

# How your friends might help you avoid flu

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A study of social networks has yielded clues about how best to improve vaccination rates for influenza.

Researchers at Lancaster University found that people who have lots of friends should be prioritised for the 'flu jab because they might influence others to get vaccinated too.

Influenza is a global health problem, affecting 3 to 5 million people a year and causing [fatalities](#) among the very old, the very young, and those with existing medical conditions.

The study, published in *The Lancet*, [www.thelancet.com/journals/lan...rticle/PIIS0140-6736%2814%2962155-3/fulltext](http://www.thelancet.com/journals/lan...rticle/PIIS0140-6736%2814%2962155-3/fulltext) looks at how to improve the results of vaccination campaigns for healthcare workers who are at risk of spreading the infection to patients.

The Government sets a target for 75% of all healthcare workers to have the 'flu jab, but only half are vaccinated.

PhD student Rhiannon Edge, with Joseph Heath, Barry Rowlingson and Drs Thomas Keegan and Rachel Isba, examined [vaccination rates](#) among current medical students who will soon become [healthcare workers](#).

They also asked the undergraduates to rate the strength of their relationship with all other students from Lancaster Medical School, based on how much time they spent together.

They said: "It has been shown that individuals who are connected within a social network may influence each other's behaviour, even when not connected directly. If an individual's vaccination decision is affected by their immediate social circle, clusters of unvaccinated individuals can develop – and these clusters may then facilitate outbreaks of infection."

The researchers developed and ran a computer simulation of an [influenza](#) outbreak 1,500 times to find out what effect vaccinating some well-connected individuals had on the spread of influenza through the population.

"Once we had located influential individuals using network analysis tools, we tested whether or not vaccinating these individuals would have

different effects on the influenza outbreaks within the network."

"It is clear that some individuals have a disproportional effect on disease dynamics. This study suggests that vaccination strategies that target highly connected [individuals](#) within a network might limit the spread of infectious disease."

**More information:** "Seasonal influenza in medical students: an outbreak simulation model based on a social network approach." DOI: [dx.doi.org/10.1016/S0140-6736\(14\)62155-3](https://doi.org/10.1016/S0140-6736(14)62155-3)

Provided by Lancaster University

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