

# The impact of retrofit on health

**citizens  
advice**

Inter-regional fuel poverty seminar, 13 June 2017  
William Baker, Citizens Advice

# GPs' lives matter video

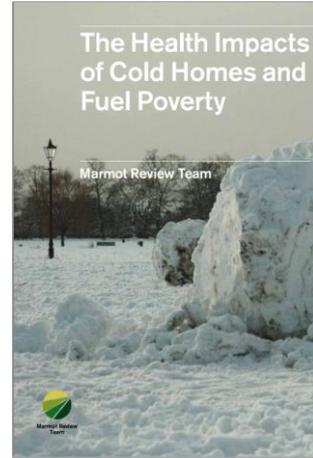
<https://spark.adobe.com/video/SQp1Yg4fWFWX4>

# About Citizens Advice

- Our charity was founded in 1939; since then, we have given advice, information and support to anyone who needs it
- We help people online, over the phone and face to face through our network of 330 local Citizens Advice offices
- Every year, millions of people turn to us; this gives us a unique insight into their needs and concerns
- We use this knowledge to campaign on big issues, both locally and nationally; so one way or another, we are helping everyone – not just those we support directly
- In 2014, the statutory responsibility for representing energy and post consumers was transferred to Citizens Advice

# Introduction

- Substantial evidence: impact of poor energy efficiency on health
  - Cardiovascular & respiratory disease, mental health
  - Minor illnesses & health problems exacerbated
  - Social isolation, children's education
- Less evidence: do energy efficiency interventions improve health?
  - Medical research – high standards of evidence
  - Difficulty in gathering health condition data
  - Difficult to attribute causation
  - Many confounding factors



# Presentation summary

- Summarise evidence that does exist on the health impact of energy efficiency retrofit schemes
  - Systematic reviews
  - Individual studies
- Case study
  - Citizens Advice winter resilience pilot
  - Approach taken to assessing health impact (with a very modest budget)

# Systematic reviews

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# Cochrane review, 2013

'Housing improvements for health & associated socio-economic outcomes'  
Thomson H et al

- Identified 39 quantitative & qualitative studies, including 5 random controlled trials. Key conclusion:

*"Housing investment which improves thermal comfort in the home can lead to health improvements, especially where targeted at those with chronic respiratory disease"*

- Other findings:
  - Improved health: reduced absences from work & education
  - Heat more rooms in house and increase usable space
  - Improved social relationships, improved mental health



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# Milner J & Wilkinson P, 2016

'The effects of home energy efficiency & heating interventions on cold-related ill-health'

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



- Identified 21 intervention studies which reported quantitative associations
  - Review restricted to OECD countries & English language
  - Random controlled trials, before-after comparisons
  - Observational studies of natural experiments, experimental studies
- Impact of energy efficiency & heating - conclusions:
  - Improvements in respiratory symptoms & symptoms of other chronic illnesses
  - Improved mental well-being
  - Reduced contacts with health service
  - Fewer days of absence from school or work
  - For some key target groups, e.g. children with asthma:  
housing interventions justified in own right for managing clinical condition

# Maidment CD et al, 2013

Energy Policy 65 (2014) 583–593

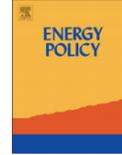


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Energy Policy

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## 'The impact of household energy efficiency measures on health: a meta-analysis'

- Results from 36 studies brought together: sample size of 33,746 participants
- Key finding:  
*"A small but significant and positive effect of energy efficiency interventions on health was found":  $d_+ = 0.08$*
- Particularly significant health benefits for children & people with poor health
- Implications for policy:
  - Health benefits should be central to fuel poverty & energy efficiency strategies
  - Tackling fuel poverty can help reduce health inequalities

# Individual studies

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# 'Warm homes Oldham' evaluation, 2016

- Energy improvements & advice to people at risk of fuel poverty and poor health
  - Before & after surveys of 427 residents & in-depth interviews with 25 residents
- Findings:
  - 60% with physical health problem: project had a positive impact on their health
  - 48 out of 50 with 'high risk' of mental illness moved to 'low risk' following project
  - 96% reported their home was easier to heat; 85% spent less on heating
  - 33% said that project made a big difference to their ability to socialise
- Valuing the project benefits on health costs:
  - Quality Adjusted Life Years: £400,000-£793,000 (£250,000 investment=cost effective)
  - NHS savings for 128 with mental health problems = £45,000:
    - reduced visits to GPs & hospitals
    - reduced medication & counselling



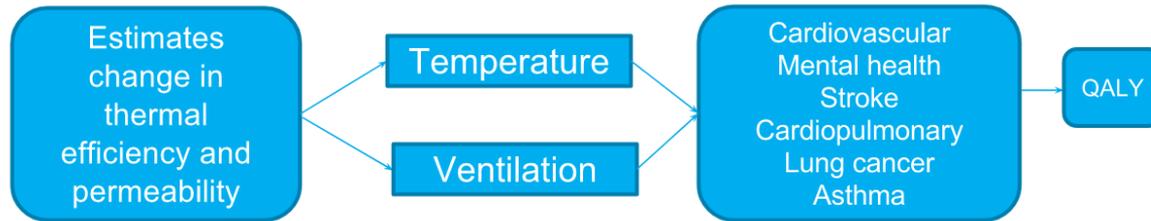
# Impact of Warm Homes Nest scheme on health

- Welsh government Nest scheme: grants to improve energy efficiency standards
  - Nest data anonymously linked to NHS health records (*Fuel poverty data linking project, 2017*)
  - Comparison of health service use (GP events, prescriptions, hospital admissions):
    - 16,353 Nest recipients
    - 24,895 people eligible for Nest but yet to receive measures
    - Measured for winter before & winter after measures installed
    - Health of both groups likely to deteriorate due to effect of increased age
- Key findings:
  - Significant positive impact on respiratory health of Nest recipients
  - 3.9% decrease in respiratory events versus 9.8% increase for control group
  - Statistically significant difference also found for asthma & 'protective effect' for infection
  - Positive impact: hospital emergency admissions for cardiovascular & respiratory conditions



# Health impacts of domestic energy efficiency measures (HIDEEM) model

- DECC project: University College London & London School of Tropical Medicine, 2014
  - Monetise the health impact associated with energy efficiency improvements
  - Quality Adjusted Life Years (QALY) & Net Present Value



- Used for government Impact Assessments of new policies:
  - Health benefits of Energy Company Obligation: £125m
  - Health benefits of Private Rented Sector regulations: £400m
  - Both represent about 15% of total value of benefits of policies

# Citizens Advice Winter resilience project



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# National Institute of Health and Care Excellence (NICE)

## Guideline, NG6, 2015:

### *Excess winter deaths and morbidity and the health risks associated with cold homes*

**Recommendation 2:** Ensure there is a single point of contact health and housing referral service for people living in cold homes

**Recommendation 3:** Provide tailored solutions via the single point of contact health and housing referral service for people living in cold homes

### **Citizens Advice winter resilience project**

Pilot 'health and housing referral service' at 7 local Citizens Advice offices

If successful, seek funding to roll pilot out to local offices throughout country

# Winter resilience project: vision & objectives

**Design and deliver a single-point-of-contact health and housing referral service to help vulnerable people who live in cold homes**

Co-design with 7  
local Citizens Advice

User focused

Simple and clear  
client journeys

Health sector  
involvement

Cross - agency  
referrals

Senior Advisory  
group

Evaluation of  
services

Develop a service  
toolkit

# Local offices taking part in the project

Liverpool North,  
South & East



Uttlesford



Stockton



Manchester



Wealden



Southwark



Gloucester & District



# Evaluating the winter resilience pilot

- Internal evaluation of processes adopted by pilot offices
- Centre for Sustainable Energy (CSE) commissioned to carry out an evaluation of the health impact of pilot offices
- Context
  - Each pilot targeted 1 or 2 client groups with high needs in their area, i.e. not able to offer comprehensive referral service recommended by NICE
  - 6 months to design and set up service
  - Implementation of referral service started October/November 2016
  - Gathering data in 'live service' environment: considerable challenges

# Planned analysis

- Who is using the service: characteristics of those surveyed
- Referral pathways used
- Advice services and onward referrals provided
- Energy-related outcomes:
  - improved housing conditions
  - income maximisation
  - reduced energy spend
  - referrals to other advice
- Subjective improvement in ability to keep warm and afford bills
- Impact on health & wellbeing: before and after comparison
  - by Office, by referral method, by selected vulnerability characteristic
  - relation between health outcomes and energy-related outcomes

# Information collected

- Referral types by office and location
- Health status before & after using validated health impact tools
  - ONS well-being survey
  - EQ-5D-5L physical health survey
- Fuel poverty status before & after intervention; also
  - ability to keep warm & manage energy bills
  - changes in energy costs, numbers switching tariffs
- Housing condition before & after intervention; including
  - energy efficiency measures and changes to SAP rating
- Benefits received before & after intervention
- Demographics

# Office for National Statistics well-being survey

Standardised rating of people's wellbeing (scale of 1-10)

- Overall, how satisfied with your life are you nowadays?
- Overall, to what extent do you feel the things you do in your life are worthwhile?
- Overall, how happy did you feel yesterday
- How anxious did you feel yesterday?

# EQ-5D-5L analysis Euroquol group

- Standardised measure of health status, for clinical and economic appraisal
- Expresses a combined value of 5 dimensions
- Value at baseline and follow up can be directly compared
- Can generate Quality of Life Adjusted Life Years (QALY) statistics
- Also collecting before & after data on use of health services

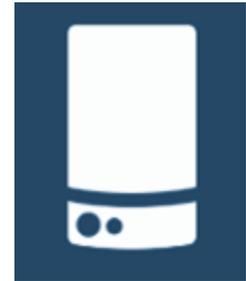


# Initial results

- ‘Before’ surveys:
  - Higher than average level of visits to General Practitioners (GPs)
  - Much lower than average levels of satisfaction, sense of worth & happiness
  - Higher than average level of anxiety
  - Lower than average levels of self-rated general health
  - Higher than average levels of moderate, severe and extreme pain
- ‘After’ surveys:
  - Will be carried out in 6 months time; potentially also in 12 months time
  - Hope to see big improvements on above findings

# Case study 1: widow, 78, owner occupier

- Poor health
  - Coronary heart disease, arthritis, osteoarthritis, high blood pressure, deep vein thrombosis, anxiety and depression
  - About to go to hospital for hip operation
- Broken boiler - no heating or hot water
- Impact of advice
  - Warm Home Discount: £140
  - New boiler
    - Trust fund, worth £3,000
    - £350pa saving on old boiler (when worked)
  - Heating & hot water: helped recovery & well-being on return from hospital
  - Now on supplier's Priority Services Register



## Case study 2: single man, 63, private rented flat

- Home circumstances
  - Central heating not working; heated whole flat with 1 fan heater
  - Electric & gas prepayment meters
  - Stopped topping up gas prepayment meter 3 years ago
- Poor health
  - Chronic Obstructive Pulmonary Disease (COPD), relies on electric nebuliser
  - Self disconnection during night: tried to go to shop to top up prepayment meter but unable to breathe properly so ambulance called
- Impact of advice
  - Warm Home Discount: £140
  - Both prepayment meters changed to credit meter to avoid self-disconnection in future
  - Standing charge debt on gas prepayment meter written off
  - New energy efficient cooker (Trust fund) & new boiler (Energy Company Obligation): £400 per week fuel bill savings
  - Now on both suppliers' Priority Services Registers
  - Now in receipt of PIP & ESA severe disability premium: extra £100 per week
  - Big reduction in hospital visits

Client quote:  
*"CAB help has saved my life"*

**For more information,** contact

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The logo for Citizens Advice, featuring the words "citizens" and "advice" stacked vertically in white lowercase letters inside a dark blue speech bubble shape.

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