

Housing and Health

Introduction

Poor housing conditions such as overcrowding, damp, indoor pollutants and cold have all been shown to be associated with physical illnesses including eczema, hypothermia and heart disease as well as mental health illnesses such as increased anxiety, depression and stress¹. Respiratory health has been shown to be particularly affected in both adults and children².

The Building Research Establishment (BRE) in 2015 suggested that the cost to the NHS of poor housing in England was £2 billion per annum (based on first year treatment costs only): an increase from the previous 2010 estimate (£600million³). Unsafe houses that increase the likelihood of falls cost the NHS over £400 million per annum alone.⁴

The following briefing looks at the main causes for poor health caused by housing, and how prevalent these effects are in Norfolk.

Summary

Various factors influence health relating to housing;

- Housing hazards – it is estimated that there are approximately 58,546 category one hazards⁵ in Norfolk, which if resolved would prevent service demand on the NHS, social care and would have societal benefits such as improving social mobility.
- Excess cold - The cold and damp of winter can have dramatic effects on those already vulnerable because of their age, deprivation, illness or disability.
- Fuel poverty - Much of the fuel poverty in Norfolk is experienced in rural areas, these homes are more likely to be larger, and less efficient than homes in urban areas, and therefore cost more to heat⁴ and also more likely to be rented privately.
- Excess winter deaths – Fuel poverty, cold and damp housing conditions have an impact on the number of excess winter deaths. For every degree Celsius drop in temperature in the winter, the death rate in the coldest 10% of homes increases 2.8%⁶.
- Overcrowding - Households that have an occupancy rating of -1 or below, there are not enough bedrooms for the people living within the property⁷ tend to be in the urban centres of Norfolk.
- Mould and damp - Exposure to damp environments and mould can cause coughs and wheezing in otherwise healthy individuals and increased symptoms in people who suffer with asthma⁸. It is estimated 4.4% of houses suffer from some form of damp in the UK⁹. This would equate to just over 18,000 dwellings in Norfolk.
- Safety in the home - In Norfolk in 2014/15 there were 3,842 people aged over 65 who were admitted to hospital with injuries due to falls, well below the national average and just below the regional average¹⁰, falls have wide-ranging consequences including social exclusion and loneliness.
- Homelessness – no home at all has a significant impact on health which is discussed in our JSNA briefing paper on Homelessness.¹¹

¹ <http://www.cieh-housing-and-health-resource.co.uk/mental-health-and-housing/key-issues/>

² <http://www.cieh-housing-and-health-resource.co.uk/housing-conditions-and-health/key-issues/>

³ <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

⁴ <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

⁵ <http://www.staffordbc.gov.uk/housing-health-and-safety-rating-system-the-29-hazards>

⁶ <https://www.nice.org.uk/guidance/ng6/chapter/3-context>

⁷ <https://www.nomisweb.co.uk/census/2011/qs412ew>

⁸ https://www.cdc.gov/mold/dampness_facts.htm

⁹ <https://www.gov.uk/government/statistical-data-sets/dwelling-condition-and-safety>

¹⁰ <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/gid/1000042/pat/6/par/E12000006/ati/102/are/E10000020/iid/22401/age/27/sex/4>

¹¹ <http://www.norfolkinsight.org.uk/jsna/document-library/briefing-papers/>

Headlines

Total cost of housing hazards

Having established that poor quality housing has negative impacts on the health of an individual, it is important to identify the standard of housing throughout Norfolk. A category one hazard indicates that 'a hazard is a serious and immediate risk to a person's health and safety'¹². There are 29 different hazards that can be classified as category one including damp, excess cold, excess heat and overcrowding. 2014/15 local authority returns estimated that there are 58,546 homes with at least one category one hazards in Norfolk. The following table takes modelled national estimates for category one hazards in England, and applies the figures to Norfolk based on the number of households¹³. The most common hazards in Norfolk are excess cold, falls, fire, lead, radon and hot surfaces.

	Norfolk estimate	Average repair cost	Total cost to repair	Savings to NHS per annum	Payback (years)
Falls on stairs	23786	£857	£20,384,565	£3,641,289	5.6
Excess cold	23298	£4,574	£106,565,355	£14,916,779	7.14
Falls on level	9562	£780	£7,458,428	£2,247,583	3.32
Falls between levels	4219	£927	£3,910,564	£1,482,332	2.64
Fire	2261	£3,632	£8,211,608	£440,999	18.62
Lead	1970	£1,661	£3,272,356	£244,103	13.41
Radon	1892	£1,126	£2,130,286	£158,745	13.42
Hot surfaces	1884	£2,436	£4,590,052	£264,820	17.33
Falls - baths	1374	£521	£715,718	£276,739	2.59
Collision or entrapment	1302	£692	£901,010	£277,609	3.25
Dampness	938	£7,382	£6,924,294	£274,022	25.27
Entry by intruders	831	£1,063	£883,736	£231,725	3.81
Sanitation	619	£1,154	£714,653	£71,845	9.95
Food safety	568	£2,461	£1,396,885	£65,806	21.23
Pests	499	£1,921	£957,706	£59,811	16.01
Overcrowding	420	£16,100	£6,757,276	£40,357	167.44
Structural collapse	271	£812	£219,777	£23,285	9.44
Carbon monoxide	270	£506	£136,439	£26,180	5.21
Electrical problems	162	£2,360	£381,912	£21,642	17.65
Ergonomics	144	£483	£69,645	£17,327	4.02
Un-combusted fuel gas	133	£489	£64,870	£12,553	5.17
Noise	108	£1,411	£152,846	£30,804	4.96
Lighting	96	£1,947	£186,671	£10,981	17
Water supply	86	£1,202	£103,429	£10,662	9.7
Excess Heat	24	£470	£11,313	£2,274	4.98
Total*	61059	£2,875	£175,544,974	£24,850,272	7.13
*Will not sum up as some dwellings have multiple hazards					

¹² <http://www.staffordbc.gov.uk/housing-health-and-safety-rating-system-the-29-hazards>

¹³ <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

It should be noted that 61,059 total is based on national estimates for the year 2011, which is why the figure differs from the 58,546 quoted previously, which is taken from local authority returns in 14/15.

The data suggests that if all category one hazards were removed, the cost would be repaid within eight years through lower NHS costs. The table above highlights that some repairs are more cost-effective than others, leading quicker returns on investment. It is also possible that solving one hazard may mitigate risks for another, making the overall cost of fixing the hazards lower than quoted above. For example, insulation can improve both excess cold, dampness and noise. The figures do not include extra costs incurred by the social care system or any other issues that occur due to poor housing that do not end up as an NHS cost, such as the societal benefits of growing up in safe accommodation. An example could be improved social mobility, as growing up in an overcrowded property can affect a child throughout their lives and hold them back throughout their career¹⁴.

Excess Cold

Excess cold experienced in the winter months can affect or exacerbate a range of health problems, including respiratory conditions, cardiovascular disease, mental health conditions and accidental injury for all age groups. Older people may be particularly vulnerable during cold periods leading to excess winter deaths (EWDs), the majority of deaths occurred among those aged 75 and over. Similarly, children living in cold, damp and mouldy homes have been found to be more likely to develop symptoms of asthma than children living in warm and dry homes. The estimated cost associated with asthma to the NHS, based on 2008 figures, was at least £847million per annum¹⁵.

Winter is associated with an increase in illness and injuries. In common with other countries, in England and Wales more people die in the winter than in the summer. However, there is evidence that risk to health from cold weather and the effects of cold weather on health are predictable and mostly preventable. Poor winter health is associated with cold weather, but other factors are important. For example, colder Scandinavian countries have relatively fewer excess winter deaths compared to the UK. A report by Marmot et al¹⁶, identified that 22% of excess winter deaths in the UK could be attributed to cold housing. The cold and damp of winter can have dramatic effects on those already vulnerable because of their age, deprivation, illness or disability. Excess Winter Deaths are calculated as the number of winter deaths (those deaths that occur in December through to March) minus the average number of deaths from the preceding August to November and the following April to July.

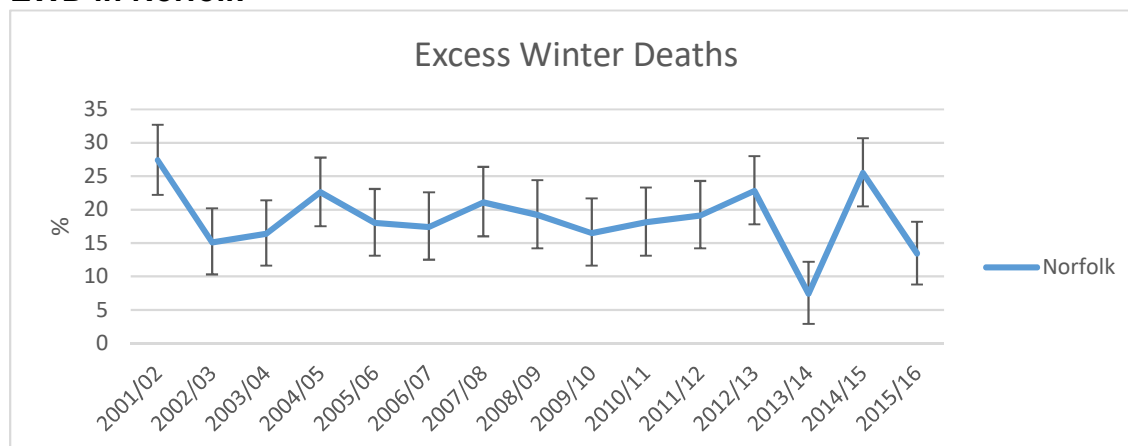
¹⁴

http://england.shelter.org.uk/professional_resources/policy_and_research/policy_library/policy_library_folder/chance_of_a_lifetime_-_the_impact_of_bad_housing_on_childrens_lives

¹⁵ <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

¹⁶ [The Marmot Review Team for Friends of the Earth, The Health Impacts of Cold Homes and Fuel Poverty. London, Marmot Review Team and Friends of the Earth, 2011](#)

EWD in Norfolk



Excess Winter Deaths = winter deaths – average non winter deaths

Figure 1: Excess Winter Deaths – Source: Public Health England

Looking at the method used to derive excess winter mortality (EWM), it is clear that higher than average non-winter deaths, combined with a lower than average winter deaths estimate, has resulted in a low number of excess winter deaths in 2013/14¹⁷. It should be noted that excess winter death figures can be influenced by higher than expected deaths in the summer, this would cause the excess winter death figure to fall, even if winter deaths remained stable. Housing conditions can have an impact on the number of excess winter deaths, for every degree Celsius drop in temperature in the winter, the death rate in the coldest 10% of homes increases 2.8%¹⁸.

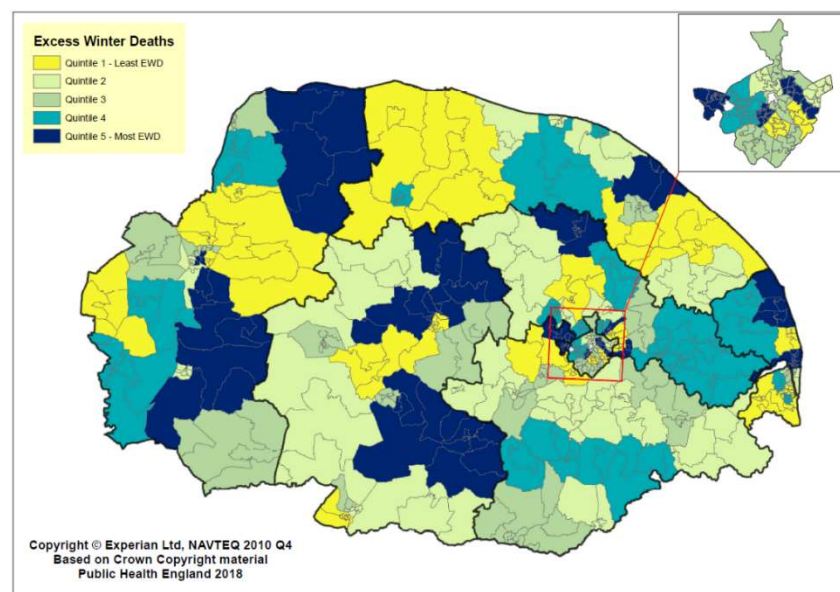


Figure 2 displays EWD by MSOA and indicates that the issue is spread across all 7 districts within Norfolk. However, districts such as Norwich and Breckland have high levels of EWD compared to South Norfolk or North Norfolk.

Figure 2: Excess Winter Deaths – Source: Public Health England

A previous JSNA briefing focusses solely on EWD in Norfolk and can be found here:

<http://www.norfolkinsight.org.uk/jsna/document-library/briefing-papers/>

17

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/excesswintermortalityinenglandandwales/2014-11-28#excess-winter-mortality-ewm-by-geography>

18 <https://www.nice.org.uk/guidance/ng6/chapter/3-context>

Fuel Poverty in Norfolk

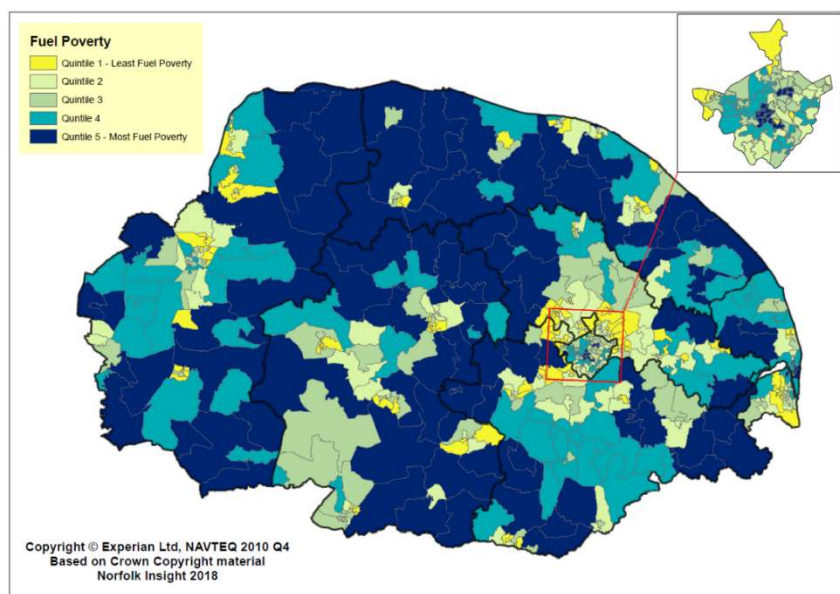


Figure 3: Fuel Poverty – Source: Norfolk Insight

A household is considered to be fuel poor if it has higher than typical energy costs and would be left with a disposable income below the poverty line if it spent the required money to meet those costs. Not all poor households are fuel poor, whereas households not normally considered poor can be pushed into fuel poverty via high energy costs. Fuel poverty is driven by three main factors: household income, the current cost of energy and the energy efficiency of the home. England's housing stock is made up of relatively energy inefficient properties which can result in homes that are difficult or costly to heat.

The amount a home costs to heat is based on the buildings energy efficiency, often referred to as a SAP rating. Older homes tend to be less efficient than more recent buildings. The map indicates that much of the fuel poverty in Norfolk is experienced in rural areas, these homes are more likely to be larger, and less efficient than homes in urban areas, and therefore cost more to heat¹⁹.

There is also evidence that the quality of housing and tenure are linked, of those 58,546 homes with category one hazards in Norfolk, 92% are found in the private sector²⁰ and households most likely to be in fuel poverty are rented privately – this is likely due to a combination of lower incomes of tenants, high rents relative to income, and low quality housing.

Overcrowding

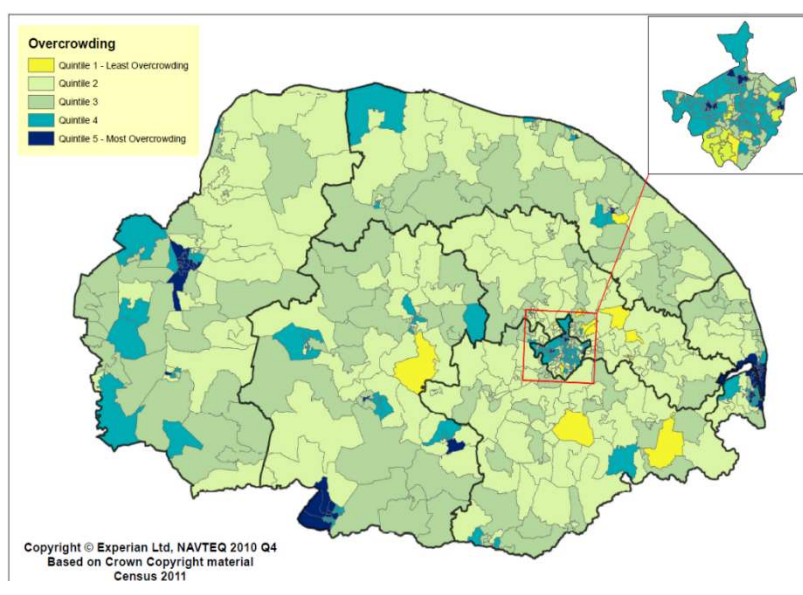


Figure 4: Overcrowding – Source: Census 2011

Overcrowding in the home is not a new phenomenon and evidence of the health effects has accrued over a long period. Data from the Office for National Statistics shows that homes with six residents are the fastest growing category of household and approximately 3 million people in the UK now live in a home with at least five other

¹⁹ <https://www.nice.org.uk/guidance/ng6/chapter/3-context>

²⁰ 2011 Census

individuals²¹. Children are most likely to live in overcrowded housing compared with working age adults and pensioners. Children living in overcrowded homes are up to 10 times more likely to contract meningitis and three times more likely to have respiratory problems²². Respiratory and infectious diseases, such as tuberculosis (TB), and an increased risk of accidents impact on all age groups. Overcrowding also leads to uncomfortable or irregular sleeping arrangements leading to regularly disturbed sleep, impacting on mental wellbeing, physical health and performance at work or in school.

The map shows the % of households that have an occupancy rating of -1 or below, which indicates there are not enough bedrooms for the people living within the property²³. The map shows that these areas tend to be urban, either in Norwich, Great Yarmouth or King's Lynn.

Mould and dampness

Living near mould or dampness influences people's health in a variety of ways. Depending on the individual, the effects can range from having no effect at all to increased susceptibility to lung infections. In addition to mould, the Institute for Medicine found evidence to suggest that exposure to damp environments caused coughs and wheezing in otherwise healthy individuals, and increased symptoms in people who suffer with asthma²⁴. It is estimated that 4.4% of houses suffer from some form of damp in the UK²⁵. If this rate was projected across Norfolk, this would equate to just over 18,000 damp dwellings in Norfolk.

Housing Safety

One indication of how safe homes are in an area is the amount of falls reported as a % of those age 65+. There is limited variance at the district level within Norfolk, more variance is found at the ward level, however all wards in Norfolk are within the range of 24-30%. Age UK have estimated that falls cost the NHS £4.6million pounds per day²⁶. Research suggests that those people who have a fall are more likely to self-report as socially excluded²⁷, which in turn is more likely to lead to loneliness. Loneliness is associated with depression, sleep problems, impaired cognitive health, heightened vascular resistance, hypertension, psychological stress and mental health problems²⁸. Research by the University of York²⁹ found that loneliness and poor social relationships were associated with a 29 % increase in risk of developing coronary heart disease and a 32 % increase in risk of stroke, all of which has a cost to the NHS and social care sector.

Homelessness

The issues relating to homelessness will be discussed in more detail in a future JSNA briefing that examines the affordability of housing. For more information regarding homelessness in Norfolk you can refer to our previous Homelessness JSNA briefing³⁰.

²¹ <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

²²

http://england.shelter.org.uk/professional_resources/policy_and_research/policy_library/policy_library_folder/chance_of_a_lifetime_-_the_impact_of_bad_housing_on_childrens_lives

²³ <https://www.nomisweb.co.uk/census/2011/qs412ew>

²⁴ https://www.cdc.gov/mold/dampness_facts.htm

²⁵ <https://www.gov.uk/government/statistical-data-sets/dwelling-condition-and-safety>

²⁶ <https://www.ageuk.org.uk/latest-press/archive/falls-over-65s-cost-nhs/>

²⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5584003/>

²⁸ <https://www.ageuk.org.uk/information-advice/health-wellbeing/loneliness/>

²⁹ <https://www.york.ac.uk/news-and-events/news/2016/research/loneliness-stroke-heart/>

³⁰ <http://www.norfolkinsight.org.uk/jsna/document-library/briefing-papers/>

Influences on Health and Wellbeing

Housing affects your health directly but it also can affect your health indirectly. This briefing has explored the links between poor housing and the likelihood of suffering from physical illnesses including eczema, hypothermia and heart disease as well as respiratory illnesses³¹. Depression and anxiety can be exacerbated by many elements of poor housing, damp, mould, excess cold, overcrowding, lighting and hygiene. Children are particularly vulnerable to hazards relating to lead (cognitive and behavioural problems), excessive cold and overcrowding (space to study and play). Fear of crime, stress and anguish can be increased by poor security and local environmental conditions. Emotional distress is increased by poor hygiene, sanitation, refuse and pests. Many aspects of poor housing impact on mental health which is acknowledged to also impact on long-term physical health³².

It is suggested that further work is undertaken to explore the impact that affordability of housing has on health outcomes as well as wider determinants such as the crime levels of an area, noise levels, air quality, and access to services. Where you live affects how you interact with all these issues so understanding the effect on a person's health is vital.

Social, environmental, population context

Each section of this report has highlighted those most at risk of a hazard, in general vulnerable groups, children and older people are more likely than others to be affected by each hazard. Certain hazards are also more likely to be found in rural areas, such as excess cold, but others in urban areas, such as overcrowding.

Current Services, local plans and strategies

The statutory duty for safe housing sits with district councils who have a duty to enforce the removal of category one hazards that are known to them. There are several initiatives ongoing to help prevent health issues caused by housing, two of these involve district housing officers being based at both GP practices and hospitals in order to help with any housing issues that arise. Housing officers have been based at Norfolk & Norwich University Hospital for 17 weeks, early evaluation suggests over 100 patients supported to date ranging from 33 to 94 years old leading to a reduction of 386 bed days resulting in savings of £77,000. Disabled Facilities Grants (DFG) are also available through district councils to those who meet the criteria which help make the home safe and promote independence. Norfolk County Council also offers equipment and adaptations for people with certain circumstances³³. Finally, multiple districts in Norfolk offer a Switch and Save scheme which reduces energy costs for those that sign up.

Considerations for Health and Wellbeing Board and commissioners

Services should be targeted at vulnerable groups such as older people and children, interventions to make homes more energy efficient should be targeted in rural areas, whereas interventions to alleviate overcrowding and falls could be targeted at more urban areas.

³¹ <http://www.cieh-housing-and-health-resource.co.uk/housing-conditions-and-health/key-issues/>

³² <http://www.cieh-housing-and-health-resource.co.uk/mental-health-and-housing/key-issues/>

³³ <https://www.norfolk.gov.uk/care-support-and-health/support-to-stay-at-home/equipment-and-adaptations>

References and information

Office for National Statistics: <https://www.ons.gov.uk/>

NOMIS: <https://www.nomisweb.co.uk/>

Norfolk insight: <http://www.norfolkinsight.org.uk/>

Authors

Ben Foster – Analyst – ben.foster@norfolk.gov.uk

Online feedback:

Send us your query or feedback online using our online feedback form at <http://www.norfolkinsight.org.uk/feedback>

Email: JSNA@norfolk.gov.uk

Publication date

February 2018