

Researchers study how weather affects pain in people with arthritis and other conditions

January 26 2016, by Jamie Brown

It's a mystery that's perplexed people for over 2,000 years, but now University of Manchester scientists are on the verge of working out if the weather affects pain in people with arthritis and other conditions, all thanks to the British public and their smartphones.

Cloudy with a Chance of Pain, which launches today (3 February) is the world's first smartphone-based study to investigate the association between pain and the weather. The study will be carried out during 2016 using a smartphone platform called UMotif which people will use to record how they're feeling, whilst local weather data is automatically collected using the phone's GPS.

Anyone in the UK with arthritis or [chronic pain](#) and aged over 17 can take part. All participants need is a smartphone.

Dr Will Dixon, Director of The University of Manchester's Arthritis Research UK Centre for Epidemiology and Honorary Consultant Rheumatologist at Salford Royal NHS Foundation Trust, came up with the idea. He said: "This question has been around for more than 2,000 years, but it's only now with widespread modern technology that we have the ability to answer it.

"And we're not just inviting people to submit data – we want their ideas about the association between weather and pain too. We will be running a big citizen science experiment where anyone can explore the data and try and spot patterns and relationships in the data. We'll gather ideas and

theories from everyone to come up the best possible conclusion."

The University of Manchester research is supported by Arthritis Research UK, uMotif in London, and the Office for Creative Research in New York. It is being carried out in association with the University's Health e-Research Centre.

Those who choose to use the uMotif app will record their symptoms each day, which will be tied into automatically collected local weather information. Even people who don't have pain will be able to participate by browsing through the data and submitting their own ideas.

Once the project ends in January 2017, the research team will also carry out a formal analysis and hope to use the information for generating pain forecasts, allowing people to plan their weekly activities.

Stephen Simpson, Director of Research & Programmes at Arthritis Research UK said: "Many people with [arthritis](#) believe that changes in the weather affect the level of pain they experience, however there is currently no scientific evidence to support this relationship.

"This exciting study will for the first time enable us to investigate the link between [pain](#) and the [weather](#). We're delighted to support this project and we hope that the use of the uMotif app will help encourage a wide group of participants to take part, both in terms of submitting their data but also examining the results themselves to help our scientists reach a conclusion."

Dr Dixon added: "People taking part in this study will be helping to answer a question that even the father of modern medicine, Hippocrates, couldn't resolve, and which hasn't been resolved since. That's what epidemiology is all about – drawing patterns and inspiration from large groups of people to provide insights which we couldn't otherwise achieve

–this time with the help of their smartphones."

More information: The app, developed by uMotif, and further information available at www.cloudywithachanceofpain.com/

Provided by University of Manchester

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