

# Assessing the health impact of cold homes



This guide is for organisations who wish to set up a project to assess the effects of cold homes on health. It is based on our experience of working closely with health professionals at a medical practice in Somerset to identify patients who may be particularly vulnerable to the detrimental effects of a low temperature in their homes.

# Introduction

## How to use this guide

There will be several factors that determine the shape of your project so not all aspects of this guide will necessarily be relevant. It is intended to be used as a general guide to working with a medical practice based on research undertaken at CSE during a pilot project: Wellington Healthy Homes. Throughout the guide references to this project will be made to give examples of the work in practice.

### Wellington Healthy Homes

CSE's Home Energy Team worked in partnership with Wellington Medical Centre, in South Somerset, to provide free energy advice to Wellington residents. Researchers at CSE produced a map for Wellington Medical Practice to use which showed the distribution of energy inefficient homes in their practice area. This allowed GPs working at the practice to link up patients with their likely living conditions. If they felt that a patient could benefit from interventions surrounding cold homes, they referred the patient on to CSE.

Once patients were referred CSE assisted with:

- Advice on insulation, including information on funding grants.
- Getting the best from energy suppliers or reducing fuel debt.
- Checking eligibility for the Warm Home Discount and registration on the Priority Services Register.
- Dealing with damp and mould caused by condensation.
- Help with water saving or water debt.
- Understanding central heating controls and using energy efficiently in the home.

## What's the link between cold homes and health?

There have been several studies that have indicated that living in a cold home, a home without sufficient heating, insulation or one that has higher than average energy needs can have a negative impact on the health of the inhabitants. Such studies include The Chartered Institute of Environmental Health – *Housing and Health Resource* and Public Health England and UCL Institute of Health Inequality – *Fuel Poverty and Cold Home Related Health Problems*.

The effects can be both physical and psychological and often impact the most vulnerable people in society more profoundly. The effects include:

- Increased chances of circulatory conditions such as blood pressure, heart attacks and stroke.
- Worsened respiratory conditions such as bronchitis or asthma.
- Exasperated conditions such as diabetes or ulcers.
- A higher risk of falls and accidents for elderly people.
- Depression.
- High levels of anxiety.
- Existing medical conditions can become worse.
- Children's cognitive development can be affected.

These effects create a significant burden on health services: the many preventable illnesses that result from under heated homes cost NHS England up to £1.36bn annually, and mean that people in the UK are 23% more likely to die as a result of winter conditions than people living in Sweden (despite the milder British winters).

The National Institute of Health and Care Excellence (NICE) published guidance on preventing excess winter deaths and illness associated with cold homes in March 2016. See: <http://bit.ly/2siZvEf> This guidance indicates that improving the conditions of people's homes could indirectly save the NHS millions of pounds by improving the physical and psychological health of inhabitants.

Two of the recommendations for dealing with the health problems caused by cold homes that relate specifically to medical practices were:

- Primary health and home care practitioners should identify people at risk of ill health from living in a cold home, and make every contact count by assessing the heating needs of people who use health and care services.
- Discharge vulnerable people from health or social care settings to a warm home. Assess soon after admission or when planning a booked admission whether the person is likely to be vulnerable to the cold and if action is needed to make their home warm enough for them to return to.

There is more detailed information in the studies above, but the two quotes below summarise the problem succinctly:

*“Cold homes are a bigger killer than smoking, lack of exercise and alcohol abuse, many more thousands suffer the health impacts of the cold. We know that children living in cold housing conditions are more than twice as likely to suffer from breathing problems, including asthma and bronchitis. Providing vulnerable people with a more energy efficient and warmer home can prevent people becoming ill or break the cycle of readmissions to hospital. This can save Health and Wellbeing Boards and the NHS valuable resources – the current scale of the problem in England alone costs health services approximately £3.6 million per day.”* Maria Wardrobe, Director of Communications and External Relations at National Energy Action.

*“Living in a routinely cold home is bad for your health and wellbeing and makes existing health problems worse. That in turn causes an avoidable burden on the health service. The good news is that there are simple steps that can be taken to address this, starting with the health service recognising the problem and putting in place systems to refer patients to local initiatives that can help to tackle their cold homes – and thereby reduce the harm done to their health and tackle the annual cycle of misery, ill health and premature death which we know is linked to cold homes.”* Simon Roberts, Chief Executive, CSE

## Main principles

### Partnerships

Key to the foundation of a project of this kind is finding a proactive medical centre that is willing to engage and fully understands the intentions and benefits of the proposed work. They will need to take a proactive role in the project and as such they will need to know what is expected of them from the beginning and how much money is available to pay for this extra work (if any). A good, enthusiastic practice manager is vital, one who is willing to communicate with the GPs and other medical centre staff and liaise with you periodically about the project.

#### Wellington Healthy Homes

CSE were contacted by the medical centre in Wellington who asked if we could provide them with housing data for the patients in their catchment area. They wanted to make a link between patients who were living in a cold home and the effects this was having on their health and wanted to be able to identify if patients had adequate heating. Having a pro-active partner like Wellington Medical Centre enabled effective communication right from the start.

Once a medical centre is selected and on board, identify the project's key stakeholders (an independent party with an interest in the project such as the local authority, voluntary organisations, charities or community groups) and engage them in the planning. Communication with the funders, partners and stakeholders can then take place to establish the key elements and required outcomes of the project. Engagement with medical centres and stakeholders may take some time and preparation of the budget will need to reflect this.

### Funding

The amount of funding the project has is fundamental in determining its scale, how long it will run for, how many people will work on it, and the resources available to you. Ideally a project which needs to evaluate the impacts of living in a

cold home on health should run for at least a year (preferably over two winters) as improvements in health are not always detected immediately and the longer the timeframe the more likely they are to be identified.

### Wellington Healthy Homes

During this project we worked closely with Western Power Distribution (funder), Wellington Medical Centre (partner), Wessex Water and the local authority (Taunton Deane Borough Council), all of whom were communicated with regularly throughout the duration.

Funding may need to cover the following: project management, partnership engagement and continued liaison, promotion and publicity, outreach activities, householder support and casework, training of key staff and other groups or organisations, evaluation, report writing, mail-out to householders, volunteer costs, and travel and subsistence costs.

## Planning

There are many key aspects that need addressing in the planning of a project of this nature, as many issues that can be addressed in the preliminary stages will help with the smooth continuation of the project, although it is important to remember that unforeseen events will occur throughout which cannot be planned for which may affect the outcomes.

### Key aspects to consider during the planning stage

Demographics:

- Is it a rural or urban project or one that covers both? Will this impact on the advice you give?
- Is it a specific housing type that you would like to assess i.e. housing of a certain age, type?
- Is it a particular illness or disease that you are interested in assessing, one that can be affected by living in a cold home?
- Will all tenures be included? Do you need to work with housing providers or landlords?

- Which medical centre do you want to work with, do you need to work with more than one?

Partners or stakeholders:

- Who else can support the project? Who would you like to work with and who can become stakeholders? This may be the local authority, a utility company, a particular health group etc.
- Will you use volunteers to support the work that you are undertaking? If so, do they need training?
- Are there implications for data protection?

Householder support:

- Do the funders have any stipulations, such as certain groups that need to be included in the project?
- What support will the householders receive: home visits, telephone advice, written information?
- Will this involve on-going casework?
- Will energy efficiency measures be installed? If so which ones and who will receive them? How will referrals be made?
- Which other organisations can support householders and how will referrals be made to them i.e. Care & Repair, debt advice agencies?

Outcomes:

- What are the aims of the project?
- What are the possible outcomes?
- Are your aims and objectives SMART (specific, measurable, achievable, realistic and, timely)?
- How will you measure success and what evaluation is needed?
- How will this be recorded?

# Data

## Gathering housing data

The project will first need to establish what type of housing data is needed. That may include:

- Energy Performance Certificate (EPC) data is now freely available and can be obtained for an areas housing stock. However, it only covers those properties with EPCs so a solution will need to be found for those properties that do not have a record.
- Experian household data (this includes information on: the type of dwelling, the age of dwelling, the number of bedrooms, tenure, and whether it had gas connection). If it is Experian data that is required then you will need to obtain (and possibly pay for) a licence agreement to receive the data, you will also need to ensure that you have the suitable software to enable the data to be received and stored. Alternatively the project may decide to focus on all properties with inhabitants with a certain cold related illness.

### Wellington Healthy Homes

Energy Performance Certificate (EPC) data for the properties was gathered from [www.data.gov.uk](http://www.data.gov.uk). We used Geographic Information Services (GIS) mapping to convert a picture of the catchment area provided by Wellington Medical Centre (WMC) to collate all addresses in their area – this returned 10,240 addresses. We then bought the EPC data (EPC data is now free of charge) for all addresses which had an EPC certificate. We then address matched these, and were able to match 4,226 EPC records to 10,240 addresses using an address matching programme.

This meant that we only had energy performance data for around half the properties in the catchment area. To ensure we had data for each property, CSE used other datasets to model the likely energy efficiency of those properties without an EPC. To establish this, we used Experian household data. We developed a model

that took the existing EPC ratings and predicted the ratings of similar dwellings within the same postcode using the variables available.

Once we had a full picture of the energy ratings for each property in Wellington Medical Centre catchment area we were able to formulate a map highlighting the cold home dwellings.

## Data protection

As the nature of the project involves asking sensitive information about patient's health and wellbeing the project will need to gain informed consent for the storage of this information. Once consent is given you will need to decide how to store and protect this information to ensure that it is secure. If this information is held on a spreadsheet or database then these will need to be encrypted and passwords kept securely.

As an example, we included this statement on all forms where customers were asked to input information:

*"I understand that the information supplied on this form, including personal data, will be shared and stored by project partners in accordance with the Data Protection Act 1998. I understand that I may be contacted by project partners for the purposes of providing advice and support, monitoring and evaluating the project and improving services to customers."*

Further information about data protection issues including the Register of Data Controllers can be found at <https://ico.org.uk/>

## Data Sharing Agreement

If you decide that you need to share data between partners then an agreement will need to be written to agree how this will be done safely. This data may be confidential (names, addresses, health information etc.) and so will need to be handled with extreme caution and in line with your organisation's wider data protection policy to prevent it from being mishandled.

Ideally data should be handled by as few people as possible and for this reason you might decide that the different partners do not actually need access to it and therefore no agreement is needed. But if this is not the case then an agreement needs to be written and signed (by all involved) on how it is transported, stored and protected and who (within the organisation) will have access to it. Guidelines can be found here: <http://bit.ly/1n190cn>

### Wellington Healthy Homes

The complete map of the housing data was shared with the medical practice for them to match those patients with certain illnesses potentially living in cold homes. Unfortunately, their IT systems were not sophisticated enough to amalgamate the separate software packages and so all data (including patient data) was given to CSE for us to combine the two sets of data and finalise a list of patients to send a letter to. This sensitive data was managed carefully and an agreement on how we would handle this information was devised and signed by both parties. If the medical practice was able to undertake this task then an agreement would not have been necessary. This process took four weeks to agree and complete.

## Roll out

Once the project has been funded, planned, partners agreed, data sought, and data protection put in place then the promotion of the project can begin.

### Promotion

How people will hear about the project and are referred to it will depend on how you promote the project. Once you know how you would like to receive referrals then you will be able to plan your promotional activities around this. For example: if you would like the referrals to come via the medical centre then the staff there will need to know how to make these referrals: direct number, email, referral form etc, this will be the same with other organisations who want to refer clients for support. If you would like people to self-refer then you need to decide how to let them know about the project. For example you might choose to give talks to health-linked groups, a mail-out, or leave leaflets in prominent places.

### Wellington Healthy Homes

All promotion and outreach was via the medical centre and targeted health groups in order to communicate the health benefits of living in a warmer, more energy efficient home. This included an advice stand in the surgery's waiting area and training staff at the medical centre to communicate the project's benefits and aims.

By linking housing data to health data from the medical centre you can be assured that those living in cold properties with health conditions are identified and can be targeted through a mail-out. It is important to keep in mind that some of the patients on your list may not be appropriate to contact. For example they may be children, someone who visited the doctor due to a minor ailment not connected to cold homes, living in care homes and not responsible for the energy use in the property or living at an address with multiple registered patients.

If it is possible to examine the patient list and addresses before sending any communications then you can make sure that your letters target the right people. For example –it makes more sense to send a letter to the parents of a child, rather than address the letter to the child.

If possible have the letter sent to households on the medical centre headed paper – it will add credibility to the health benefits of the support on offer. In addition, ensure it is signed by the practice manager and insert all the partner's logos on the bottom of the letter indicating the other organisations that are contributing and supporting the project.

The letter, leaflet, poster (and whatever other types of publicity used) need to have a clear description of the project's benefits, who is funding the project, what support is on offer and how a referral can be made.

## Training

It is vital to let as many local organisations with an interest in the project know about the work being undertaken. This will not only help to increase the referral numbers but you may find that they want to be actively involved in the work or support the project.

Training can take many forms, from a detailed presentation outlining all aspects of the project, to a brief talk during a staff meeting where time is limited (this is often the case when working with healthcare professionals). Identifying key organisations that work with clients in their homes who can inform them of the project are perfect to target, such as: health groups (i.e. muscular dystrophy or COPD support groups), asthma clinic staff, health visitors, district nurses, Citizens Advice, housing association staff, patient participation groups, council staff and most importantly of all the staff at the medical centre and local hospital. If the full staff group cannot attend the training, then ensure that those who do will disseminate the information to the rest of their team.

If volunteers are working on the project then it is

important that they have the knowledge required to give advice (if they are involved in delivery), are fully aware of how the project works, its aims and what is expected of them. This would include agreeing to and signing a confidentiality agreement to protect the sensitive nature of the information that is gathered throughout the work. Providing on-going training throughout the project is good practice as it will ensure volunteers are able to receive any updates and for all to gather feedback.

## Outreach activity

During the planning stage, you should have identified how and who you want referrals from. For example if it is from people with certain health problems living in low EPC rating properties then all outreach events will need to be targeted at these households so that you do not have to turn anyone away who may not fit the criteria. Targeting specific health groups or streets with hard to heat properties would help to overcome this challenge.

## Supporting patients

The overall aim of the project is to enable people to have healthier homes, more manageable energy bills and assess the impact on an individual's overall health and wellbeing. Therefore, the advice that is given to clients should support them to achieve this.

To enable clients to feel less worried, warmer and healthier in their homes all aspects of domestic energy advice should be covered, including:

- The heating system: is it a central heating system? Does it work? How is it controlled? How old the heating is, the fuel type used etc?
- Insulation: is there any? Is there capacity to have any installed? Does the loft insulation need topping up? Are the walls suitable?
- Is there damp and condensation? Is the damp from a leak, penetrating damp or from condensation? Why is it happening? What can be done to prevent it?
- Are there any draughts? Are they controlled ventilation or unwanted draughts? If the latter then how can they be prevented?

- How is fuel paid for? Is this suitable for the household? If not suitable look at alternatives. Is there a debt that is being paid off? Are there any funds that can help with this? Is the house with an expensive supplier or tariff? Are they paying for what they are using or is it estimated?
- Energy monitoring – are the meters accessible? Do the householders read them?
- Energy usage – is it high? What uses the energy in the home? How efficient are the white goods? How many gadgets? Are items left on standby? What lighting is used?
- Are there any discounts that the householder could get from fuel suppliers like the Warm Home Discount? Are there any grants for essential works like insulation?
- Do the householders need to be on any of the priority services registers with the fuel suppliers, Distribution Network Operators or water companies?
- Does the householder need a referral for further support? (During the planning stage a list of supporting organisations who can undertake works, advice on specific areas etc in the local area should be drawn up and regularly updated.)

Giving comprehensive energy advice to the householders and enabling them to fully understand their on-going usage and how to solve any problems should they arise (i.e. issues with the fuel supplier) can have a significant impact on the wellbeing of all in the household.

## Managing budgets

As mentioned earlier in the guidance some aspects of a project's delivery can be time consuming and this will quickly use a project's budget. Challenges can be unforeseen and you should therefore try and allow some contingency in the original budget to deal with these. Building a risk alleviation strategy into your project plan can minimise the impact of over spending in certain areas. Issues can arise throughout the project, so you will need to keep track of these and communicate their impact to all concerned.

### Areas of work that can often take longer than expected during a project of this nature:

- Negotiations with partners and stakeholders.
- Casework - the patients' health condition can impede on the support that you can give them at any given time. Referrals to other organisation can have long waiting times or outcomes can be difficult to obtain.
- Accessing healthcare professionals, at a staff meeting for example, may not happen straight away and you may be a few months into the project before getting a chance to talk to them.
- The evaluation process.
- Project management costs.
- Mileage (particularly if covering a large area).

### Areas that can be quite accurately costed for in the planning stage are:

- Mail-out: paper, print and postage for 1,000 addresses for example.
- Purchasing licence agreements for data.
- Cost of designing and printing leaflets and posters.

If the budget is minimal then deciding on which areas to scale down and which areas to prioritise is essential.

## Evaluation

Once the scope of what you are evaluating is decided you can then devise a way of measuring it. For instance, this can be in the form of a written questionnaire that is sent to households who have participated in the project or interviews carried out face to face or over the phone. Evaluation can be very time consuming and add significant costs to your project, it's therefore important to ensure that the evaluation is proportionate to the scale of funding available.

### Wellington Healthy Homes

To evaluate the health impacts of our intervention we asked householders to rate on a scale of 1-100 (100 being best) how they felt after intervention compared to how they felt before. This however did not prove to be a very successful way of measuring the effects as lots of people found it hard to put a figure on how they were feeling and many did not answer the question. We felt that a better analysis would have been to ask householders to keep a brief log over a period of time rating how they were feeling following our intervention, to see if there were any improvements in their health.

## Collating data

If you are planning to collect health data then you can refer to the evaluation toolkit developed in partnership with The Department for Business, Energy & Industrial Strategy (BEIS) and CSE, with oversight from a range of health and evaluation experts. The Affordable Warmth and Health Impact Evaluation Toolkit is designed for use by local bodies delivering fuel poverty and health schemes to make evaluation easier and more effective. See here: <http://bit.ly/2tHiyLZ>

Asking patients about their health can be very subjective and their views on whether the intervention has had a positive or negative impact on this can be difficult to gauge, so devising a way to measure this is important for the outcomes of the project.

An alternative way to gauge if the improvements to the temperature of the home has had an impact on the health of individuals, is to assess if the number of GP or hospital appointments have reduced following intervention, or if there have been any changes in quantities of medication prescribed. This can be done by either having access to GP notes (with support from the medical centre to analyse the data) or by asking the patient to keep an on-going record preferably over the winter period when illnesses are more prevalent.

Note: this type of evaluation can only occur if the project runs over a certain length of time, if for example the project is only for a few months and most of the referrals are received in the later part of the project then there may not be an adequate amount of time to measure this.

Asking specific questions can help guide the householder when asking for feedback on your advice. Questions such as: Do you have a better understanding of how to use your heating controls? Is your home less draughty? Or are your fuel bills more manageable following the intervention? Having a scale of satisfaction options to choose from makes it easier for the householder to give more detailed feedback. Offering an incentive for people to keep a log of their health, return the questionnaires or answer questions over the phone is a sure way to improve the response rate i.e. entering them into a draw to win a prize.

It is important to keep track of what advice and intervention was undertaken and if this did have an impact on the household temperature or help to reduce the damp and moisture levels etc. If the support received was helping with a fuel supplier dispute then this may not impact on the temperature of the home but may help the individual to feel less worried if the dispute is resolved. All this information needs to be captured to evaluate the effectiveness of the advice given.

Other results that would be worth capturing (particularly for improving future projects) are factors such as: which promotional activity was most successful in generating referrals i.e. informing partners or the mail-out? Which type of advice was the most effective? i.e. telephone

support, face to face, in the home etc. Were the householders were satisfied with the advice that they were given?

## Success indicators

There are two areas that can be measured indicating the success of the project, these are:

- The success of the project on reaching its targets. Was it within budget? Was data shared securely? Was it on schedule?
- The success of the advice having a positive impact on the householder's overall wellbeing.

Once the project finishes, use these measures of success to evaluate the project's performance. Were links made with the housing and health data you had available? Did the intervention have any impact on householder's overall wellbeing and bring about improved health? Determine how all this information is going to be presented and relayed, highlighting the significant findings and outcomes and then report your project's performance to your funder and the key stakeholders.

Following this, it is good practice to ask for feedback from the key stakeholders and your project team members and find out how they felt about the project. Was the project a success from their perspective? How did the project impact the partner organisations? From this you will discover what went well and what did not go so well and will be able to apply these lessons to future projects.

## Closing comments

*'It is important not to underestimate the potential impacts of a project of this kind. Cold homes are a bigger killer than smoking, lack of exercise and alcohol abuse. Starting to address this prevalent social issue can ultimately have a significant impact on alleviating the distress and improving the overall health of many people.'*

*'If peoples' ability to keep warm and well is compromised it creates a substantial burden on the health service. Working together with medical practices is a fantastic way to get to the bottom of this problem and help to keep people warm, well and safe.'*

Lisa Evans, Project Manager of Wellington Healthy Homes

### Wellington Healthy Homes

*'I can now have my heating at the correct heat when I need to and know how to use my heating economically. My anxiety level is lower. I have been able to reduce my water, electricity and phone bills by approximately £30 per month and generally feel much better. Thank you.'*  
Project participant.