The Effects of Policy Interventions on Covid19 - A case of London

When cases decline, which policy changes cause a change in trend?

CUSP London Data Dive

Group ✌️
Challenge C : Correlations and COVID19
7th April, 2022

Case

COVID-19 cases in London during both Delta and Omicron declined before increasing. During the time, various policies were put into place.
Which policy changes might have caused a change in trend?

This study looks at the change caused to rate of COVID19 cases due to specific policy interventions.
Other policies considered- face coverings, school closure, event cancellations, and international travel restrictions.

Data source and structure

- Daily case count data from UK Health and Security Agency (UKHSA)
- Oxford Covid-19 Government Response Tracker: recorded daily, coded by policy type, intervention intensity.

Scope and Limitations

- With the decrease in severity of disease and increase in transmissibility, the study captures the time period after both Delta and Omicron saw a dip in cases.
- The study considers a 14 day period for the policy to take effect.
- The case count data further includes only those who **tested** themselves and were found to be positive, ergo excluding the number of people who did not test for COVID19.

Key

- Case
- Data
- Structure
- Scope
- Limitations

Note-
Index = Intensity
Intensity Facial Covering
(0 min, 4 max)

Result

Early 2022 (Omicron variant)

Policy measures eased	Impact
face covering, event cancelling and work-from-home	**significantly increased spread**
Opening schools and lifting international travel restrictions	no measurable direct impact

Policies were lifted individually in mid-2021 (Delta variant)

Event cancelling, work-from-home	no measurable direct impact (face covering requirement still in place)
Face covering (reduced, not lifted)	no measurable direct impact

This suggests: Keeping some form of masking requirement made a difference.

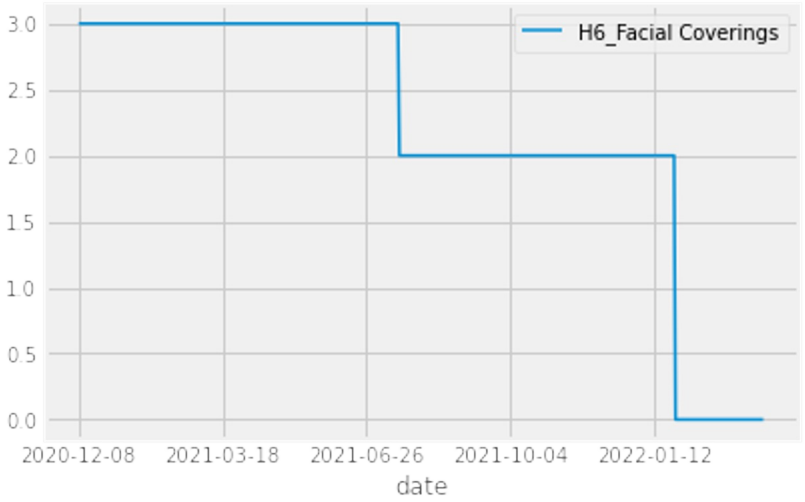
Takeaways

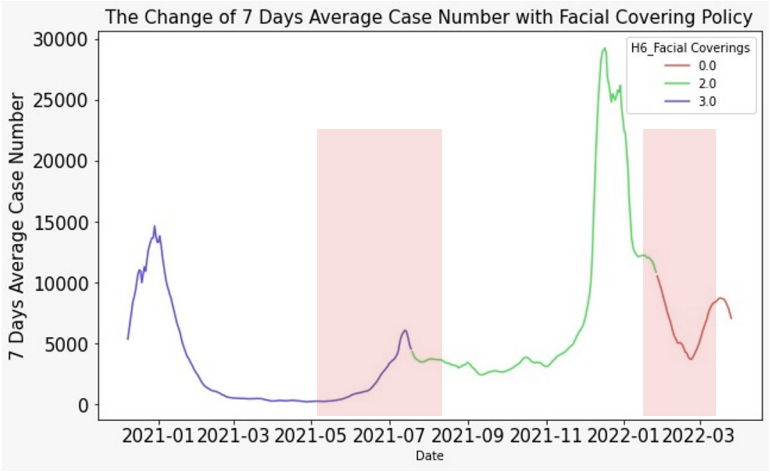
1) **Lifting mask requirements completely**, together with other measures, with a more transmissible variant in winter, significantly increased spread.

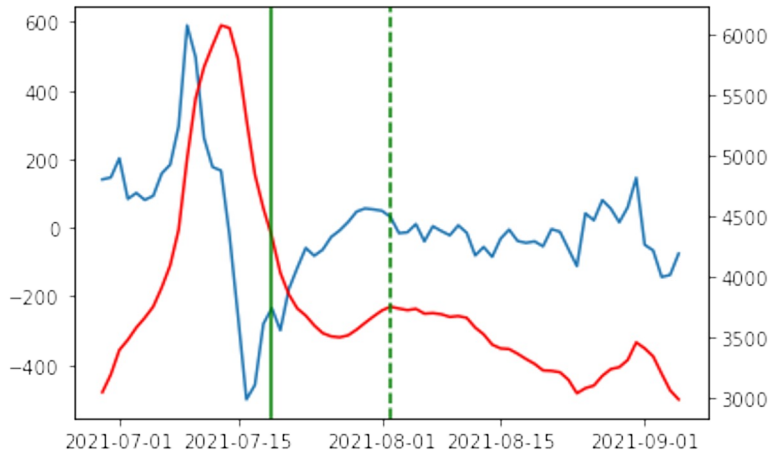
2) Lifting the same restrictions in summer with a less transmissible variant and some mask requirements remaining, did not significantly increase spread.

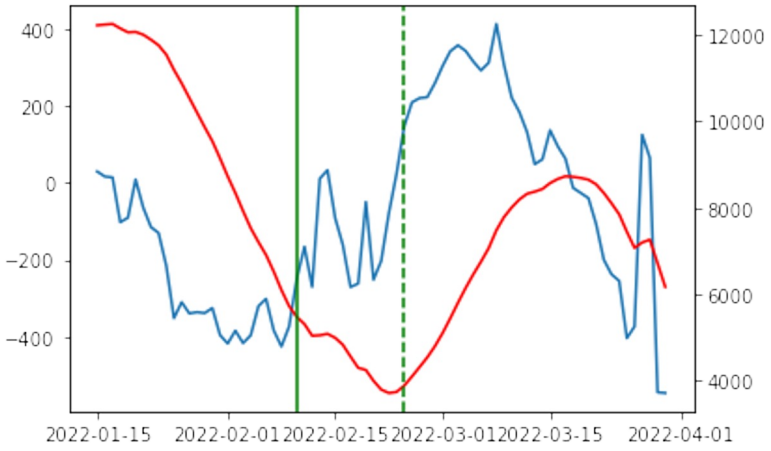
3) School openings and allowing international travel had no direct measurable impact (early 2022).

Change of facial covering policy









Delta 2021 summer

Omicron 2022 spring

Key

Three levels of face covering policy:

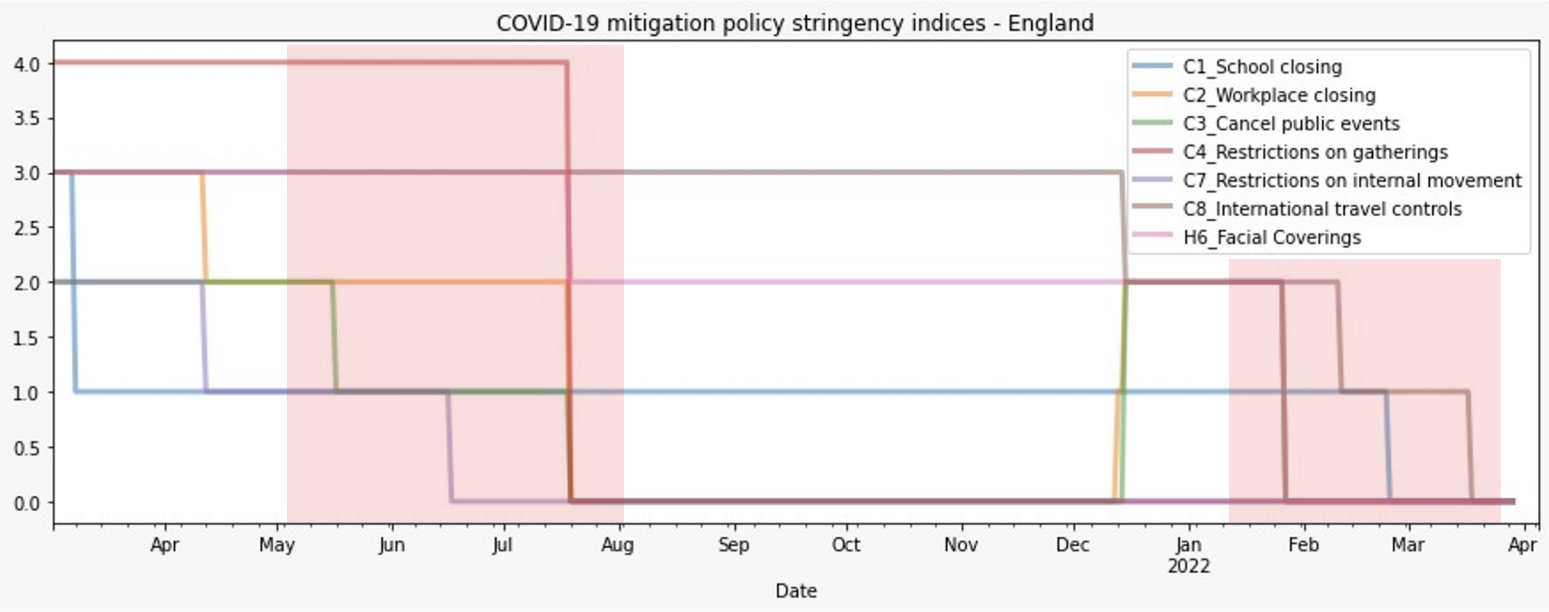
0 - no mask
2 - more masks
3 - mask mask mask!

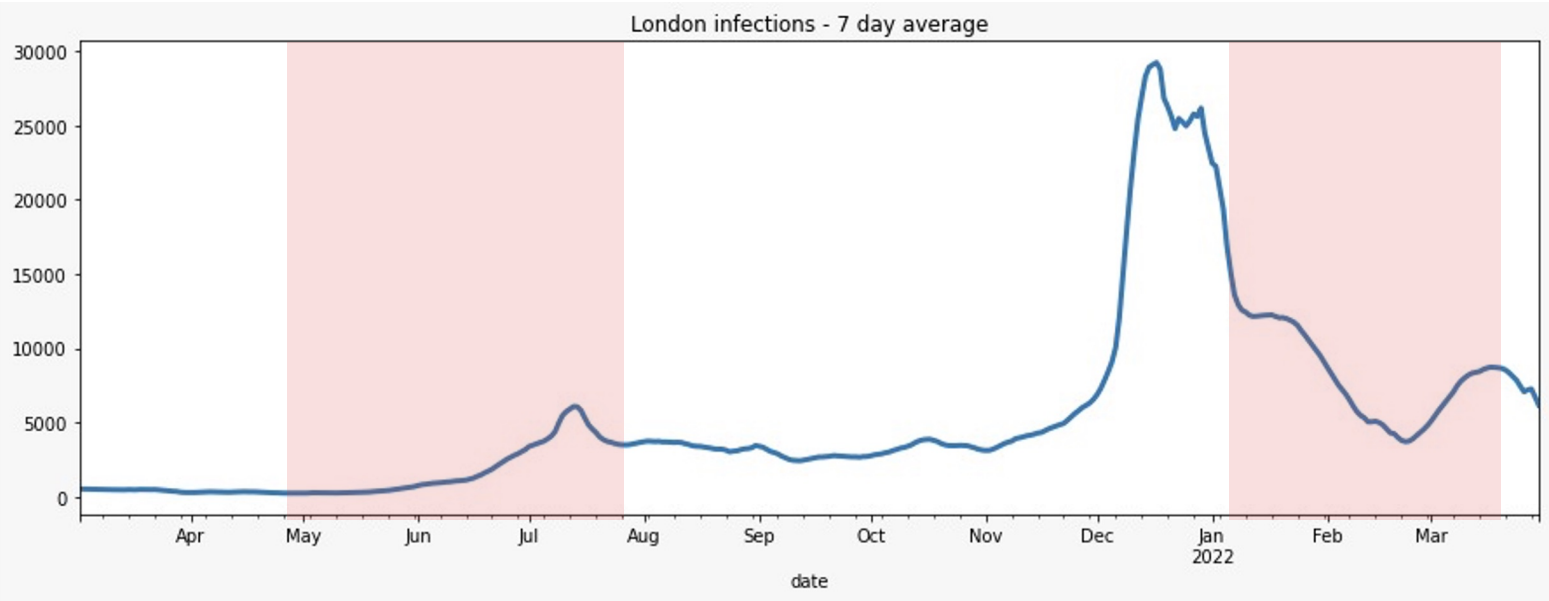
Methodology:
Interrupted time series regression

No. of Cases

Slope of Cases

$p < 0.05$





Policy and Wave

Delta 2021 summer :

- Intensity of many policies decreased ✓
- Case number rises again ✗
- Lift of policies significantly increased spread ✗

Omicron 2022 spring :

- Intensity of many policies decreased ✓
- Case number rises again ✓
- Lift of policies significantly increased spread ✓