

## Combining Hungarian Administrative Data with Google Search Trends to Predict Tendencies in Local Public Health and Consumer Behaviour

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Google Trends is a publicly available free tool that provides minute-by-minute, regional statistics on the popularity of keywords users type in the search engine. Although this massive and exponentially growing data set has its limitations, it provides a unique look into the minds of Internet users. As opposed to direct questionnaires, people using Google have no incentives to lie or to hide their true interests, yet they are motivated to be as honest and precise about their questions as they possibly can. This source of information, when combined with official data provided by government institutions can help researchers understand behavioural patterns and overtime can assist in predicting epidemics or anticipating cultural trends.

This presentation will focus on a research aiming to use Hungarian administrative health data concerning the influenza epidemics from 2004 to 2018 to see how frequent certain flu-related searches were in the periods preceding the cold and flu season, and during the period itself. After determining which Google keywords work best as indicators of a flu outbreak, we tested Google Trends solely to measure the accuracy with which we could have predicted a forthcoming flu epidemic in the past few years.

The goal of our research was to experiment with ways in which researchers studying local phenomena could take advantage of the massive amounts of free, public data from digital footprints of the local population. During our research we have experimented with using Google Trends to mirror and possibly predict consumer behaviour and as an alternative to conducting social surveys.

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