

Understanding the impact of Tier 3 Covid rule on the spread of stomach bugs

What is the problem?

During the COVID-19 pandemic, rules were put in place to keep people safe, like keeping distanced from others and closing public places. These rules may also have helped to stop the spread of stomach bugs that make people vomit and have diarrhoea. Some stomach bugs can spread easily in places where lots of people are close together. But finding out if the COVID-19 rules helped with stopping the spread of stomach bugs is hard. This is because it might depend on things like how we act around other people, how many people in our area are sick and if the people in charge did things to help. More studies are needed to understand how the COVID-19 rules affected stomach bugs in England.

What we aim to do:

In December 2020, England used a three-level system to try to control the spread of COVID-19. In the areas with the highest level of control (called "Tier 3 - Very High Alert"), there were more rules about meeting people outside and going to places like restaurants. In this study, we want to find out if these extra rules helped to stop the spread of stomach problems more than the less strict rules in the areas with the second-highest level of control (called "Tier 2").

What is our approach?

This project aims to find out if Tier 3 rules helped stop the spread of stomach bugs. To do this, we are using a special mathematics technique called the synthetic control method. It's like making an artificial group of places that didn't have the rules to compare to the real places that did have the rules. By looking at the difference between the two groups, we could see if the rules really made a difference in stopping the spread of the disease.

To make sure that the group of places with rules and the artificial group of places without rules (called the control group) are as similar as possible, we will use information from different sources. This information will tell us how many people live in the area, how many are old or young, how many are from different ethnic groups and if they have been sick before.

We will use people's health data with all personal details removed, taken from three sources:

- People who called the National Health Service (NHS) 111 hotline or used the online advice service because they had diarrhoea and vomiting.
- People who had to go to the hospital because of stomach problems.
- Information about tests done in the lab to check for certain types of stomach bugs.

Involving the public

We are interested in presenting our research in science festivals and open day events at research centres that are open to the public with open debates and discussions.

Sharing our findings

Apart from involving the public in disseminating our research, the results of the study will be shared with other experts by presenting them at science meetings and by publishing them in scientific magazines that have been reviewed by other experts.

Making a difference

The study will show how doing things that don't involve medicine (like washing your hands or staying home when sick) can help reduce how many people get sick with stomach bugs. This information can help people make better rules to prevent these types of infections.