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Nottinghamshire County Council

Nottingham City Council

Executive summary

Introduction

Many factors combine together to affect the health of individuals and communities. These determinants of health are illustrated in Figure 1 and include the social and economic environment, the physical environment, and the person's individual characteristics and behaviours.

Figure 1 Determinants of Health – Barton & Grant (2006) W.H.O. accessed (2015)



This Joint Strategic Needs Assessment (JSNA) identifies the strategic, policy and commissioning needs that will reduce Excess Winter Deaths (EWD) in Nottingham.
The term "Excess Winter Deaths" (EWD) describes the additional number of people who die in winter compared with the spring summer and autumn months. The Excess Winter Death Index (EWDI) explains EWD as a proportion of the expected deaths based on the number of non-winter deaths (commonly expressed as a percentage). EWD are affected by a variety of aspects through each level.

1) Who is at risk and Why?

A higher excess winter mortality rate is found in the UK than in many European countries which experience colder winters. Out of the total population of 330,734 in Nottingham, an average of 3,000 people died per year between 2007/8 and 2012/13. Of those, an average 140 were excess winter deaths. *Public Health Mortality Files ONS (2015*). A full list of the groups of people at greater risk of harm from cold weather, are identified in the main section. Age is the strongest risk factor and otherwise "frail" older people, with an estimated 70% of EWD in the City being in people aged over 75. However, due to health inequalities, in some areas of Nottingham, people 65 and over are at greater risk. This is true particularly for older people living alone, who do not have additional social services support. Children under age five are also at risk and cold damp housing affects educational attainment and life chances of children at all ages. Other at risk groups include people and children with learning disabilities, mental health problems, pre-existing chronic medical conditions such as heart disease, stroke, asthma, chronic obstructive pulmonary disease or diabetes.

Unmet need and gaps

Although some progress has been made, many of the gaps in knowledge and services identified by NHS Nottingham City (2010) are still relevant today:

Knowledge and research gaps:

1) Whilst some social housing landlords have data about households most at risk of EWD, there are insufficient shared knowledge and tools to be able to identify these systematically across all tenures.
2) there is a lack of systematised knowledge by frontline health and care staff and their managers about what works, to motivate an increase in the level of referrals
3) there is a lack of understanding of what works to promote behaviour change (both indoors and outside) to reduce cold exposure
4) more information is needed about the projected impacts of climate change on vulnerable people in Nottingham.

Service gaps:

1. Although some social housing landlords have good data to target their most vulnerable households, there is a lack of access and use of comprehensive available data. This is in part due to the guidance that prevents organisations share data
2. there a lack of capacity to systematically target vulnerable households who do not respond to existing programs, to ensure they gain access to energy efficiency improvement services
3. under access of pension credit is an issue for older people in Nottingham.
4. there are too few referrals to energy efficiency services of vulnerable householders from frontline health and social care staff
5. there are insufficient resources to operate targeted energy advice services in the homes of the most vulnerable householders
6. there is a lack of systematic public and professional awareness of the health problems associated with cold exposure and services available to tackle these
7. there is a perceived lack of consistent strategic high level support and leadership for a comprehensive and systematic approach.

Recommendations for commissioners

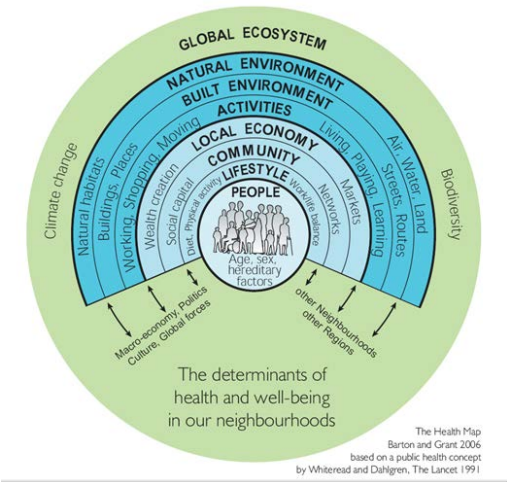
A full list of recommendations is in the main section. The key recommendation is for a system-wide approach to assess the nature of the problem, including the likely forthcoming impacts of climate change on vulnerable populations. The Health and Wellbeing Board, supported by the Nottingham Health and Housing Partnership Board, should develop a strategy and action plan that takes account of information and guidance from this JSNA and builds on local builds on local good practice.

What do we know?

1 The Determinants of Health

The determinants of health are illustrated in Figure 2 by Barton and Grant. EWD are affected by a variety of aspects through each level.

Figure 2: Determinants of Health – Barton & Grant (2006)



The data showing the level of risk for each grouping are found in section 2 however the key points about who is most at risk, what they die from, when they die and the underlying causes are outlined in this section.

2 Who is at Risk and Why?

2.1 Who?

Definition of Excess Winter Death (EWD): "Winter deaths" occur in December to March and "non winter" deaths are those occurring in the 4 months leading up to December and the 4 months following March. EWD are calculated as the number of deaths in the 4 winter months (December to March) minus the number of deaths in the 8 'summer' (or non-winter) months divided by 2. The Excess Winter Mortality Index is calculated as the number of excess winter deaths divided by the average non-winter deaths, expressed as a percentage of the non-winter deaths

Figure 3 EWD = Winter Deaths – (Summer Deaths /2) x 100
(Summer Deaths / 2)

2012											2013										
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							SUMMER				WINTER				SUMMER								

An index of 20 shows that there were 20% more deaths in winter compared with the non-winter period. Out of the total population of 330,734 in Nottingham, an average of 3,000 people died per year between 2007/8 and 2012/13. Of those, an average 140 were excess winter deaths. *Public Health Mortality Files ONS (2015).*
The following types of people are at greater risk of harm from cold weather; -

- Age is the strongest risk factor and otherwise “frail” older people, with an estimated 70% of EWD in the City being in people aged over 75. However in some parts of the City the age of those at risk is younger due to health inequalities (people 65 and over in some parts of Nottingham are at greater risk). This is true particularly for older people who live alone and do not have additional social services support
- Gender: There were more EWD in women than men in 2012/13.
- children under the age of five
- people and children with pre-existing chronic medical conditions such as heart disease, stroke, asthma, chronic obstructive pulmonary disease or diabetes
- people with mental ill-health (including dementia) that reduces individuals’ ability to self-care
- people with learning difficulties
- people assessed as being at risk of, or having had, recurrent falls
- people who are housebound or otherwise low mobility
- homeless or people sleeping rough
- other marginalised groups including asylum seekers
- vulnerable people not registered with a GP
- Ethnicity: - We are not aware of any ethnic or cultural factors.

2.2 What illnesses do those most at risk die from?

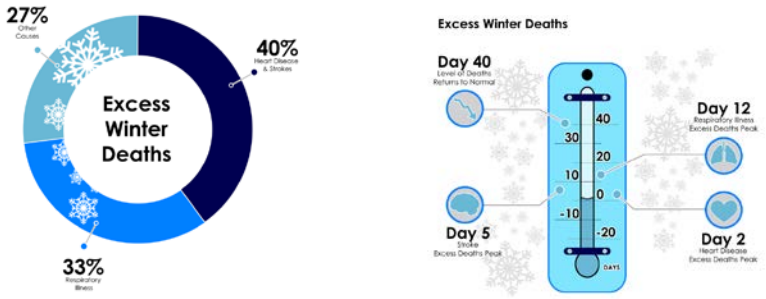
EWD are most commonly due to respiratory disease, heart attacks and strokes (ONS, 2008). Work by Wilkinson et al. (2007) suggests that cold indoor temperatures are strongly implicated in people with these conditions. People with a pre-existing respiratory condition have a significantly higher risk of excess winter death than other illnesses.

Substantial falls in winter mortality up to 1977 were partly due to the disappearance of winter epidemics of influenza (Euro Winter Group 1977), however statistical regression modelling of excess mortality over the past few seasons, including 2012-13, has shown influenza to be a major explanatory factor. Excess mortality in 2012-13 coincided with influenza, Respiratory Syncytial Virus (RSV) and cold weather, with an unusually prolonged influenza season and late cold period reported (Public Health England 2013). Hypothermia alone is rarely the cause of death. However, low temperature exacerbates pre-existing conditions.

2.3 When are people most likely to die from cold related conditions?

For every degree Celsius below the winter average, there are an extra 8,000 deaths across the UK. There is a concomitant rise in morbidity with worsening asthma and chronic obstructive pulmonary disease rates, increased blood pressure and risk of heart attack and strokes, worsening arthritis, increased accidents at home and impaired mental health. *Faculty of Public Health (May 2006).* However, it is important to note that EWD will also occur at normal winter temperatures in the UK.

Figure 4 Euro Winter Group (1997)



2.4 What are the underlying causes?

a Lifestyle:

- **Smoking**: A key reason we have higher Excess Winter Deaths (EWD) in this country, and especially Nottingham, is a legacy of smoking related Long Term Conditions (LTCs), combined with poorly insulated housing which exposes the population to cold and damp Nottingham Clinical Commissioning Group (2015)
- **Physical activity**; - Physical activity helps to maintain good physical and mental health. Recommendations on physical activity guidelines for Older Adults include engaging in moderate-intensity aerobic physical activity for at least 150 minutes per week (*Bull et al 2010).* During a cold period it is recommended that those with a heart or respiratory problems should stay inside. However, if going out is essential then the advice is to wrap up warm, inside and out and to layer clothing to stay warm.
- **Food**: Many older people find it challenging to eat regular healthy meals due to decreased appetite, lack of transport to shops and living alone. Food is a vital source of energy, which helps people to keep warm and healthy. Hot meals and drinks should be taken regularly throughout the day.
- **Falls**: There is a link between cold homes and the increase in likelihood of falls in the home. There is also a risk of people who fall suffering cold injury while awaiting help – 'long lies' are at increased risk of death following a fall. Falls can therefore lead to hospital admission and other longer lasting health issues. (Marmot Review 2011).

b Social and Community Networks

- Loneliness has a very negative impact on our health and can affect those without adequate social networks. With regard to EWD, isolated individuals are more likely to have to go out into the cold for essential supplies, than those with good social networks. *Holt-Lunstad J, Smith TB, Layton JB* (2010) explain that the influence of social relationships on risk for mortality is comparable with well-established risk factors for mortality.
- Neighbours, friends, family & voluntary organisations like Age UK and faith based groups are important for helping many older people with support on a regular basis and in emergencies e.g. with heating breakdowns.

c Economic:

- Fuel poverty has an influence on health and well-being and on the ability of people in fuel poverty to function effectively in cold weather. Fuel poverty in England is measured by the Low Income High Costs definition, which considers a household to be in fuel poverty if: they have required fuel costs that are above average (the national median level) and were they to spend that amount they would be left with a residual income below the official poverty line. The WHO criterion for fuel poverty is when more than 10% of household income is spent to maintain a satisfactory indoor heating level, defined by WHO as a minimum of 18 degrees centigrade *(Liddell & Morris, 2010; WHO-EURO, 2007).*
- EWD occurs across all social groups: There is no clear association between deprivation and EWD as the more affluent experience similar rates to those who are less well off.
- The key causes of fuel poverty are inefficient housing, low income, under-occupation of dwellings and fuel prices. The effects of fuel poverty include cold homes, illness, discomfort from cold and money budgeting problems. *Boardman B et al* (2005).
- Expenditure: Increasing fuel prices resulting from a reduction in access to cheap oil and gas will increase pressures on fuel poverty. The key drivers behind fuel poverty are the energy efficiency of the property (and therefore, the energy required to heat and power the home), the cost of energy and household income. DECC (2013). The range of prices by different energy companies offers opportunities for most people to switch to lower

tariffs to reduce expenditure, and the perception of expenditure, on winter fuel bills. People on energy pre-payment meters often pay the most for their energy and it is more difficult for them to switch.

d Built Environment: Housing:

- People who live in cold and damp housing are more at risk than those who are able to keep their houses warm and dry. EWD are largely preventable through keeping warm indoors (adequate heating and insulation) and outdoors (adequate clothing and physical activity). As well as the energy efficiency of the house, the way a householder uses the house (e.g. use of heating system) is important in maintaining a healthy warm home.
- EWD in the coldest quarter of housing are estimated to be almost three times as high as in the warmest quarter of housing nationally.
- Risks are especially great for residents of poorly insulated homes. Those in the private housing sector are most at risk, especially older people living in older housing without central heating who have not received energy efficient interventions and who live in fuel poverty. Those living in homes with large rooms with high ceilings and inefficient heating who cannot afford to heat the whole house are particularly affected. The social housing sector has tended to maintain and improve the thermal efficiency of their homes to a higher standard than the private housing sector.
  The Marmot Review Team (2011)

e Environmental determinants: Global Ecosystem and Climate Change:

- Warmer wetter winters are likely to become the norm contributing to a reduction in EWD. However summer deaths will increase as summer temperatures rise. The effects of worldwide climate change on the British weather are likely to lead to an increase in the number of seasonal excess deaths (SED). *Dept. of Health National Support Team (2012).*

2) Size of the issue

Excess winter deaths fluctuate from year to year (figure 5). An estimated 31,100 excess winter deaths occurred in England and Wales in 2012/13 – a significant 29% increase compared with the previous winter (*Public Health England,* August 2013). However, this was followed by an estimated 18,200 excess winter deaths in England and Wales in 2013/14 – the lowest number of excess winter deaths since records began in 1950/51. In 2012/13, excess winter deaths in the East Midlands were similar to national levels; 20.6% compared to national level of 19.7%. http://www.ons.gov.uk/ons/rel/subnational-health2/excess-winter-mortality-in-england-and-wales/2013-14--provisional--and-2012-13--final-/stb.html

Gender

There are more excess winter deaths in women than men annually though numbers fluctuate year on year (figure 5). This is likely to be due to the fact that excess winter deaths increase with age and there are more women in the older population. A higher proportion of the female population are aged 75 and over (9% compared with 7% of males in 2012), and in people aged over 85, women outnumber men two to one (ONS, 2013a).

Figure 5 Number of Excess Winter Deaths, England and Wales

	All Persons	Male	Female	All 75 plus	All under 75
2011-12	24,200	10,590	13,610	19,500	4,700
2012-13	31,100	13,040	18,240	25,600	5,500
2013-14*	18,200	7,900	10,300	14,000	4,000

Source: (*ONS 2012/13 Provisional and 2011/12 final)*

Age: Locally, in Nottingham, 13.7% of deaths in children and adults under 65 years can be attributed to excess winter deaths. This rises to 17% in people aged 65-74 years and to over 30% in people over 85 years. As is the case nationally, people aged over 85 appear to be particularly vulnerable to excess mortality in winter. The Nottingham index (30.4) is comparable with the national (28.2%) and East Midlands index (28.2%). In Nottingham, around 10% of the over 85 year population will die each year, on average 490 persons per year of which 65 will contribute to excess winter deaths.

Figure 6: Nottingham City EWD: 6 years pooled - winter 2007/08 - winter 2012/13

Age Band	Summer Average (number)	Winter average (number)	Difference (winter – summer)	Nottingham EWM Index %
Age 0-64	844	959	115	13.7
Age 65-74	694	812	118	17.0
Age 75-84	1260	1478	218	17.3
Age 75+	2543	3151	608	23.9
Age 85+	1283	1673	390	30.4
All Ages	4080	4922	842	20.6

Source: Public Health Mortality File; HSCIC.

Illnesses - Underlying cause of death

EWD by cause of death in Nottingham is not significantly different to England (data for the East Midlands by cause of death are not available). Respiratory infections, including influenza, are the biggest contributors.

Figure 7 Illnesses - Underlying cause of death (2012/13)

	England and Wales		**Nottingham City**	
Cause	**EWD (number)**	**EWM Index (%)**	**EWD (number)**	**EWM Index (%)**
Circulatory diseases	8,260	18.4	44	21.8
Respiratory diseases	11,560	54.1	79	82.2
Dementia and Alzheimer's disease	5,160	37.1	28	44.4
Injury and poisoning	530	9.7	9	31
All causes	31,280	19.7	221	31.1

Source: England and Wales: ONS – http://www.ons.gov.uk/ons/rel/subnational-health2/excess-winter-mortality-in-england-and-wales/2013-14--provisional--and-2012-13--final-/stb.html
Nottingham City: Public Health Mortality File; HSCIC.

Geography: Nationally, the excess winter mortality index tends to be higher the North West in 2012/13 and lower in London. East Midlands has similar levels to the National average.

Figure 8 shows the excess winter deaths at ward level in the context of the population structure and also a similar calculation based on emergency hospital admissions. Even with 6 years of data, the numbers at ward level are very small and should be treated with caution (none of the wards are significantly higher than the City average). However, it is possible to

identify wards with a high proportion of elderly people who may be at risk. For instance, Arboretum has a high excess winter deaths index and a high excess admissions index but only 2% of the population are over 75 years. On the other hand, there are a number of wards with relatively large older populations and either high excess winter deaths (e.g. Wollaton West) or high emergency admissions (Clifton South) or both (Dales).

Figure 8 Excess winter deaths (6 year average) at electoral ward level

Ward Name	No. persons age 75 and over (2012)	% City Pop 75+ per ward	Population All Ages	% ward pop that are age 75+	% EWD per ward (07/08-12/13)	Deprivation (IMD2010)	% Excess Winter Emergency Adms.
Arboretum	287	1.6	14291	2.0	25.7	40.64	33.9
Aspley	535	2.9	18882	2.8	24.5	55.63	15.8
Basford	961	5.2	17107	5.6	16.2	35.37	3.4
Berridge	792	4.3	20631	3.8	32.9	31.67	11.7
Bestwood	1213	6.6	17773	6.8	10.7	43.02	8.8
Bilborough	1593	8.6	17973	8.9	18.1	46.46	6.2
Bridge	456	2.5	14306	3.2	16.1	38.52	19.1
Bulwell	971	5.2	17118	5.7	15.8	49.29	11.9
Bulwell Forest	1095	5.9	14010	7.8	29.8	26.79	0.4
Clifton North	1423	7.7	14861	9.6	23.3	26.42	5.8
Clifton South	1664	9.0	14702	11.3	16.5	34.45	16.7
Dales	899	4.9	17812	5.0	29.8	37.08	17.8
Dunkirk and Lenton	289	1.6	11805	2.4	23.7	21.91	7.0
Leen Valley	937	5.1	12446	7.5	21.3	26.04	-1.7
Mapperley	1026	5.5	15532	6.6	20.2	31.68	3.5
Radford and Park	553	3.0	24925	2.2	17.1	25.66	15.4
Sherwood	1069	5.8	15469	6.9	9.0	28.09	3.8
St Ann's	774	4.2	19103	4.1	22.5	49.79	10.9
Wollaton East & Lenton Abbey	366	2.0	16797	2.2	23.9	13.86	4.4
Wollaton West	1607	8.7	15191	10.6	32.5	11.53	2.7
City	**18510**	**100**	**330734**	**5.6**	**20.6**		**13.0**

3) Targets and Performance

a) **The Public Health Outcomes Framework** 'Healthy lives, healthy people: Improving outcomes and supporting transparency' published in January 2012 proposed reducing excess winter mortality as one of the outlined outcomes for the "Healthcare public health and preventing premature mortality" domain; (Public Health Outcomes Framework indicator 4.15, Domain 4)

b) **The Cold Weather Plan for England** provides strategic guidance and a framework which Local Resilience Forums, NHS, social care and other local organisations can incorporate into their winter planning arrangements.to protect individuals and communities from the effects of severe winter weather and ensure continuity of services. It aims to prevent the major avoidable effects on health during periods of cold weather in England by alerting people to the negative health effects of cold weather, and

enabling them to prepare and respond appropriately.

The cold weather alert service comprises 5 levels (Levels 0-4),

1. Long-term planning
2. Winter preparedness
3. Severe winter weather forecast – Alert and readiness (Mean temperatures of 2°C and/or widespread ice and heavy snow predicted with 60% confidence)
4. Severe weather action (Mean temperatures of 2°C and/or widespread ice and heavy snow)
5. Major incident –Emergency response

Each alert level aims to trigger a series of appropriate actions which are detailed in the plan. Long-term planning and commissioning to reduce cold-related harm is considered core business for Health and Well Being Boards and should be included in joint strategic needs assessments (JSNAs) and joint health and wellbeing strategies (JHWSs). *Public Health England* (2013)

c) Fuel Poverty: The Governments' fuel poverty target is to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C, by 2030 *DECC (2015*)

d) The Department of Health toolkit *"How to reduce the risk of seasonal excess deaths systematically in vulnerable older people at population level"* is designed to help local communities take a systematic approach to reduce the risk of EWD in older people and should be the basis of planning appropriate services in Nottingham.

e) **The Memorandum of Understanding to support joint action on improving health through the home** December 2014 aims to:

- Establish and support national and local dialogue, information exchange and decision-making across government, health, social care and housing sectors;
- Coordinate health, social care, and housing policy;
- Enable improved collaboration and integration of healthcare and housing in the planning, commissioning and delivery of homes and services;
- Promote the housing sector contribution to: addressing the wider determinants of health; health equity; improvements to patient experience and outcomes; 'making every contact count'; and safeguarding;
- Develop the workforce across sectors so that they are confident and skilled in understanding the relationship between where people live and their health and wellbeing and are able to identify suitable solutions to improve outcomes.

f) Global Ecosystem and Climate: The Climate Change Act 2008 requires a reduction in carbon dioxide equivalent (CO_2e) emissions of 80% by 2050 based on a 1990 baseline, supported by reductions of 34% by 2020 and 50% by 2025. Sustainable Development Unit (2014) *Sustainable Development Strategy for the NHS, Public Health and Social Care System 2014-2020 January 2014*

By insulating homes to enable citizens to keep warm and well at home, homes become more energy efficient. Where people could afford to heat their homes adequately before energy efficient measures were installed, the measures result in a reduction in unnecessary heating and CO_2e emissions.

g) Nottingham: Activity to tackle EWD contributes to a number of other local targets and these contribute to reducing EWD including:

- The Nottingham Plan to 2020
- Neighbourhood / Green Nottingham – to eradicate fuel poverty by 2016
- NHS Nottingham City is aiming to improve life expectancy; specifically with local targets to reduce death rates from premature cardiovascular disease and chronic obstructive pulmonary disease.
- The mental health strategy
- improving outcomes for people with long term conditions.

- Educational attainment targets
- Child poverty strategy

4) Current activity, service provision and Assets: The support available to individuals in Nottingham includes;-

- Influenza and pneumococcal immunisations
- Information and support to vulnerable people to help them keep healthy, warm and active without injury in cold weather that links directly with the immunisation programme annually.
- Grants, loans and services for home improvements for people on low income and benefits
- Help with boosting levels of income e.g. through credit unions, Age UK Nottingham and Nottinghamshire, Citizens Advice Bureau and Welfare rights services.
- Energy efficiency measures and renewable energy installations Switch and save promotions to support people on lower income to pay lower energy tariffs
- Food and activities: - availability of accessible healthy food and activities informed by research on diet and warm food and drinks in cold weather
- a limited amount of emergency heating in cases where heating breaks down in the home of a vulnerable person.

The main services in Nottingham to improve the warmth and efficiency of homes include:

a) Nottingham Health and Housing Partnership Board: a partnership of commissioners and providers in statutory and third sector organisations that aims to improve health and wellbeing and reduce the number of excess winter deaths in relation to housing by:-

- Contributing to the eradication of fuel poverty by developing systems for reducing housing running costs and increasing personal finance for fuel payments.
- Improving local air quality and reducing our impact on climate change by reducing carbon equivalent emissions.
- Targeting energy efficiency and renewable energy installation measures at the homes of vulnerable people.
- Contributing to a reduction in avoidable injuries, accidents and falls and improving security in the homes of vulnerable people.
- Whilst it is important to consider all residents across all tenure, particular focus is on vulnerable private sector residents (both owner occupiers and tenants).

b) **Eco1 (the Home Heating Cost Reduction Obligation (HHCRO)** replaced Warm Front in 2012, offering replacement gas boilers to owners, private landlords and tenants. It requires a carbon saving assessment to determine assistance levels. Eco2 commenced April 2015. Pension credit is an access key**.**

c) **Green Deal**: currently under review, was introduced in 2012 and was intended to revolutionize the energy efficiency of British properties by enabling private firms to offer consumers energy efficiency improvements to their homes, community spaces and businesses at no upfront cost. Extra support was available for low-income and vulnerable households through the Energy Company Obligation (ECO). No additional resources into the green deal home improvement fund or the green deal finance company will be available. Existing support will however continue until 2017.

d) Warm Zone: Nottingham City Council's flagship home insulation scheme launched in September 2008 and is managed by the charity Nottingham Energy Partnership. The Warm Zone provides free and discounted home insulation and heating improvements for home owners and private tenants. The scheme aims to help residents cut their fuel bills and make their homes affordably warm and improve household energy efficiency to modern insulation standards.

Through a partnership between NEP and NCH and the provision of government grants and advice, more than 10,000 insulation measures and central heating systems have been installed in homes across the city. A primary focus of the programme is to target vulnerable households. More than

4,500 of homes that benefitted from key energy improvements are vulnerable households in receipt of a benefit, with children, elderly or disabled residents. Carbon savings total 6,700 tonnes and average annual fuel bill savings are up to £240.

A Warm Zone Green Deal pilot in the Aspley area of Nottingham called the Aspley Super Warm Zone was a whole house energy makeover programme focused on hard to treat solid wall homes. It also assisted a number of Housing Associations with their Decent Homes programme and installing cavity wall and loft insulation. It ensured a significant reduction in household fuel bills, limited fuel poverty, improved and maintained health improved energy efficiency and provided an in-depth understanding of the benefits of energy efficiency. The target area covers a total of 1,941 homes in three lower super output areas (LSOAs) on the Aspley estate. The LSOAs are ranked in the most deprived 10% on the income domain on the Index of Multiple Deprivation. Nottingham Energy Partnership completed a review of 932 homes in Aspley Super Warm Zone and drew down grants of £4,035,000 for the regeneration of the area. The take up in the private sector was 24.5% against a contribution rate of 15% of the cost of the work. This is a remarkable result for a community in the lowest 10% by the Index of Multiple Deprivation, and this figure is undoubtedly boosted through with the development of the service with Nottingham Credit Union. An example of the impacts on health and wellbeing is illustrated in this case study:

> "*My House was cold! So cold we couldn't live downstairs in winter, with it being open plan it just didn't heat up. Instead my dad and I used upstairs where the rooms are smaller, making them easier to heat. We only used to dash downstairs for food then head upstairs." "I really like my warmth! I'm much more comfortable…, I can now use the sofa; I don't have to sit upstairs on a computer chair. The house is warmer in general without the heating on."*
>
> Nottingham Energy Partnership case study (2013)

e) **Greater Nottingham Healthy Housing Service - Nottingham Energy Partnership (NEP)** is a signposting and advocacy service that helps to eradicate fuel poverty by maximising the uptake of national and local grants for insulation and heating measures. The service raises awareness of the impacts of cold homes and provides resources and training to frontline staff across health and social care and voluntary sector staff to support actions and onwards referrals. 460 individuals were trained in 2010/11 and 264 individuals in April – December 2011.The contract was re-commissioned for a further 3 years with funding from Nottingham City and Nottinghamshire County Councils. http://www.nottenergy.com/projects/domestic/greater_nottingham_healthy_housing_service/ Nottingham Energy Partnership also developed an independent energy tariff switching tool for Nottingham City Council to support local people to get the best deal on their energy tariffs: http://www.nottenergy.com/tariff_switch/

f) **The Home Safety and Improvement Service**: Age UK Nottinghamshire offers this newly commissioned service to assist vulnerable adults in tackling fuel poverty. It enables vulnerable owner occupiers to live safely and independently in their own homes by reducing the occurrence of avoidable injury or ill health caused by hazards within the living environment at home. http://www.ageuk.org.uk/notts/our-services/home-safety-and-improvement-service/

g) **Decent Homes standard**: work to make social housing meet and continue to maintain decency. This focuses on making properties thermally efficient.

h) **Extension of District Heating scheme** including where costly electric heating is being replaced by district heating but properties are being clad to improve thermal efficiency

i) **Nottingham City Signposting Service** is for people aged from 60 years upwards and who live in the Nottingham City area. The service acts as a single point of contact, allowing those needing

help, to access the services that can provide it. This is partnership working with the major services that provide facilities for those over the age of 60. http://www.metropolitan.org.uk/support-services/nottingham-city-signposting-service/

j) **The NHS Nottingham City 'Keeping Warm This Winter' webpage:** provides energy advice and tips on keeping warm, and lists sources of help including local services as well as the Department of Health Keep Warm Keep Well campaign messages. http://www.nottinghamcity.nhs.uk/-healthy-living-/keeping-warm.html

a. **Nottingham City Homes (NCH)** are supporting joint research between NCH, Gentoo and the University of Bangor to use NIHCE methodology to undertake a cost benefit analysis of home improvements and their impact on health, in the same way that investment decisions in new drugs and medical treatments are made. *National Federation of ALMOs (July 2015)* www.almos.org.uk They also have a dedicated Health and Financial Inclusion officer and will also soon have 2 Hospital to Home posts which will work across tenure to support hospital discharge and prevent hospital admission - including work around fuel poverty. Their new build social housing properties are built to higher levels of thermal efficiency, reducing people's fuel bills significantly and they decommissioned 973 properties which suffered from poor thermal efficiency.

k) **Homelessness**: the Homelessness Prevention Strategy, the annual Cold Weather Plan, and the No Second Night Out pledge attempt to mitigate the risks there are to homeless people and the collective interagency approach attempts to ensure that there are no persons street homeless during the winter months: http://www.nottinghamcity.gov.uk/article/3460/Homelessness-Strategy-2013-2018

Social and Community Network services and assets

a) **Tackling social isolation**: Age UK and CLICK Nottingham work with older people to tackle social isolation.

b) **Age Friendly Nottingham** aims to make neighbourhoods more 'age friendly', drawing on national research

c) **The Meadows Ozone Energy Services Company (MOZES):** The Meadows neighbourhood is becoming a beacon of sustainability in the heart of the city. The Meadows Ozone Energy Services Company (MOZES), a partnership with British Gas, won £0.5m in the DECC Low Carbon Communities Challenge to install 55 solar PV systems on homes, 3 on primary schools and 1 on Arkwright Meadows Community Garden. A range of energy efficiency measures, combined with renewable energy technologies, are being applied to the range of housing types, ages and tenures and demonstrate appropriate local solutions to carbon emissions, fuel poverty and energy security. A large community consultation process took place in 2007. Meadows Partnership Trust and Nottingham Energy Partnership have been central to the process. Climate East Midlands (August 2014) http://www.climate-em.org.uk/news/item/royal-approval-for-the-meadows/ .

5) Evidence of what works

Excess winter deaths are largely preventable if people are able to:

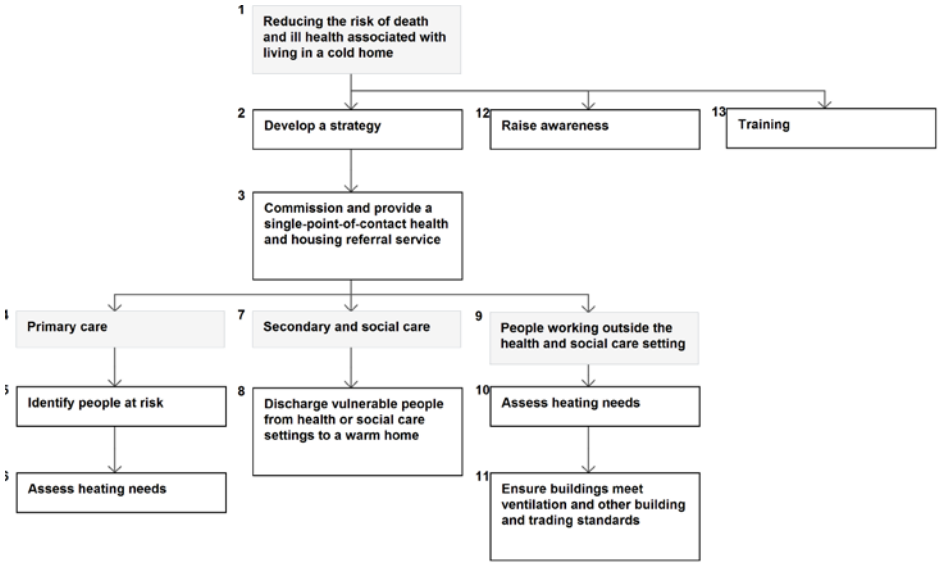
- Keep warm indoors (combination of adequate heating, insulation and ventilation – going from a cold home into cold outdoors increases cardiovascular stress than if leaving a warm home);
- Keep warm outdoors (sufficiently warm clothes and physical activity, such as walking);
- Ensure uptake of other preventative measures such as flu vaccination where appropriate.

Faculty of Public Health (2006).

5.1 *Excess winter deaths & illnesses associated with cold homes overview NICE 2015:*
The National Institute for Health and Care Excellence (NICE) published a pathway for excess winter deaths and illnesses associated with cold homes in March 2015 (see Figure 9). The pathway includes recommendations on how to reduce the risk of death and ill health associated with living in a cold home. The aim is to help meet a range of public health and other goals. These include:

- Reducing preventable, excess winter death rates.
- Improving health and wellbeing among vulnerable groups.
- Reducing pressure on health and social care services.
- Reducing 'fuel poverty' and the risk of fuel debt or being disconnected from gas and electricity supplies (including self-disconnection).

Figure 9: Excess winter deaths & illnesses associated with cold homes overview NICE 2015



Improving the temperature in homes, by improving energy efficiency, may also help reduce unnecessary fuel consumption (addressing cold homes is likely to involve an increase in fuel use by people living in fuel poverty. The health problems associated with cold homes are experienced during 'normal' winter temperatures (when outdoor temperatures drop below 6°C), not just during extreme cold weather. Year-round planning and action by many sectors is needed to combat these problems.
The guideline makes recommendations on how to reduce the risk of death and ill health associated with living in a cold home, with the aim of helping to meet a range of public health and other goals, including reducing fuel poverty.

5.2 Multi-sector partnership approach: The National Support Team designed a toolkit to help local communities to take a systematic approach to reduce the risk of seasonal excess deaths in older people. By working to address fuel poverty through achieving affordable warmth, local partnerships can help engage partners in the wider issue of Seasonal Excess Deaths (SED).

Strong partnership can help to:

- achieve safer, warmer, better insulated homes
- support local carbon reduction targets
- address child poverty
- support the long term conditions strategy
- support older people to live at home for longer safely and comfortably

Dept. of Health National Support Team (5 March 2010) http://lpbcc.files.wordpress.com/2012/02/ref-11-seasonal-access-deaths.pdf

5.3 The Nottingham Warm Homes service brought funding into the City from the Department of Health to reduce excess winter deaths and improve the health and wellbeing of vulnerable people aged 70+ in Nottingham by making domestic heating systems of vulnerable older people more effective, and by making recommendations on how to be more energy efficient. Age UK Nottingham and Nottinghamshire accessed measures to help people stay warmer and more comfortable in their own home, which helped both their physical and mental wellbeing.

http://www.ageuk.org.uk/notts/our-services/home-safety-and-improvement-service/

6) What is on the Horizon?

6.1 Future Climate Impacts: The UK Climate Projections (UKCP09) provide information on how the UK's climate is likely to change in the 21st century as it responds to rising levels of greenhouse gases in the atmosphere, based on simulations from climate models. The key findings are based on probabilistic projections i.e. the chance of the change occurring; however, it is reasonable to assume that due to climatic changes in the UK there will be warmer, wetter winters, hotter, drier summers and more intense, more frequent severe weather events (flooding, heat waves, storms).
http://www.climate-em.org.uk/images/uploads/Nottm_City_adaptation_presentation_CCW2.pdf
In the East Midlands, it is estimated that the average winter temperature may increase by 1.3º C by the 2020s. Milder winters may bring some benefits, but cold spells will still occur. Winter rainfall is projected to increase. The average summer temperature may increase by 1.4º C by the 2020s. In urban areas hotter summers may lead to the urban heat island effect - where buildings and other developments retain heat, adding several degrees to the temperature in built up areas. *Climate East Midlands (2012)*. Extreme weather events such as heatwaves are projected to increase in frequency and intensity and we can expect an increase in high river flows and flooding. *Environment Agency, Dept. of Health, Sustainable Development Unit and Public Health England (2014).*

6.2 Energy: Nottingham is developing an energy company to build on the success of existing energy initiatives such as the District Heating Scheme.

6.3 Welfare benefit reductions will limit citizen's income causing a likely increase in the numbers of people in fuel poverty in Nottingham. Proposed reduction to social housing rents will leave social housing organisations with significant gaps in their financial business plans. This will impact upon their ability to maintain decency including measures to ensure properties are thermally efficient. Efficiency savings in the public sector through austerity measures will influence the ability of local organisations to support people to make energy efficiency savings. This situation should be monitored carefully to identify those at risk of EWD and reduce their risks.

7) Local Views

7.1 Nottingham Health and Housing Partnership Board were consulted about this JSNA on 22 January and during February, March and July 2015. Nottingham City CCG was consulted in February and July 2015.

There were 11 responses addressing the following major points:

- Include references to strategic work on homelessness.
- The importance of early intervention and help needed with this from GPs
- "A system wide approach is important. The private rented sector in Nottingham has the poorest housing with the greatest challenge to improve including energy efficiency. Environmental Health's role is vital using the Health and Housing Safety Rating System (HHSRS) for enforcing category 1 hazards caused by cold along with other hazards. In addition making landlords aware of energy grants is another approach."

- "The importance of linking enquiries for energy efficiency work with other needs and housing standards issues is vital for residents to ensure we grasp the opportunity to make the property safe as well. To this end an assessment should always be carried out under the HHSRS for category one hazards that can potentially cause the death of the occupier".
- There are no grants for home improvements at the moment other than Disabled Facilities Grants. However if we had an opportunity we need to bid for capital monies to offer grants for low income owner occupiers with Category one hazards as an minimum safety net.

(Housing Strategy Team – Nottingham City Council)

- Provided updated information about Government grant and loan schemes and good practice in Social Housing (*Nottingham City Homes)*
- Reference to smoking as a cause of Long Term Conditions which are exacerbated by cold and damp. *(Nottingham City Clinical Commissioning Group (CCG*)
- The voluntary sector has a role in helping people to register with a GP *(HLG)*
- It was pointed out that *"Health and Social Care Commissioners should be working together e.g. through the integrated care programme, to support the Neighbourhood Teams to identify the patients who would benefit from these services and commission, refer and provide them in a cohesive manner.* By focusing on Neighbourhood Teams, District Nurses, Matrons and Social Care Workers can together improve procedures and systems to ensure that the referral of vulnerable older households to appropriate energy services happens systematically. *Nottingham City CCG.*

7.2 **A Nottingham Public Health Forum "Living Well in Winter in Nottingham City"** was held on Monday 16 February 2015 to provide information about the impacts of Winter on health and wellbeing, to share knowledge about the effects of cold weather on health, social care and healthcare services, consult about Nottingham's plans for reducing the impact of cold weather on health and specifically the Excess Winter Deaths Joint Strategic Needs Assessment for Nottingham and share information and ideas about;

- areas of Nottingham where there are specific challenges
- insulating your home to save money and keep warmer in winter
- initiatives in place across the city that aim to keep people well through sustainable health, social and housing services.

Thirty people attended from a range of local organisations. Feedback from the workshop held specifically about whether draft 9 of this JSNA reflected the true strategic needs in Nottingham and in which areas are people most at risk, indicated that there was broad agreement, however, there were some useful insights from local knowledge about vulnerable groups and hospital discharges:

- Vulnerable groups were thought to include people with mental health problems, older people, those in deprivation – but also the population at risk across the whole of the social/economic area - those in private sector accommodation with no access to benefits including migrants and asylum seekers.
- It was felt important that people responsible for hospital discharges should address whether or not homes are safe to return to in advance of the discharge and to refer or inform the citizen returning home and their families or friends about the grants and services that are available.
- There was a reminder that health and social care staff have a duty of care to make people aware of risks and problems and this includes the risks to health and wellbeing of living in a cold damp house.

What does this tell us?

8) Unmet needs and service gaps

Although some progress has been made, many of the gaps in knowledge and services identified in the *Excess Winter Deaths: A Health Needs Assessment for NHS Nottingham City* are still relevant today:

Service gaps:

1. There is a lack of access and use of available data to target the most vulnerable households – including older people and people with poor mental health, by service providers
2. there a lack of capacity to systematically target vulnerable households who do not respond to existing programs, to ensure they gain access to energy efficiency improvement services
3. there are too few referrals to energy efficiency services of vulnerable householders from frontline health and social care staff
4. there are insufficient resources to operate targeted energy advice services in the homes of the most vulnerable householders
5. there is a lack of systematic public and professional awareness of the health problems associated with cold exposure and services available to tackle these
6. there is a perceived lack of strategic high level support and leadership for a comprehensive and systematic approach
   NHS Nottingham City (2010)

9) Knowledge and research gaps:

1. There are insufficient knowledge and tools to be able to identify households most at risk of EWD
2. there is a lack of systematised knowledge by frontline health and care staff and their managers about what works, to motivate an increase in the level of referrals
3. there is a lack of understanding of what works to promote behaviour change (both indoors and outside) to reduce cold exposure
4. more information is needed about the projected impacts of climate change on vulnerable people in Nottingham and a resilience plan for Seasonal Excess Deaths should be developed to mitigate the risks.

What should we do next?

10) Recommendations for consideration by commissioners.

10.1 A system-wide approach is needed to assess the nature of the problem, including the likely forthcoming impacts of climate change on vulnerable populations. The predicted impacts of climate change (and in some cases our response to it) are likely to have a disproportionate effect on the most vulnerable. Vulnerability to climate change – and policies designed to mitigate and adapt to it – is determined by a combination of personal, social and environmental factors, alongside institutional practices such as planning rules, consultation processes and the distribution of the costs and benefits of policy measures. Those vulnerable to high temperatures may be different from those vulnerable to flooding or snowfall. This suggests the need for cross-sector policy responses, along with detailed and localised assessments of vulnerability. *Joseph Rowntree Foundation (2014)* Therefore a resilience plan for Seasonal Excess Deaths should be developed to mitigate the risks e.g. of excess summer deaths including the provision of Seasonal Excess Death statistics with annual updates and drawing from guidance about the risks of heatwaves and how to prepare.

Smoking & Long Term Conditions: continue to encourage smoking cessation and actively manage the smoking related Long Term Conditions which contribute to EWD.

Vaccination: Influenza and pneumococcal immunisations, however, most respiratory illness is triggered by RSV for which we don't have a vaccination.

10.2 The Nottingham Health and Housing Partnership Board (NH&HPB) tackles EWD utilising a multi-sector partnership approach as recommended by the National Support Team. This Board encourages co-ordination between local organisations so that scarce resources can be targeted at the people who need them most. The Partnership successfully bids for national funding to bring extra resources into Nottingham, however, requires active representation from the CCG, Health Trusts, citizens and carers in order to make best use of resources and tools such as the NST toolkit and the NICE pathway to make real progress.

10.3 The NH&HPB is well placed to support the **Health and Wellbeing Board** in developing a strategy and action plan that builds on local good practice such as the Healthy Housing Referral Service, the Signposting Service and the Warm Homes service and that takes into consideration information and guidance from this JSNA. This would ensure that duplication of effort and resources is minimised. The strategy and action plan should specifically take account of:

- Public Health England's Outcomes Framework Healthcare public health and preventing premature mortality – Excess Winter Deaths Indicator 4.15
- the Department of Health toolkit "How to Reduce the Risk of Seasonal Excess Deaths Systematically in Vulnerable Older People to Impact at Population Level" 2012
- the NICE Pathway for Excess Winter Deaths and illnesses associated with cold homes (March 2015),
- the CIH Memorandum of Understanding (MOU) to 'Support Joint Action on Improving Health through the Home'
- Public Health England's' *Cold Weather Plan* (produced annually)
- DECCs *Fuel Poverty Strategy* 2015.
- Nottingham's Health Needs Assessment for Excess Winter Mortality (2010)

10.4 How can demand on health services be managed or reduced?

- Ensure uptake of immunisations including those against influenza and pneumococcal disease. In Nottingham City around 73% of patients aged 65 years and over and 51% patients aged under 65 years in clinical at risk groups had their Influenza vaccination in the winter of 2011-12. *(Nottingham City Council: Immunisations and Vaccinations; - Joint Strategic Needs Assessment April 2012).*
- Provide warm dry homes to vulnerable people through targeting energy efficiency interventions and commissioning accident prevention services in the home: e.g. Smoke alarms should be fitted in the home and tested regularly particularly in homes using fires. (*Met Office 2015*).
- Prevent winter related accidents on roads and paths caused by less daylight, slippery leaves and ice and snow on paths. Effective actions can be taken to reduce the risk of a slip or trip e.g. ensure that regularly used walkways are covered, salted or gritted in accordance with guidance *(Health and Safety Executive web 2015)*
- Ensure good networks are available to vulnerable people that include coordinated health, social and housing services.
- Develop excellent communication between hospital and community services to prevent housing related readmissions for vulnerable people.

10.5 Developing systematic referrals

- **Awareness raising:** Health, Housing and Social Care Commissioners and providers should support an annual winter campaign to alert both professionals and the public to the dangers of cold exposure in and outside the home, raise awareness about how to keep warm at home and how professionals can make referrals for sources of local information and support locally. The campaign could use social marketing techniques to improve its effectiveness, and should tie in to national campaigns (Keep Warm, Keep Well) and local referral and advice services

- **Identify people at risk of ill health from living in a cold home:** GPs and other primary care staff, have an important role in identifying those most at risk from winter deaths at an early stage, by considering the issue, asking questions about the housing circumstances of those they are seeing in

their surgeries and making necessary referrals. This could be done systematically by developing a 'list of lists' by combining the general practitioner registers for cardiovascular disease and chronic obstructive pulmonary disease, with acute trust data for those discharged from hospital for cardiovascular and respiratory illness. This list should be used to systematically.

- **Systematic referrals:** Health and Social Care Commissioners should be working together e.g. through the integrated care programme, to support the Neighbourhood Teams to identify the patients who would benefit from these services and commission, refer and provide them in a cohesive manner. By focusing on Neighbourhood Teams, District Nurses, Matrons and Social Care Workers can work together to improve procedures and systems to ensure that the referral of vulnerable older households to appropriate energy services happens systematically. This could include a review of the Single Assessment Process (the integrated health and social services assessment tool for vulnerable adults) and the inclusion of referrals into the personal objectives and development plans for relevant staff. Vulnerable people from health or social care settings should be discharged to a warm home.

- **Single point of contact**: Building on the excellent existing Health and Housing services, Health and Social Care Commissioners should ensure there is an adequately resourced single-point-of-contact health and housing signposting, advocacy and referral service which can systematically target at risk older householders not currently accessing existing services, and provide sufficient support to frontline health and social care staff to facilitate this process. It will need to facilitate tailored solutions for people living in cold homes with capacity to provide sufficient training to frontline health social care and voluntary sector staff.

- **Make every contact count** by training all front line staff including health, social care and housing to assess the heating needs of people who use primary health and home care services and make appropriate referrals e.g. to the Healthy Housing Referral Service and / or the Sign Posting Service.

- **Energy Advice:** Health and Social Care Commissioners should support the further development of intensive face to face energy advice services for vulnerable private sector households at risk of excess winter illness and deaths. The service should:
  - be integrated with the Nottingham Warm Zone to provide a systematic approach to delivering energy efficiency improvements, income maximisation and energy advice using trusted and qualified energy advice staff
  - use an evidence based approach to implement an established theory of behaviour change for example brief interventions, motivational interviewing, use of peer support/advice etc.
  - address issues of equity and levels of access across different sub-groups and communities in targeting vulnerable older households
  - promote messages to reduce exposure to cold outside and inside the home
  - build on the excellent work of existing services such as the Sign Posting Service, the Home Improvement Agency and the Healthy Housing Referral Service
  - Encourage energy companies to train heating engineers, meter installers and those providing building insulation to help vulnerable people at home

- **Housing providers** should ensure their buildings meet ventilation and other building and trading standards

- **Planning issues**: Where homes cannot be improved, options for people to move into more appropriate accommodation should be explored. However, if older people are coerced into moving, they are more likely to die prematurely. These points should be considered in all strategies by partner organisations.

11 Suggestions for research

11.1 Although there is no clear association between EWD and routine data sources, the CCG should support the development of a 'list of lists' which would combine lists such as the GP registers for COPD and CVD, and Acute Trust data for those being discharged from hospital for CVD and respiratory illness. This should be fully evaluated to assess the extent to which it improves identification and service access for those older households most at risk.

11.2 A software system such as the Fuel Poverty GP Referral System being trialled by the Royal College of GPs and Wiltshire C.C.G. could be trialled to flag referrals systematically for home improvements affecting the health of vulnerable people in Nottingham.

Morbidity and Mental health

Further assessment should be undertaken to examine the impact of cold homes on morbidity (illness) and well as deaths and understand and tackle the impact of cold homes on mental health and wellbeing and services adapted or developed in the City to respond to this appropriately so that referrals for help with housing are progressed in a timely manner.

Further assessment should also be undertaken to understand the size of the problem of excess winter deaths for people with mental health problems and people living in deprivation, particularly asylum seekers.

Recommendations for older people:

There are steps that individuals can take to reduce their risks of EWD. For example; -

- Remain independent but connected to networks for friendship, information and activities such as those recommended by Age UK – 13 steps to better health (Age UK 2014
- Access warm healthy food
- keep active without injury in cold weather; - keep warm as cold muscles don't work as well and may lead to falls, accidents and injuries. *Age UK* (2014)
- Maximise income: Excess winter mortality is widely distributed across different social groups however access to finance / financial & welfare rights advice services, community assets and energy efficient warm, dry housing help to maintain health.
- Expenditure: The range of prices by different energy companies offers opportunities for many people to switch to lower tariffs to reduce expenditure, and the perception of expenditure, on winter fuel bills. People on energy pre-payment meters often pay the most for their energy and, it is more difficult for them to switch.
- Adopt healthy ageing approaches - optimise opportunities for good health to facilitate taking an active part in society and enjoy an independent and high quality of life ((W.H.O. 2007).

Key contacts

Helen Ross – Insight Specialist Public Health and Lynne McNiven – Consultant in Public Health – Nottingham City Council

On behalf of the Director of Public Health.

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Glossary

Excess Winter Deaths (EWD): is defined as the difference between the number of deaths which occurred in winter (December to March) and the average number of deaths during the preceding four months (August to November) and the subsequent four months (April to July).

Fuel poverty: Fuel poverty in England is measured by the Low Income High Costs definition, which considers a household to be in fuel poverty if: they have required fuel costs that are above average (the national median level) and were they to spend that amount they would be left with a residual income below the official poverty line. The key drivers behind fuel poverty are the energy efficiency of the property (and therefore, the energy required to heat and power the home), the cost of energy and household income. (DECC (2013)). The WHO criteria of fuel poverty is when more than 10% of household income is spent to maintain a satisfactory indoor heating level, defined by WHO as a minimum of 18 degrees centigrade (Liddell & Morris, 2010; WHO-EURO, 2007).

Health Inequalities: differences in health status or in the distribution of health determinants between different population groups. For example, differences in mobility between elderly people and younger populations or differences in mortality rates between people from different social classes. It is important to distinguish between inequality in health and inequity. Some health inequalities are attributable to biological variations or free choice and others are attributable to the external environment and conditions mainly outside the control of the individuals concerned. In the first case it may be impossible or ethically or ideologically unacceptable to change the health determinants and so the health inequalities are unavoidable. In the second, the uneven distribution may be unnecessary and avoidable as well as unjust and unfair, so that the resulting health inequalities also lead to inequity in health. (W.H.O http://www.who.int/hia/about/glos/en/index1.html accessed August 2014)

Respiratory Syncytial Virus (RSV) is the commonest cause of severe respiratory illness such as bronchiolitis (inflammation of the bronchioles) in young children aged under 2 years. It is also the commonest cause of hospital admissions due to acute respiratory illness in young children. RSV infections may be overlooked in older children and adults. Several studies have shown that RSV causes severe respiratory illness in elderly people and those outbreaks are associated with higher death rates. Peak numbers of RSV infections are reported in December and January every winter, although the size of the peak varies from winter to winter (Health Protection Agency website 2014).

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West Midlands Public Health Observatory (WMPHO) on behalf of the Network of Public Health Observatories in England using Instant Atlas™ from Geowise. *Interactive mapping tool* - allows the user to view EWD data in England with the facility to drill down to local authorities to access EWD information.