

Some vaccine doubters may be swayed by proximity to disease outbreak, study finds

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An individual's trust in institutions such as the CDC, and how close they live to a recent measles outbreak, may affect their attitudes on measles vaccination, according to a study published August 28, 2019 in the open-

access journal *PLOS ONE* by Florian Justwan of the University of Idaho, USA, and colleagues.

In both the US and globally, there is growing vaccine hesitancy, which can manifest itself in increased non-medical exemption rates, decreased [vaccination rates](#) and increased outbreaks of [vaccine](#)-preventable diseases. The formation of attitudes about vaccination is complex and linked to many factors including media and peer group influence, distrust of science, information access, and socio-economic barriers.

In the new study, researchers surveyed 1,006 online respondents across the United States about their political beliefs, vaccination attitudes and demographics. The survey was carried out in January 2017, following local outbreaks of measles in 2016. The respondent pool was generated by a market research firm to be a nationally representative sample of the U.S. voting age population and the final sample matched known population in terms of gender, age, income race and Census region.

The researchers found that an individual's proximity to a measles [outbreak](#) independent had no independent effect on measles vaccination attitudes ($p = 0.43$). However, they found that trust in government [medical experts](#) is strongly and positively related to vaccination attitudes ($p=0.01$). Moreover, the study uncovered an interactive relationship between the two variables. People who are skeptical of the CDC and similar institutions and live farther away from a disease outbreak harbor less favorable vaccination views than those who are skeptical but live in [close proximity](#) to an outbreak. People who have high levels of trust are not affected by disease proximity.

The research therefore suggests that, unlike people who trust government experts, people who are skeptical of the CDC and similar institutions may consider whether or not a given disease occurs nearby when making decisions about vaccination.

Justwan adds: "In this paper, we explore whether people's vaccination attitudes with regards to [measles](#) are shaped by how far away they live from a recent outbreak. We find that this is the case—but only for individuals who also distrust government medical experts. Put differently: citizens who are skeptical of the CDC and similar institutions base their vaccination decision-making to some degree on whether or not a given disease occurs in close vicinity to their community."

More information: Justwan F, Baumgaertner B, Carlisle JE, Carson E, Kizer J (2019) The effect of trust and proximity on vaccine propensity. *PLoS ONE* 14(8): e0220658. doi.org/10.1371/journal.pone.0220658

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