

coldAlert Pilot Service

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What are cold alerts?

| | |
|----------------|---|
| Level 0 | Long-term planning <i>All year</i> |
| Level 1 | Winter preparedness programme <i>1 November to 31 March</i> |
| Level 2 | Severe winter weather is forecast – Alert and readiness <i>Mean temperature of 2°C and/or widespread ice and heavy snow are predicted within 48 hours, with 60% confidence</i> |
| Level 3 | Response to severe winter weather – Severe weather action <i>Severe winter weather is now occurring: mean temperature of 2°C or less and/or widespread ice and heavy snow</i> |
| Level 4 | Major incident – Emergency response <i>Central Government will declare a Level 4 alert in the event of severe or prolonged cold weather affecting sectors other than health</i> |

Source: DoH, Cold Weather Plan 2012

Cold Weather Alert Issued
by the Met Office



Alert Received by coldAlert
Service



Message Creation for SMS,
Email, Voice and Application



SMS Cold
Weather Alert



Voice Mail Cold
Weather Alert



Email Cold
Weather Alert



iPhone/Android
Application Alert

Why worry about the cold?

- 2001 to 2011 excess winter deaths 25000 per year;
- Every 1°C decrease in average winter temperature results in 8000 additional deaths;
- NHS Costs:
 - £850 million per year treating disease associated with cold housing;
 - 42p in the pound return to the NHS for every £1 spent keeping homes warm.

coldAlert Project Objectives

- Critically review the evidence for a **relationship between cold weather and COPD exacerbations**;
- Critically evaluate the **functionality** of the coldAlert service from an operational perspective;
- Establish if service users **utilised** the coldAlert service and review any **perceived health** and **behavioural** impacts;
- Provide recommendations for **further research** to establish if coldAlert reduces the number and severity of COPD exacerbations.

A few definitions



What is COPD?

“chronic, progressive, usually fatal disease characterized by largely irreversible obstruction of the airways that leads to breathlessness, cough, sputum production, wheeze and frequent exacerbations”

Halpin (2003:3)

COPD Exacerbations?

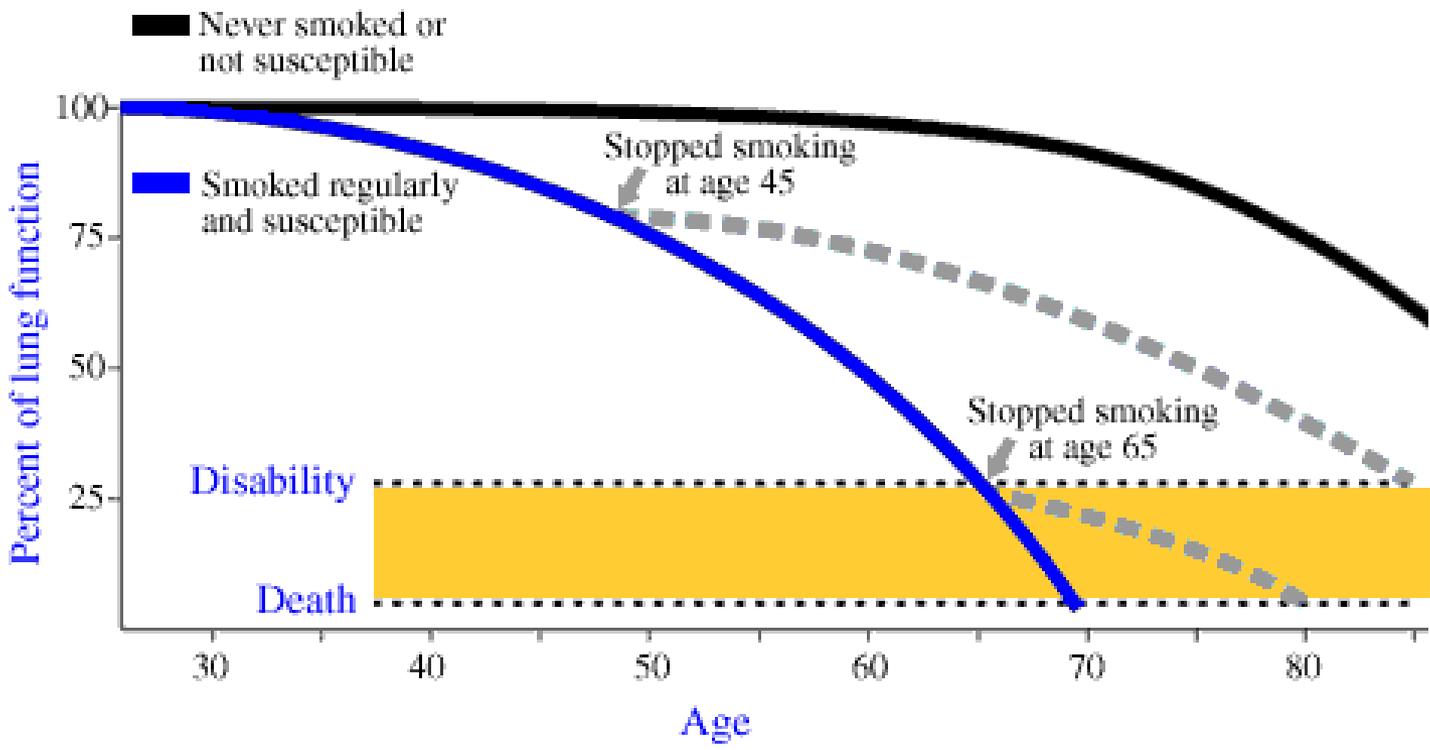
“a sustained worsening of the patient’s condition, from the stable state and beyond normal day-to-day variations that is acute in onset”

(Burge and Wedzica, 2003:46s).

Exacerbations may:

- Lead to a permanent reduction in lung function;
- A faster decline in quality of life and health;
- Ultimately a shorter life.

(Donaldson and Wedzicha, 2006).



Adapted from Fletcher CM, Peto R (1977).
 The natural history of chronic airflow
 obstruction. BMJ, 1(6077): 1645–1648.
 From webmd.com

Cold Weather and COPD

- COPD exacerbations are 50% more likely during the winter months; (Donaldson and Wedzicha, 2006)
- Falls in environmental temperatures are associated with reduced lung function in COPD patients; (Donaldson *et al.*, 1999; Marno *et al.*, 2006)
- Exposure to cold conditions, both indoors and outdoors, linked with suppression of the immune system - 50% of COPD exacerbations. (DoH, 2011 & Lange, 2007)

The Research

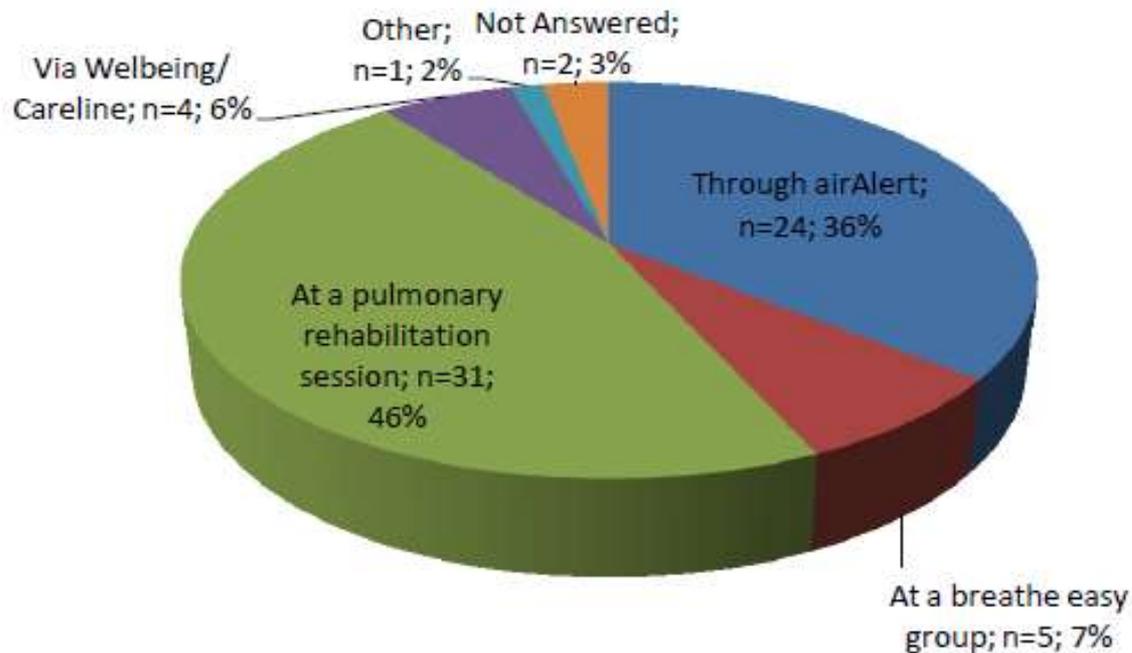


coldAlert Pilot

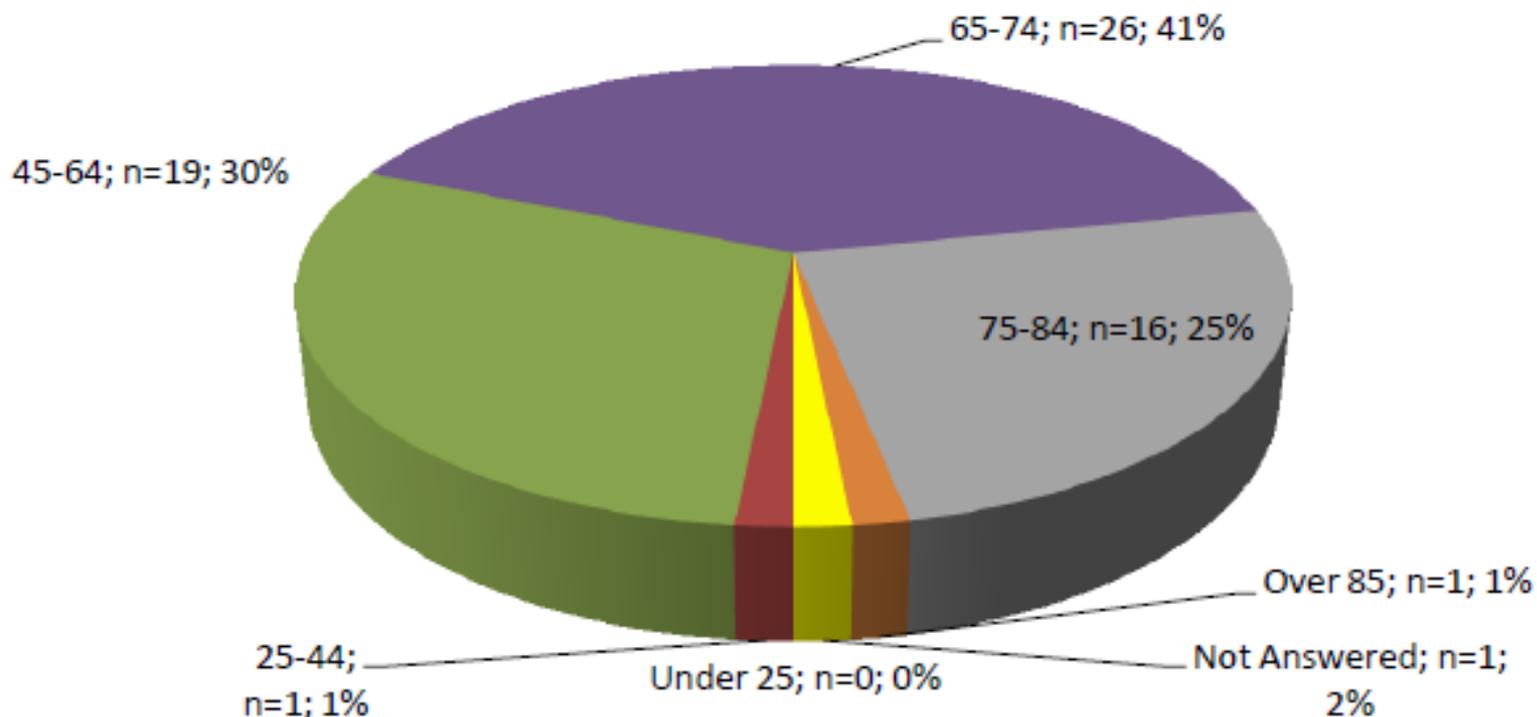
- 1st November 2012 to 1st May 2013;
- Aimed to recruit COPD users;
- 127 users, 83 agreed to participate in research; 81% survey return rate;
- 10 alerts were issued and 8 cold weather action messages were issued.

coldAlert Users

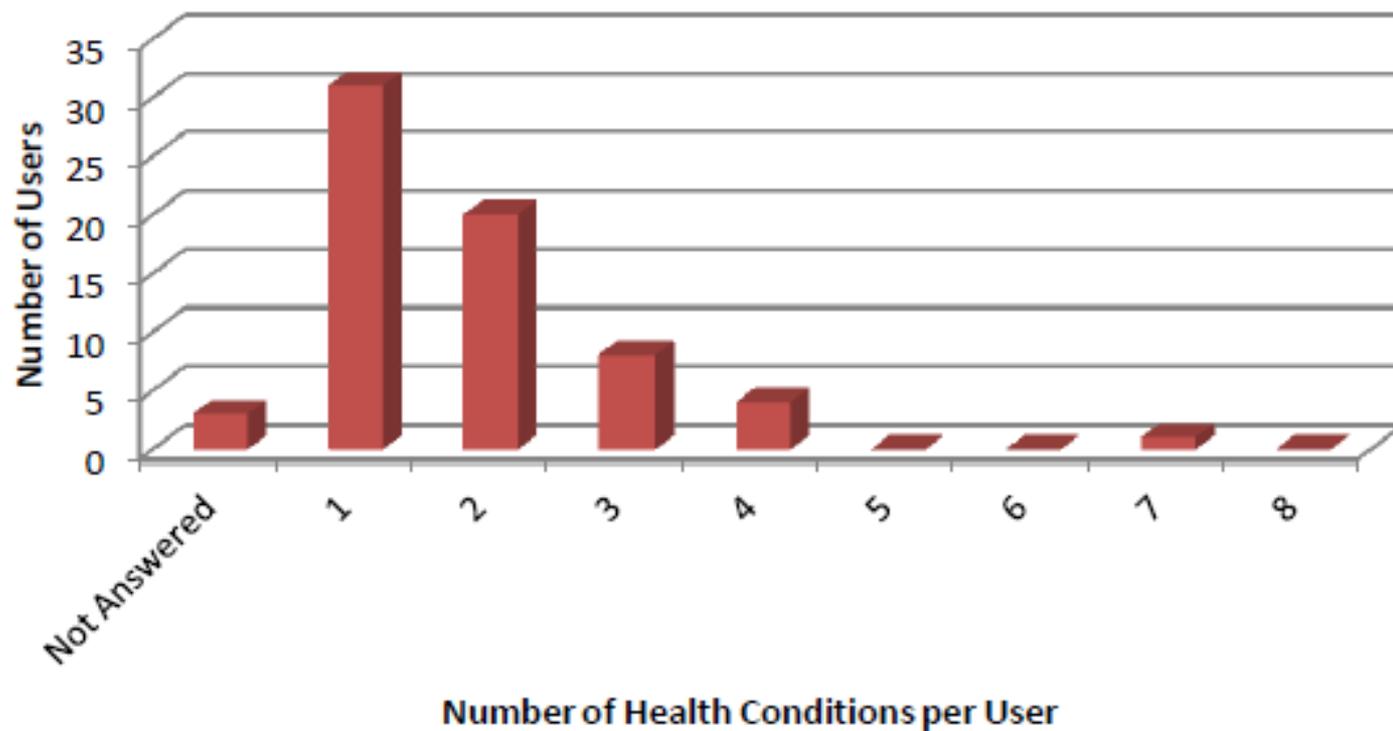
coldAlert User Recruitment Pathways Question 1: 'How did you find out about coldAlert?'



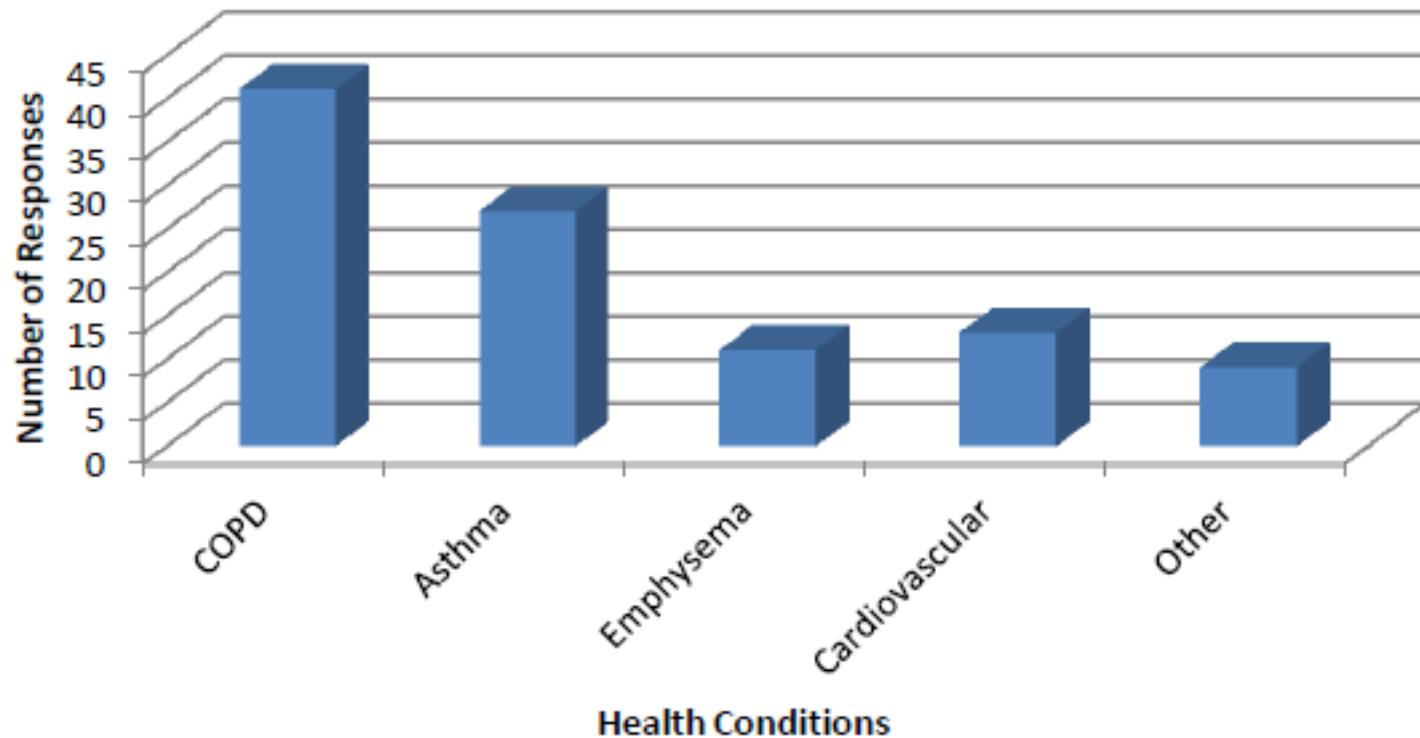
Age Distribution of Service Evaluation Participants



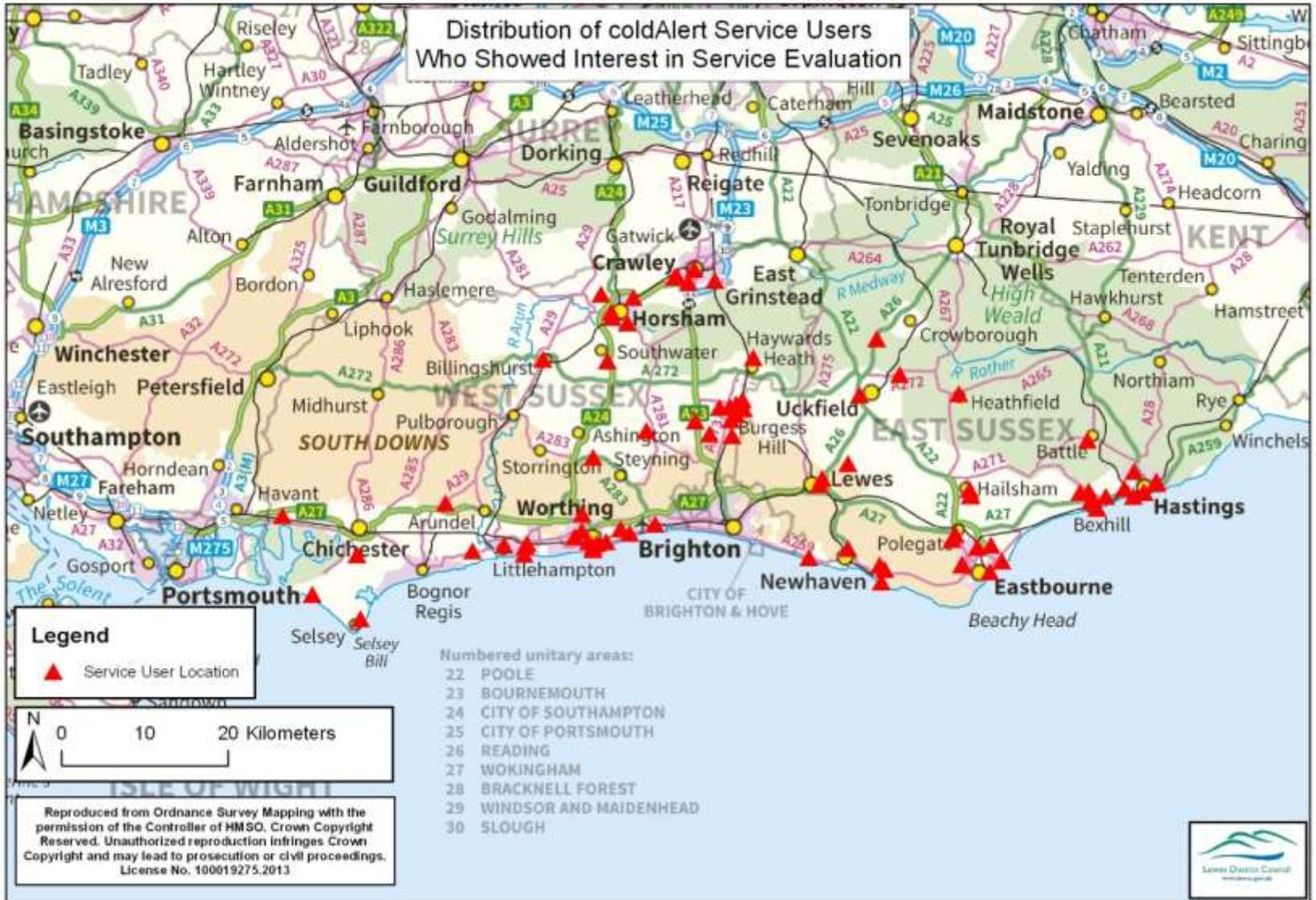
Number of Health Conditions per Service Evaluation Participant



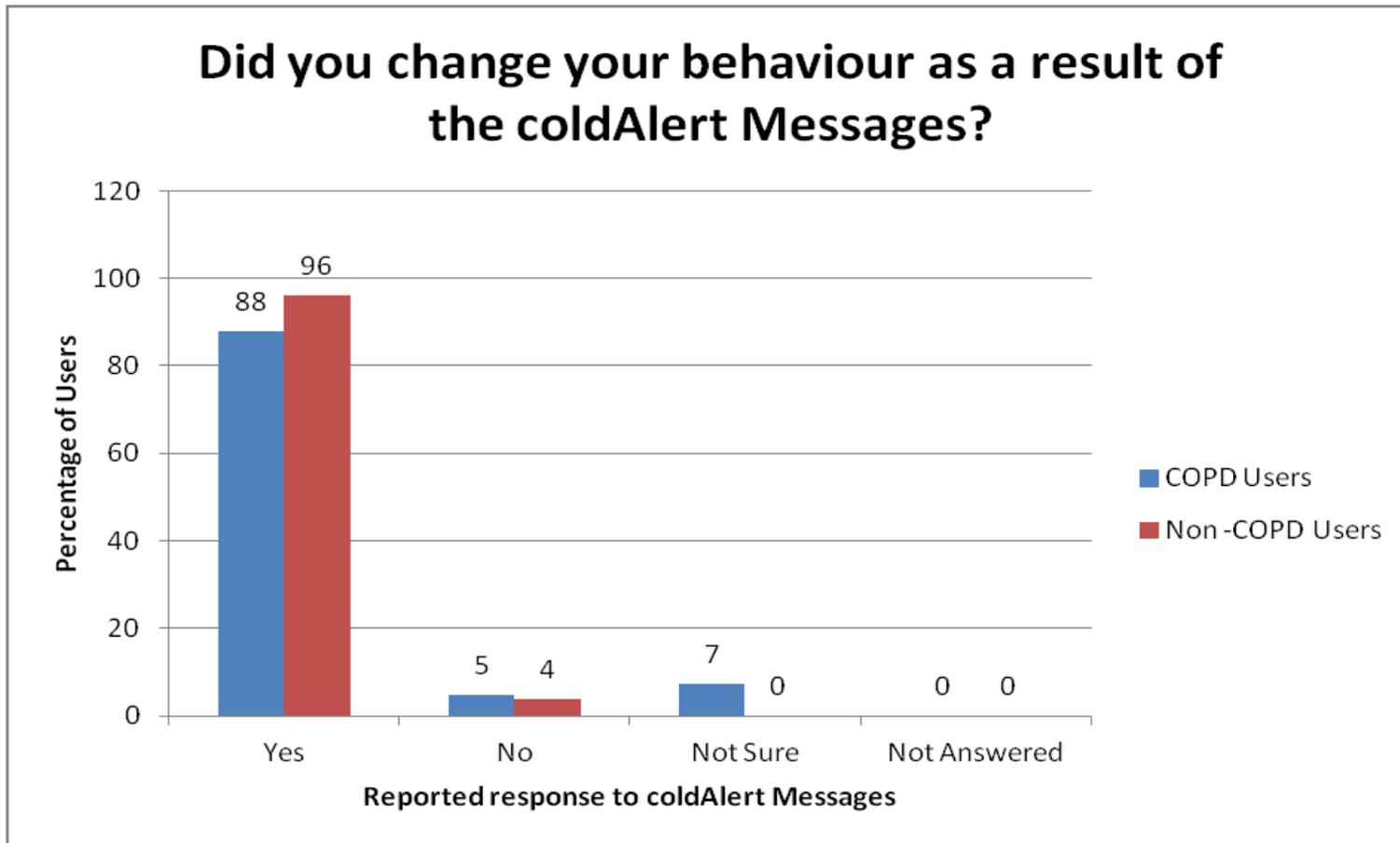
Number of Service Evaluation Participant Responses per Health Condition



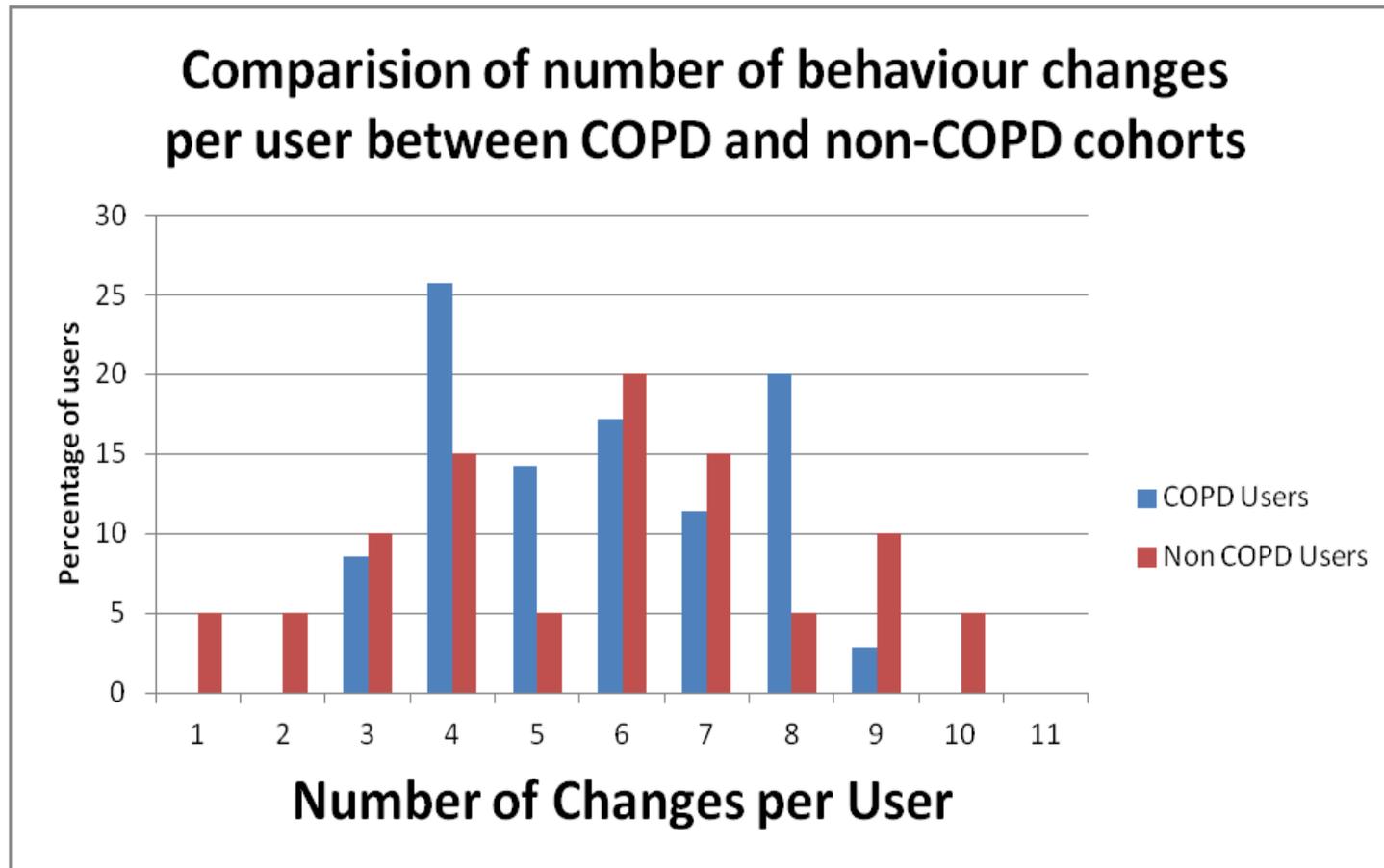
Distribution of coldAlert Service Users Who Showed Interest in Service Evaluation



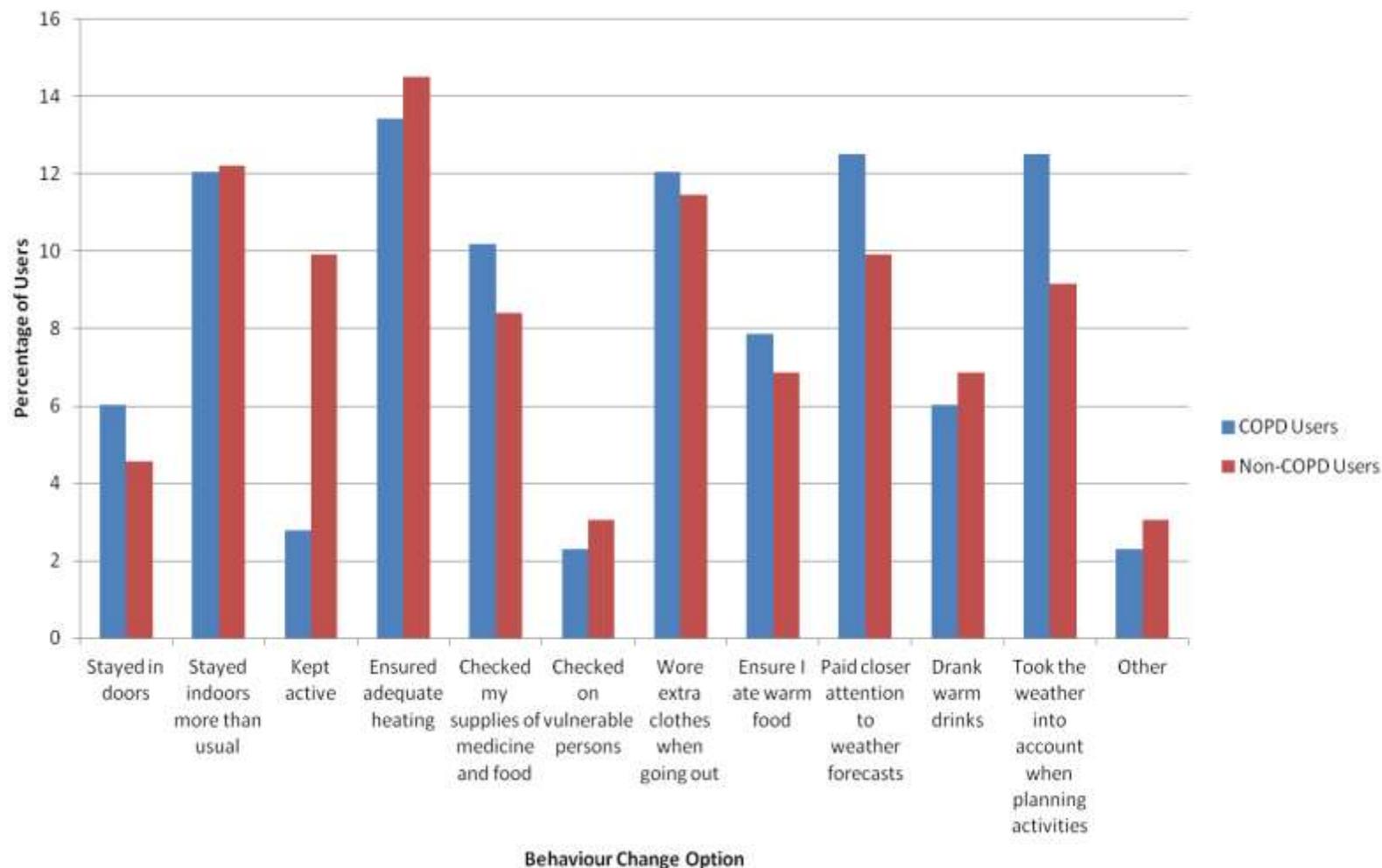
Response to coldAlert



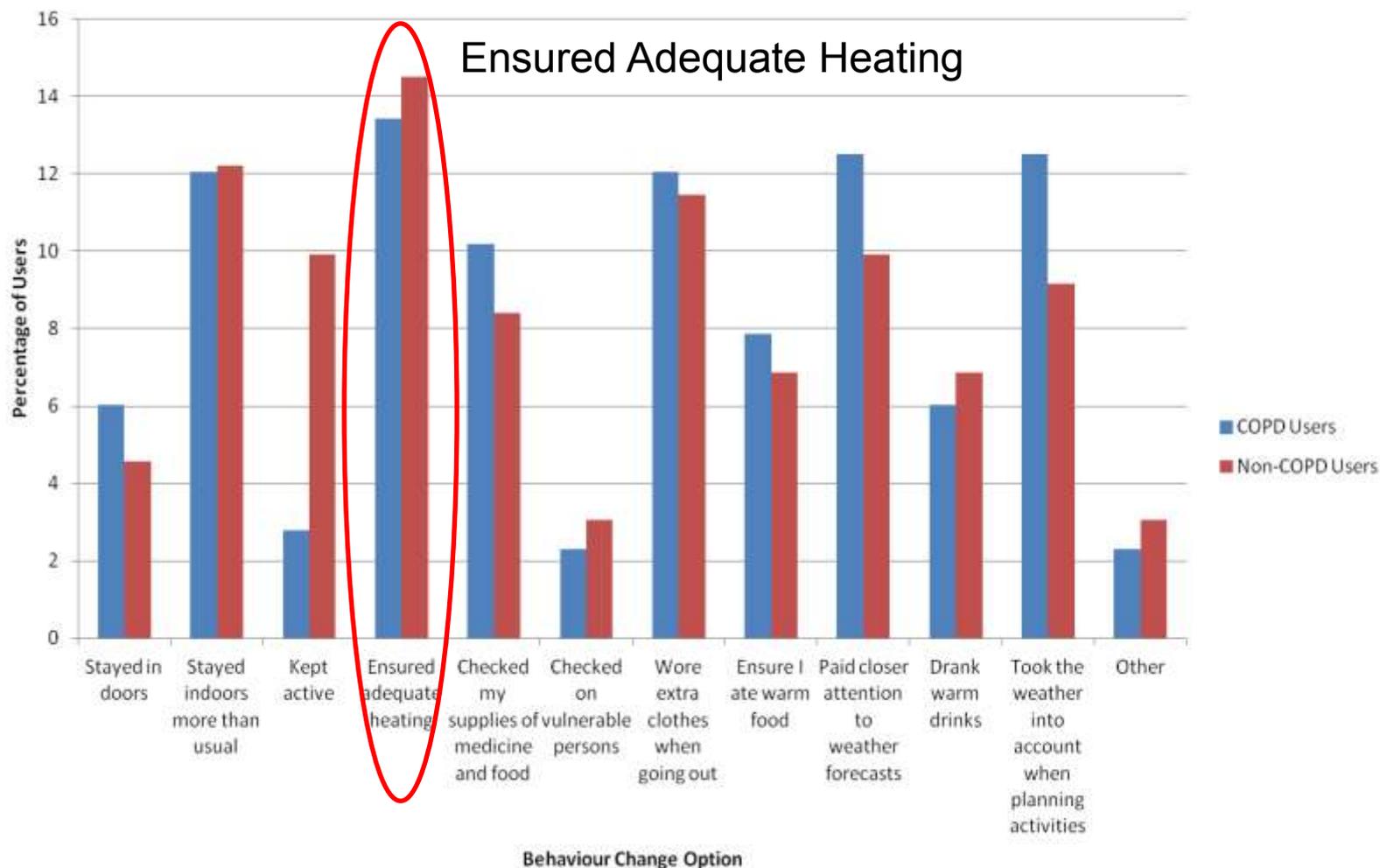
Behavioural Changes Per User



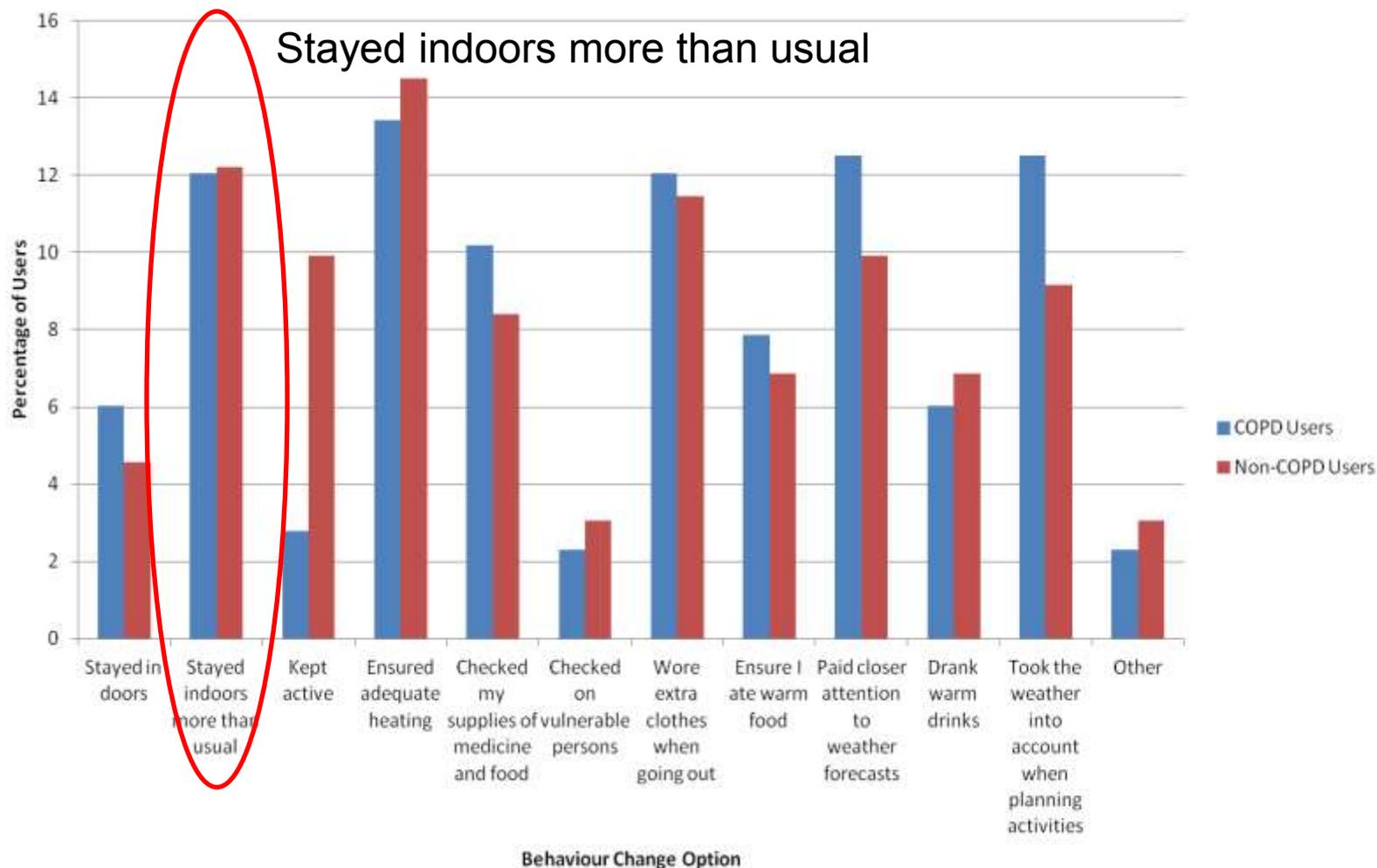
Comparison of number of Responses Per Behaviour Change Option



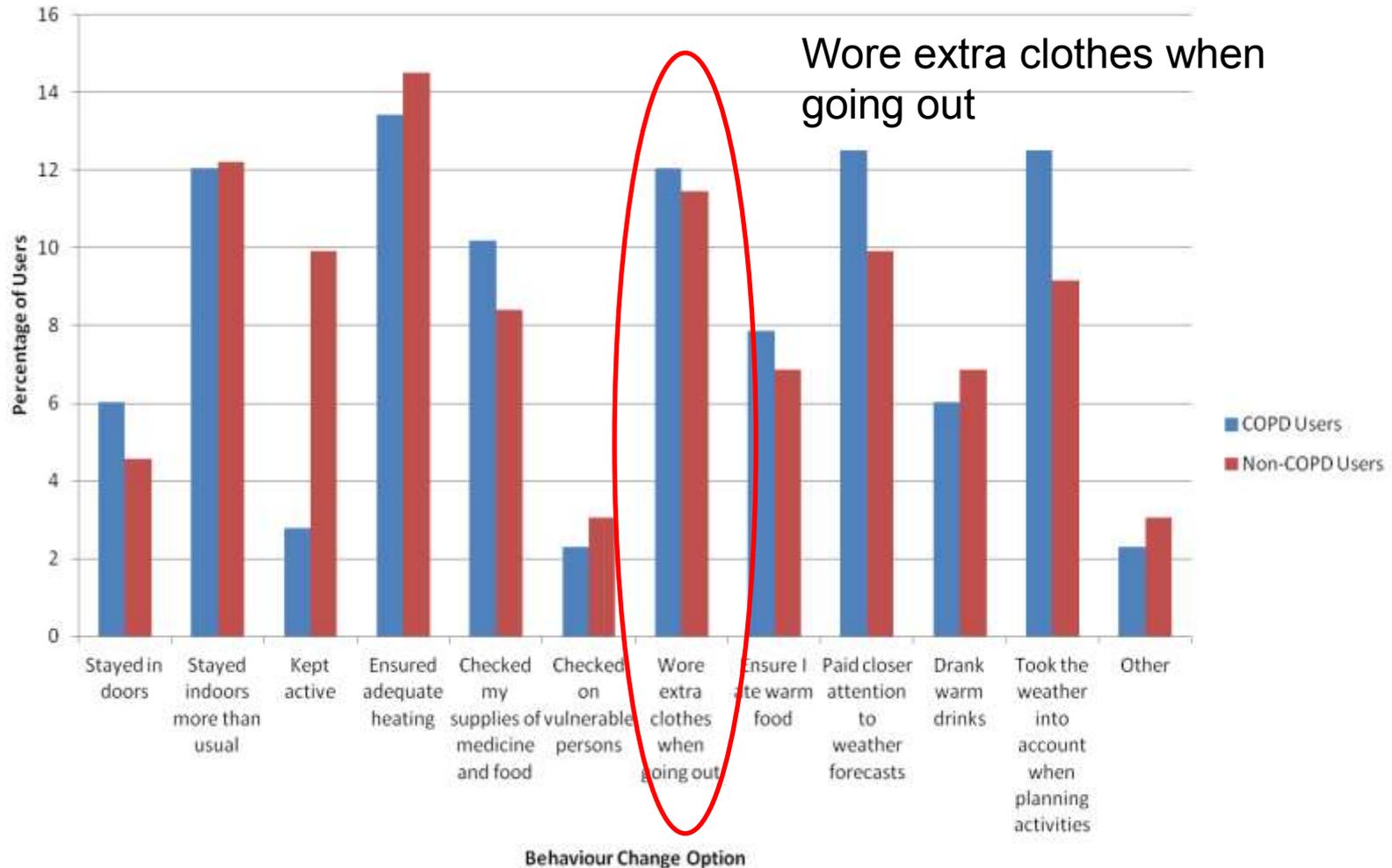
Comparison of number of Responses Per Behaviour Change Option



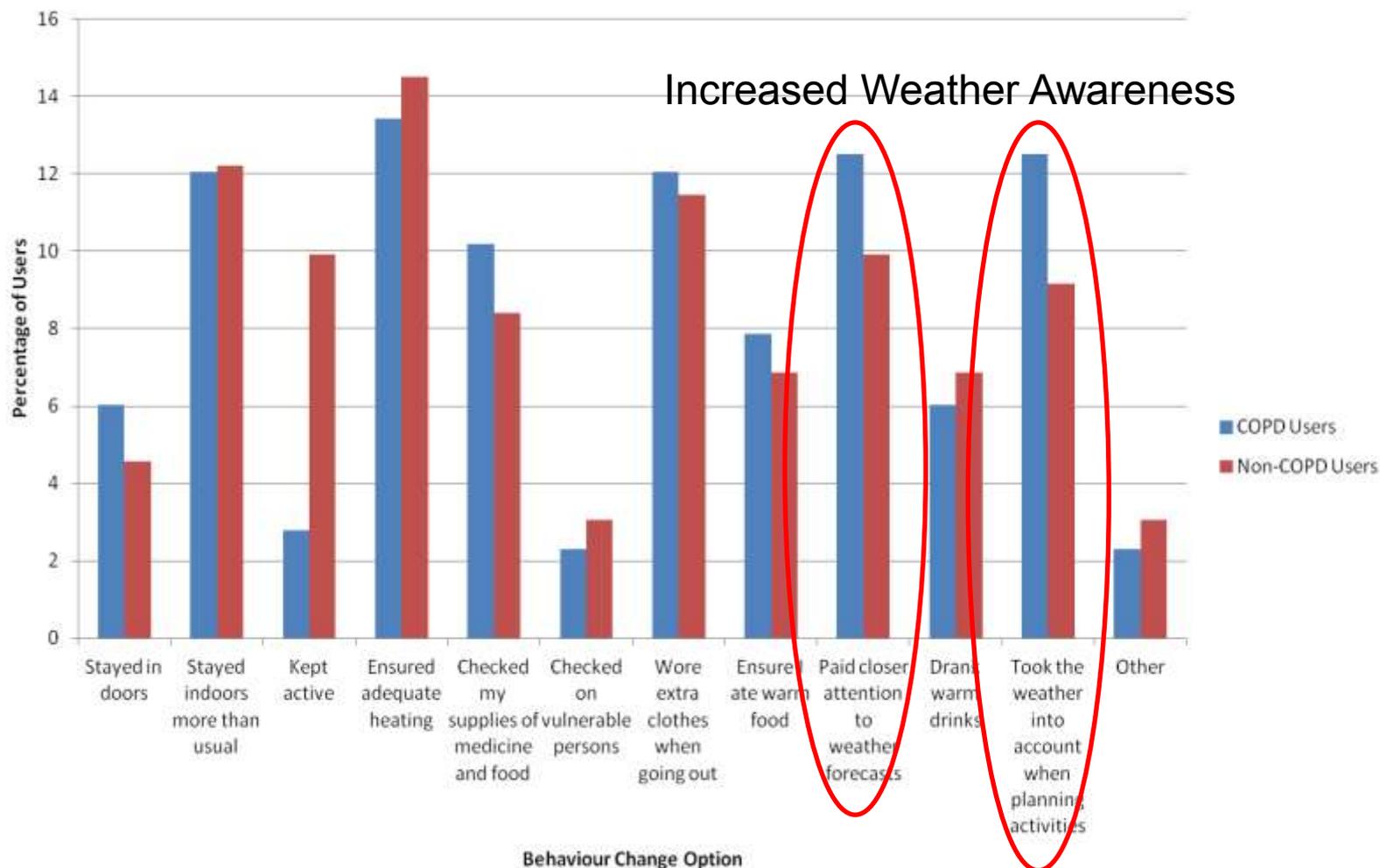
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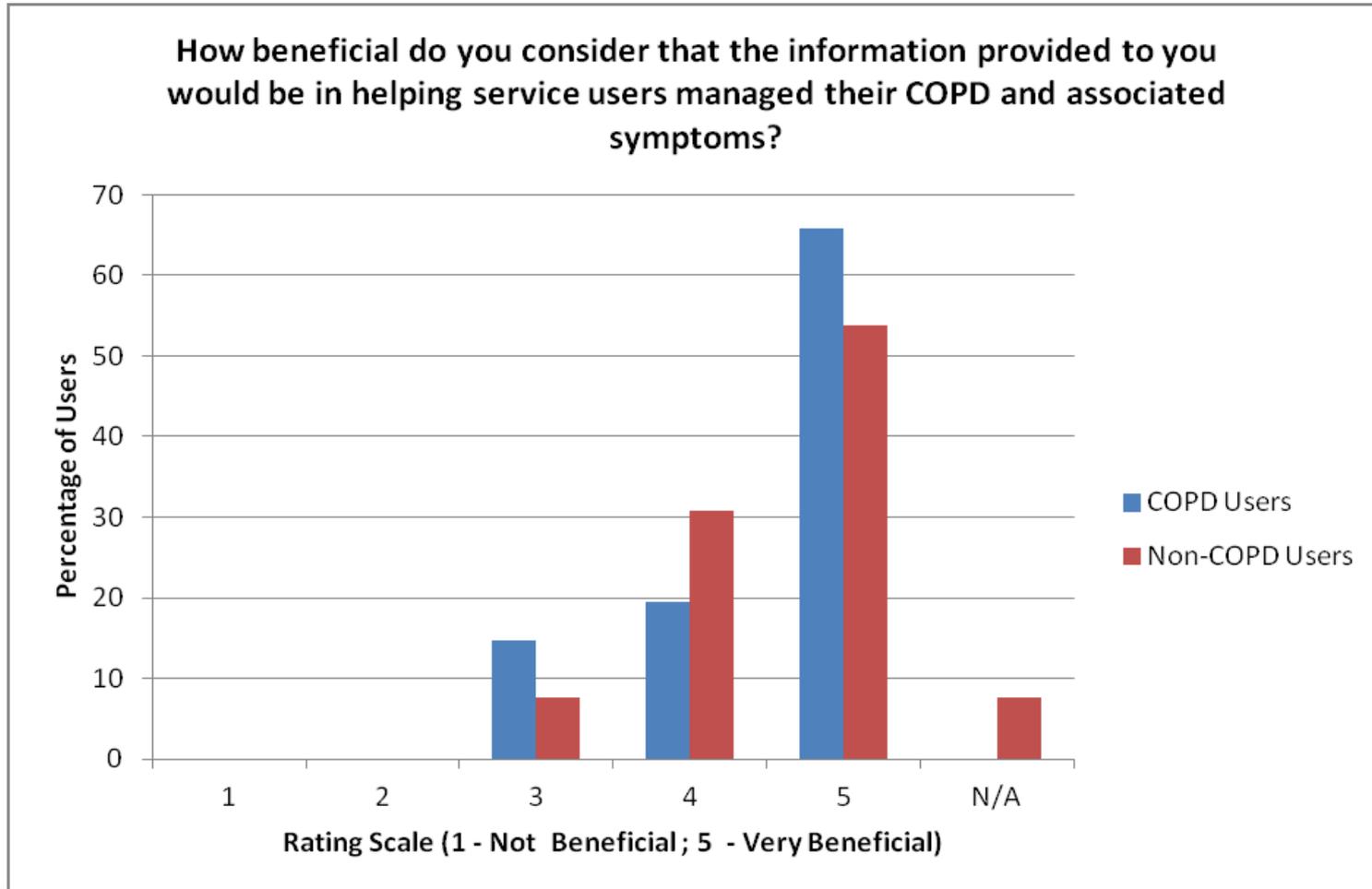


Comparison of number of Responses Per Behaviour Change Option



kept
updates conditions wrap bedrooms outdoors Check
safe listen preparedice warmly living homes
people care check Watch
forecasts Warm careful vulnerable
homeKeep weather
Take Dress risk radio keep due frosty

Value to Service Users



General Feedback

...cold air alert is more specific to our area. Which I am more inclined to take seriously. I think this service is a much needed life-line for those suffering with a lung condition... (COPD User, Female, 45-64)

This and airAlert are such excellent services. I would not mind publicising them as I am passionate about them being use by the wider community (COPD User, Female, 65-74)

What Next?

- Randomised Control Trial of coldAlert;
 - Pro's: Allows comparison of cohorts during the same winter;
 - Con's: Inability to conceal group allocation & participation bias

We found that the treatment group was 50% less likely to picket our office



freshspectrum.com

Any Questions?

Website: www.coldalert.info

(Full report available for download)

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