Smart heating & reducing energy bills

As you'll know, there are sensors in your home collecting data about your electricity use and the temperature in your home. We're doing this in order to understand how a smarter heating system might reduce energy bills.

Dr. Tam Menneer is a Research Fellow working with mathematicians, Professor Stuart Townley and Dr. Markus Mueller, at the Penryn Campus of the University of Exeter. We asked Tam some questions about her research.

How will the temperature and electricity data be used?
We will compare the temperature in your home with the external temperature. The difference between them shows us how much you have increased the temperature inside your home and we can look at how much electricity has been used to achieve this increase.

How would that help reduce electricity bills?
Smart heating could prevent your home from being overheated beyond the average temperature. The system could also learn when you like to have the living room warm.
We are working with a local business, The Smart Home Company, to understand how temperature can be controlled by such a system. We can then predict how much electricity would be needed to produce ideal temperatures.
We expect that the electricity needed will be less than that actually used, especially in the very cold weather, when people might be more likely to overheat their homes. We can then work out the money that would be saved by smart heating.

Why isn't gas use being monitored in all homes?
Not all gas meters are suitable for getting accurate measures. Homes in the Smartline project have been put into groups of homes that are similar to each other. For example, homes that are flats, have two people living in them, or have young children. We are measuring gas use from a few homes in each group so that we can use that information for the rest of the group.

How will the research help people in Cornwall?
Working with local businesses will help fuel the job market and the economy. Well-being can also be improved due to reduced worries about bill costs, and by using smart heating to meet our physical needs.

Smartline has been funded in Cornwall by the European Union Regional Development Fund in order to help local businesses develop new technologies and increase job opportunities in the county.

The South West Academic Health Science Network (SW AHSN) has provided additional funding to Smartline.

European Union
European Regional Development Fund

South West Academic Health Science Network

UNIVERSITY OF EXETER

Coastline housing

Volunteer Cornwall

CORNWALL COUNCIL

Smartline Community News

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USING YOUR TABLET

Please turn on your tablet at least once a month.

We send monthly research surveys to them so there could be one waiting for you!

NEED IT SUPPORT?

Help is available if you are struggling with your tablet computer.

Please contact Gavin at Switch Community:
01209 61098
gavinb@switchcommunity.co.uk

You can also suggest new apps and content for the tablets by speaking with Gavin.

Welcome to another edition of the Smartline newsletter.

Inside you'll find a number of articles from the academics at the University of Exeter; they talk about advancing asthma research, how you're contributing to our understanding of volunteering and how they will use your sensor data to reduce future energy bills.

There is also an article about the Food for Change programme, for those interested in learning how to grow, cook and trade food. There are a number of Food for Change activities available across Camborne, Pool and Redruth and sign up details are inside.

New Smartline community activities are regularly being setup so please get involved. Soon to start:
• Free exercise sessions at the Wesley Chapel every other week until January starting on September 21st. This will be followed by refreshments supported by the Red Cross.
• A 3 week IT awareness programme starting on November 1st at the Wesley Chapel for anyone in the local area that would like to become more confident in using their tablet or computer.

If you'd like to get involved with the community activities please contact Karen Spooner, KarenS@volunteercornwall.org.uk or 07968 706114.

The sensor maintenance program will start soon (running for 3-4 months), Blue flame will be in touch to arrange an appointment to check the sensors and replace any batteries required, as well as reward you with another £10 shopping voucher.

We hope you enjoy the newsletter and find it informative and inspiring. If you would lieke to suggest future topics or add content please contact us by emailing Smartline@exeter.ac.uk or calling us on 01872 258140.

Advancing asthma research

In January 2019 you will have the opportunity to take part in some additional research that will be looking at how time spent indoors affects asthma. The study will help researchers understand how we can develop better housing solutions in the future.

Asthma symptoms can occur from rarely to several episodes a day or week and can have a considerable impact on many aspects of an individual's life. People often feel tired during the day (mainly from sleepless nights due to coughing/wheezing), have reduced activity levels leading to obesity, and often need to take time off from work or school.

Did you know?

* People who suffer from asthma often experience shortness of breath and wheezing but symptoms can vary between individuals.
* Asthma can occur at any age and affects more women than men.
* It is more likely that if a person has asthma they may also have allergies such as hay fever or eczema.

The number of cases of asthma have increased rapidly over the past 10-20 years and the reason for this cannot be explained by genetics alone so researchers are now looking at other causes. The main area is environmental factors both inside and outside the home. We spend a considerable amount of our time indoors (around 90%).

Research shows that people who live in cold, damp or mouldy homes are more likely to experience asthma symptoms and see a decline in their lung function over time. This is because these types of environments increase mould and house dust mite, both of which are known triggers for asthmatics. Particulate matter and Volatile Organic Compounds are also known to trigger asthma symptoms.

England's ageing housing has resulted in some homes being costly to heat, particularly for those individuals on a low income. This can result in individuals keeping their homes at a temperature that might be lower than desired. The elderly, the very young and those with pre-existing conditions are especially susceptible to cold making them a vulnerable population within the housing sector. Around 10% of excess winter deaths are due to people living in cold homes. Living in cold homes increases the risk of developing asthma symptoms. More than one in five (21.5%) excess winter deaths in England and Wales are because of cold housing. This is unacceptable.

Whilst lots has been done to try and improve homes such as upgraded heating systems and better windows and doors, these types of measures can result in reduced ventilation and actually fuel the problem. Indoor air quality (IAQ) in the home environment is paramount to maintain good health.

To try and establish exactly how the indoor environment effects asthma and what we can do about it to improve people lives more research needs to be carried out. Our research will ask you to fill out a diary once per day and fill in an additional survey if you have asthma.

FACT CHECK

12% Of the UK population are affected by Asthma

£1.1 billion Is the annual cost of treating Asthma in the UK each year

52%

You're doing a lot of volunteering!

You've all now completed baseline surveys with the University of Exeter researchers and within that survey were questions around volunteering.

We found that 52% Smartline participants are volunteering which is a lot of helping out. Did you know that the Sout West region has the highest rate of volunteering?

Evidence suggests there are five steps we can all take to improve our emotional wellbeing and build up resilience. These five steps are; Connect, Be Active, Take notice, Learn and Give.

Evidence also tells us that volunteering can be route to achieving all, or some, of these wellbeing steps. For example, analysis conducted on the British Household Survey data found 'robust positive associations between changes in volunteering and changes in self-perceived health, subjective wellbeing and social relations'.

The aim of our research is to understand the types and frequency of volunteering but also the barriers to volunteering. This information can then inform voluntary sector organisations on ways they can adapt to better support volunteering in the local area.

For those of you that completed a Guided Conversation you told us reasons why you do or don't volunteer, and we've found that very interesting. We want to expand upon this so one of the upcoming monthly tablet surveys will ask for reasons why you don't volunteer.

Given the influential role of volunteering for improving wellbeing this is an important study and a piece of research which has not been conducted here before! We thank you in advance for your engagement.

Learn how to grow, cook and trade food

Join Food for Change to gain some knowledge, practical skills and positive experiences that will help you progress towards work and develop personally.

Learn practical food skills through short courses, volunteering, work experience and social activities at a range of different community organisations in Camborne, Pool and Redruth.

If you'd be interested in finding out more you can contact the team via:

01872 277150
info@cornwallfoodfoundation.org
facebook.com/foodforchangecornwall