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# Impact of COVID-19 on Dutch general practitioner prenatal healthcare: *an interrupted time-series approach*

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**INTRODUCTION** The COVID-19 pandemic significantly impacted primary healthcare-seeking behaviour, though the effect on pregnant women remains largely unknown. **Aims:** to examine the impact of pandemic phases on healthcare consumption, occurrence of pregnancy-relevant symptoms and diagnoses, and types of contact among pregnant women in Dutch GP practices between 2020-2021.

## METHODS

**Design** retrospective observational cohort study

**Data** EHR data from GP practices from Maastricht UMC, Radboud UMC, UMC Groningen



Healthcare consumption

- **Daily contact rates** per 1,000 registered pregnant women
- **Interrupted time-series analysis:** segmented linear regression model



Pregnancy symptoms & diagnoses

- **ICPC code registrations** per 1,000 contacts
- **Fisher Exact tests**



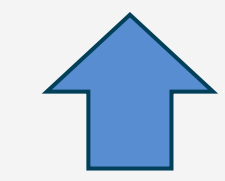
Type of patient-GP contact

- Percentage **per phase**
- Regular consult, phone consult, home visit, digital contact

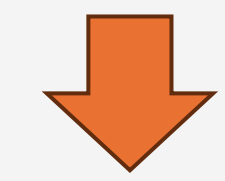
## RESULTS

**Population** 10,985 pregnant women

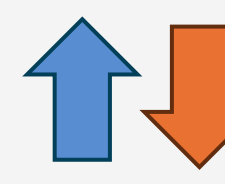
**Number of contacts** 39,023



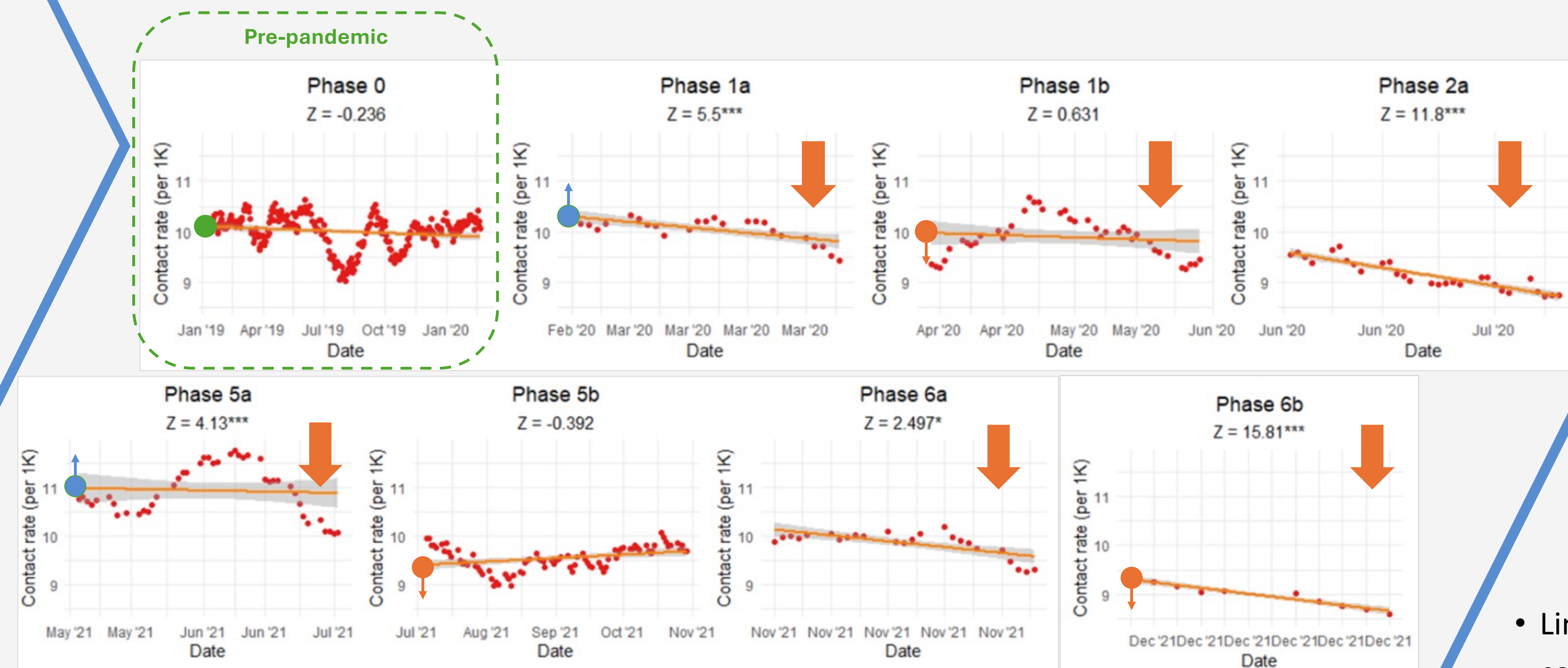
Increases in frequency of **gestational diabetes and nausea** or vomiting of pregnancy



Decreases in **frequency of confirmed pregnancy** (wanted or unwanted)



Pregnancy-relevant symptoms and diagnoses in the category related to pregnancy showed the **highest variability** across the pandemic phases



**Figure 1.** Linear models of contact rates per phase, shown by contact date and per 1,000 registered pregnant women.

## DISCUSSION



Healthcare consumption

- Important prenatal GP care was **missed possibly**
- Potential **delayed adverse pregnancy outcomes**, such as increased stillbirths, ectopic pregnancies and mental health problems



Pregnancy symptoms & diagnoses

- Possibly due to **physical limitations, sedentary behaviour and emotion distress in lockdowns**



Type of patient-GP contact

- Pandemic led to **remaining fewer physical contacts**, more telehealth
- Limitation: limited view on healthcare consumption