

Tube travel linked to the spread of flu-like illnesses

December 12 2018



Credit: CC0 Public Domain

Despite the commuter cold being a widely accepted concept, it's never been proven that public transport contributes to the spread of airborne infections. Now new research on the London underground commute has

proven a link does exist.

The study, published on December 4, 2018 in *Environmental Health*, will help to inform measures to control the spread of infectious disease.

By comparing Oyster card route information and Public Health England data on flu-like illnesses, Dr. Lara Goscé from the University of Bristol's Department of Civil Engineering and Dr. Anders Johansson from Bristol's Department of Engineering Mathematics, discovered higher rates of airborne infections in Londoners that have longer tube journeys through busier terminals.

Dr. Goscé explained: "Higher rates [of influenza-like cases] can be observed in boroughs served by a small number of underground lines: passengers starting their journey in these boroughs usually have to change lines once or more in crowded junctions such as King's Cross in order to reach their final destination.

"On the other hand, lower influenza-like rates are found in boroughs where either the population does not use public transport as the main form of transport to commute to work; or boroughs served by more underground lines, which guarantee faster trips with less stops and contacts with fewer people."

For instance, one finding highlighted that [infection](#) rates in residents of Islington, who often change lines at crowded Kings Cross St. Pancras, were nearly three times higher than in commuters from Kensington, who mostly take direct trains.

The team hope that their findings will inform Government epidemic policies. Dr. Goscé said: "Policy makers, in particular, should address the role potentially played by [public transport](#) and crowded events and avoid encouraging the attendance of such environments during

epidemics."

Looking to the future, the group want to draw a clearer map of the spread of cold-like infections in a metropolitan environment, and so plan to combine individual level infection data with existing studies from households and schools.

Dr. Goscé, who is now based at UCL, said: "These results are preliminary following limitations of the dataset. Empirical studies. Empirical studies combining aero-biology and pedestrian modelling would be important in improving model fidelity and devising non-pharmaceutical control strategies tackling threshold densities to minimise numbers of infections and optimal ventilation in different crowded environments."

More information: Lara Goscé et al. Analysing the link between public transport use and airborne transmission: mobility and contagion in the London underground, *Environmental Health* (2018). [DOI: 10.1186/s12940-018-0427-5](https://doi.org/10.1186/s12940-018-0427-5)

Provided by University of Bristol

Citation: Tube travel linked to the spread of flu-like illnesses (2018, December 12) retrieved 5 July 2024 from <https://medicalxpress.com/news/2018-12-tube-linked-flu-like-illnesses.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.