

Q-Step Summer Project 2017: Food Standards Agency

Ref: #19 UoMQStep 2017 Food Standards Agency

Team/Department: Analytics Team

Address: Aviation House, 125 Kingsway, London, WC2B 6NH

Provisional Title for Project: "Improving the Prediction of Peaks in Norovirus from Social Media for the Food Standards Agency"

100 word abstract of what the project would probably undertake, and any data to be used:

A logistic regression model has been used for several years to predict the number of PHE Norovirus cases from counts of Tweets relating to Norovirus symptoms. When the predicted increase in Norovirus exceeds a pre-set threshold in three successive weeks, this is used by NHS choices to launch an intervention to reduce future cases. The choice of alert criteria was a matter of judgement based on limited data.

We now have data from several years to improve the predictive ability of the model.

This project would look at how changing the alert criteria and/or the model would affect the sensitivity and specificity to detect major increases in Norovirus. The results would be used to choose an improved model that would determine the timing of future interventions.

Key Words (up to 12): Food, Social Media, Twitter, Logistic Regression, Norovirus

Essential and desirable skills that the student would need to have:

Essential: Some understanding of SPSS and analytical techniques (e.g. cross-tabs, bi & multi-variate analysis, regression)

Desirable: Experience of using SPSS and analysis of data using a range of analytical techniques (e.g. cross-tabs, regression)

An interest in the area of food

Good written communication skills

Preferred selection method: Interview/Telephone Interview

Support and training offered by the organisation:

On-going support will be available from a member of the FSA Social Science Team who will provide an introduction to the data and placement requirements. Additional technical support will also be available from a member of the FSA Statistics Team.

Any issues of data confidentiality and/or IPR that would need to be resolved: N/A

Supporting Information:

The Food Standards Agency (FSA) is an independent Government department set up by an Act of Parliament in 2000 to protect the public's health and consumer interests in relation to food. Background information on the project is available here:

<http://blogs.nhs.uk/choices-blog/2016/02/12/guest-blog-using-twitter-to-predict-norovirus-outbreaks/>

Financial assistance offered by the organisation: N/A