenure, whether owner occupied or social and private rented. This can be achieved through:

Improving the heating and thermal efficiency of homes

- Investing in mitigating against excess cold in homes results in a payback in 7 years.
- There is strong evidence that improvements in warmth and energy efficiency have positive impacts on the health of low income groups, particularly when targeted at the elderly or those with health conditions.
- Two fifths of households who received such interventions reported improvements to respiratory, circulatory or rheumatic health conditions as well as to their mental health.



- An all-Wales **fuel poverty scheme** to improve the energy efficiency of homes occupied by vulnerable and low income households decreased the number of GP visits for respiratory conditions by 3.9%, compared to a 9.8% increase for those that did not receive the intervention.
- Focusing on **assisting vulnerable households** has been found to be more effective than an area-based approach.
- **Insulating existing older houses** in low-income communities has been found to increase indoor temperatures whilst reducing both energy consumption and hospital admissions for respiratory conditions.
- **External wall insulation**, which reduces cold, damp and mould, results in the initial investment being paid back in 7.9 years as a result of reduced fuel costs, health care costs and improved health-related quality of life.

Improving whole home quality standards

- This consists of internal and external improvements including electrical systems (smoke detectors, carbon monoxide detectors, security lights, kitchen and bathroom extractor fans, and internal rewiring), windows, doors, wall insulation and garden paths.
- Upgrading homes to the Welsh Housing Quality Standard for residents aged over 60 years results in 39% fewer hospital admissions for cardiorespiratory conditions and injuries.
- Providing assistance to vulnerable home owners on repairs and maintenance can support older and lower income home owners who may be unsure about maintenance and repair or are unable to meet the costs of improving housing quality.

Improving the quality of privately rented homes

- 24% of private rented homes contain a category 1 hazard i.e. failing the minimum standard for housing, with landlords being responsible for undertaking improvements. Improvements can be achieved through supporting local authority housing/environmental health teams' ability to determine sufficiency for affecting improvements - local authority capacity is key.

Improving ventilation in homes

- Damp and mould contribute to respiratory disease such as asthma, to mental health problems such as anxiety and depression, and social health effects such as isolation.
- Installing ventilation systems in the homes of children with asthma can reduce the proportion of children with severe asthma, at a cost of £12,300 per child moved from the severe to the moderate asthma group.

Improving housing through better planning

- Whilst not the focus of this report, local housing strategies can be used to ensure existing and new housing stock contribute to achieving better health and well-being. The requirement to undertake Health Impact Assessment as part of the Public Health (Wales) Act 2017 can help to incorporate health and well-being as key considerations in housing and built environment planning.

Unsuitable homes (See Section 10.2, Main report)

A rapidly ageing population and projected increases in demands on health services requires a greater focus on upstream interventions such as housing adaptation to allow older and disabled people to continue to live in their communities. **Adaptations offer value for money, resulting in savings to health and social care services and a return on investment for society. Priority areas for action include:**

Home adaptations

- There is strong evidence that **minor home adaptations** are an effective and cost-effective intervention for preventing falls and injuries, improving performance of everyday activities and improving mental health.
- Carrying out adaptations using an **integrated approach**, for example by addressing housing disrepair or integrating adaptations with personal health care plans can have additional benefits. One study has shown visits from an occupational therapist, nurse and handyperson increases individual capacities and leads to a reduction in home hazards, resulting in 75% improvement in the performance of Activities of Daily Living, and a reduction of depressive symptoms in 53% of participants.
- Supporting **disabled people** to stay in their own homes through essential housing adaptations has been shown to improve quality of life, reduce demand for other health and social care services and provide a good return on investment.
- **Rapid Response Adaptations** involve carrying out minor adaptations such as ramps and handrails, to enable people to return safely to their own homes following hospital discharge. Benefits such as quicker hospital discharge, preventing people going into hospital and preventing accidents and falls in the home mean that every £1 spent generates £7.50 of cost savings for health and social care.
- **Preventive home adaptations** reduce the need for reactive adaptation and NHS use among those with long-term illness or disability. The overall payback time in terms of NHS cost reductions is 15.2 years, although the payback time is much quicker for adaptations that reduce falls (five to six years).
- Currently complex funding arrangements for adaptations means that eligibility is based on location and tenure rather than need. Reorienting services to **focus on need** will help to address inequalities in access and health and well-being outcomes.

Falls prevention

- Cost-effective interventions to prevent falls include fitting stair rails, balustrades, grab rails and repairing paths. Studies have shown there is a positive correlation between housing renewal/modification/improvement (such as simple ramps, rails, lighting improvements, and level-access showers) and falls prevention and health improvement.

- **Home modifications** such as handrails, grab rails, outside lighting and slip resistance surfaces are considered to be very cost-effective and have been found to result in a 26% reduction in the rate of injuries requiring medical treatment caused by falls and a 39% reduction in injuries specific to the home-modification intervention.
- Investing in interventions to mitigate against defects that can cause falls results in a payback over a period of between 2.6 to 3.6 years.

Supporting independence

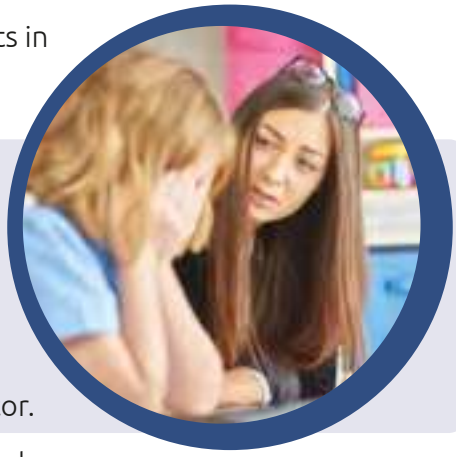
- Housing is an important setting for older people to maintain their independence. This can involve supporting older people to live in accessible homes suitable for independent living. **Extra care schemes** consist of purpose-built, accessible buildings that promote independent living, where there is access to care and support services. Impacts of such schemes include reduced frailty and reduced NHS costs.

Homelessness (See Section 10.3, Main report)

For every £1 invested in moving people out of homelessness, it is estimated that there is £2.80 return on investment, due to reduced use of homeless services, improved well-being, increased economic productivity due to people entering employment and reduced spend in health care and criminal justice services. Priority areas for preventative action include:

Prevention of homelessness

- Preventing homelessness through **early interventions** results in savings of between £3,000 to £19,500 compared to allowing homelessness to persist for 12 months.



- Interventions that help to tackle **Adverse Childhood Experiences**, for example by increasing resilience assets such as having a supportive adult and/or family or increasing school attendance can help protect children against homelessness in later life. There are a range of interventions already available in Wales, which focus on raising awareness and encouraging ACE-based approaches including through ACE-informed training for the housing sector.
- **Homeless young people** are more likely to have been in care, have mental health issues and have had involvement with youth offending services. Actions already underway include identifying early indicators of homelessness, with the aim of prevention, and breaking the link between homelessness and educational disengagement, the care system and the youth justice system.

Access to health and care services

- **Co-ordinated**, effective and cost-effective approaches, such as the 'Everyone in the Room' model provide examples of how homeless people can access multiple agencies and health and care services in a **supportive environment**. Outcomes include reduced missed appointments, reduction in crises and requirement for emergency interventions.

Holistic and person-centred services supporting people into homes

- In the United States, **supportive housing** for those lacking housing and who face a number of complex medical, mental health and/or substance use issues, results in reduced shelter use, hospitalisations and length of stay, and time incarcerated. The savings from these reductions outweigh the costs of the supportive housing.

- **Housing First**, which builds on learning from previous supportive housing models, provides immediate access to housing without preconditions. £1 invested in Housing First for rough sleepers with high and complex support needs generates £3.60 in benefits.

Housing inequality (See Section 10.4, Main report)

- The housing domain of the **Wales Index of Multiple Deprivation** (WIMD) is limited to two indicators (people living in overcrowded households; people living in households with no central heating). Additional indicators that could increase the robustness of this domain include inadequate housing conditions, fuel poverty and lack of affordable housing.

- Findings from the latest Welsh Housing Conditions Survey (2018) can be used to better understand and **develop further evidence of the impact of poor housing quality on health and societal costs**.

- The biggest returns on investment rely on targeting the vulnerable groups and households most in need, rather than on an area-based approach. **Identifying groups with greatest need** requires cross organisational working and sharing of intelligence.

Partnerships (See Section 10.5, Main report)

Priority areas for action include:

- Closer alignment of housing, health and social care, to maximise benefits of collaboration and integration. This requires a greater recognition by the health and care sectors of the significant contribution housing brings in improving health and well-being both at an individual and population level.

- Greater involvement and contribution of the housing sector to community well-being through partnership groups, such as at Regional Partnership Boards.

Investing in Health and Housing in Wales

Those at greatest risk from poor housing are:


Older people

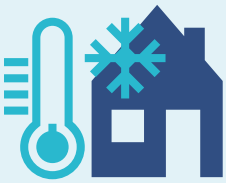

Children


Those with existing health problems

The unemployed

Health and Well-being Impacts

10% of excess winter deaths can be attributed to **fuel poverty**



People who live in homes which are cold, damp and unsafe are more at risk of:

- poor physical and mental health and well-being
- cancers, circulatory, cardiovascular and respiratory ill-health

- more falls and serious injury

- arthritic and rheumatic conditions

Unhealthy homes


18% of homes pose an unacceptable **risk to health**


Cold homes impact on physical health, social isolation, stress, and financial capability


Damp or mouldy homes increase **respiratory problems by 30-50%**, mainly in children


12% of households are in fuel poverty

Unsuitable homes


3 in 4 over 65s live in their own home


30% of over 65s and **50% of over 80s** have a fall each year


Accidental injuries are a leading cause of death for children and young people


Overcrowding is linked to stress, alcohol abuse and depression

Homelessness

Those with **4+ Adverse Childhood Experiences** are **16 times more likely** to become homeless

A third of homelessness is caused by a health problem

Costs to the NHS and Costs to Society

Poor quality housing in Wales costs per year:

The NHS

> £95m
(first year treatment costs)

> £1bn
(distress, economy, life-long care, welfare, finances)

Welsh society

The cost to mitigate poor housing is:

£584m

in repairs, improvements, reducing falls and cold hazards

The removal of hazards in the home offers:

Payback in **6 years** for immediate health savings

Payback in just over **6 months** for societal savings

Priority Areas for Preventative Action

Housing quality

- Healthy, safe and well managed homes regardless of tenure
- Eliminate cold, damp and mouldy homes, and improve ventilation
- Energy efficiency measures and fuel poverty schemes
- Support vulnerable households instead of area-based interventions
- Good home quality standards, particularly in the privately rented sector
- Improve planning through housing strategies and Health Impact Assessment

Suitable housing

- Integrating adaptations with personal health care plans
- Home modifications and adaptations based on need, not location or tenure
- Falls prevention programmes
- Support independence for older people through extra care schemes
- Homes that promote social inclusion
- Tackle overcrowding

Homelessness

- Early intervention and prevention e.g. tackling Adverse Childhood Experiences
- Co-ordinated approaches to improve access to health and care services
- Person-centred approaches taking services to people and supporting people into homes e.g. avoiding complex systems, more assertive outreach, Housing First
- Raise awareness at a local level of what benefits and support people are entitled to receive

Housing inequality

- Develop evidence on the cost and impact of poor housing on health and society
- Identify those with the greatest need through partnership working and shared intelligence

Partnerships

- Alignment of housing, health and social care, maximising collaboration and integration
- Increased involvement of housing sector in partnerships e.g. Regional Partnership Boards

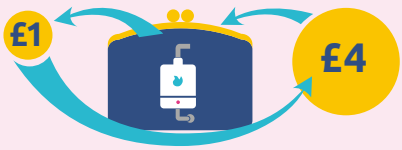
Return on Investment

Housing quality

£1 spent on central heating generates 42p in health benefits

£1 spent on insulation interventions provides a return of £1.87[1]

£1 spent on improving **warmth** in vulnerable households results in £4 of health benefits



3.9% reduction in GP visits for respiratory conditions in **Nest scheme** beneficiaries (compared to 9.8% increase in the control group)

Improving **heating and ventilation** improves asthma in children and is cost-effective

39% fewer hospital admissions for cardiorespiratory conditions and injuries in those with **upgraded houses**

Unsuitable homes

Falls prevention results in pay back in less than 3 years

Adaptations to reduce falls pay back in 5-6 years in NHS costs

Home modifications result in 26% fewer injuries requiring medical treatment (caused by falls) per year

£1 spent on **adaptations prior to hospital discharge** generates £7.50 of cost savings for health and social care

Extra care schemes reduce NHS health costs by £1,786 per person per year

Homelessness

Housing First models for homeless individuals with complex needs returns **£3.60 for every £1 spent**

Every **£1 invested** in moving people out of homelessness generates **£2.80 in benefits**

Preventing homelessness results in savings of **~£9,266 per person** compared to allowing homelessness to persist for 12 months

[1] Translated from findings of intervention carried out in New Zealand.

Our Priorities 2018-2030

Building and mobilising knowledge and skills to improve health and well-being across Wales

Influencing the wider determinants of health

Improving mental well-being and resilience

Working to Achieve a Healthier Future for Wales

Supporting the development of a sustainable **health and care system focused on prevention** and early intervention

Promoting healthy behaviours

Protecting the public from infection and environmental threats to health

Securing a **healthy future** for the next generation

Our Values:

Working together with trust and respect to make a difference

GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

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