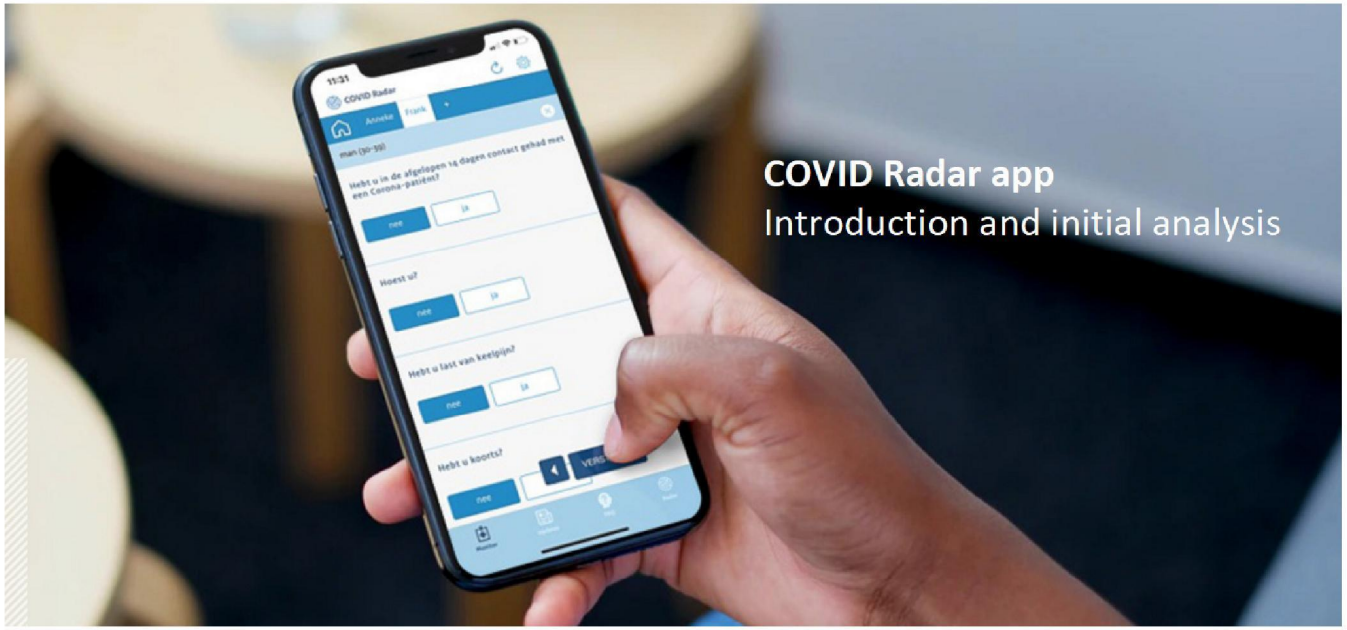
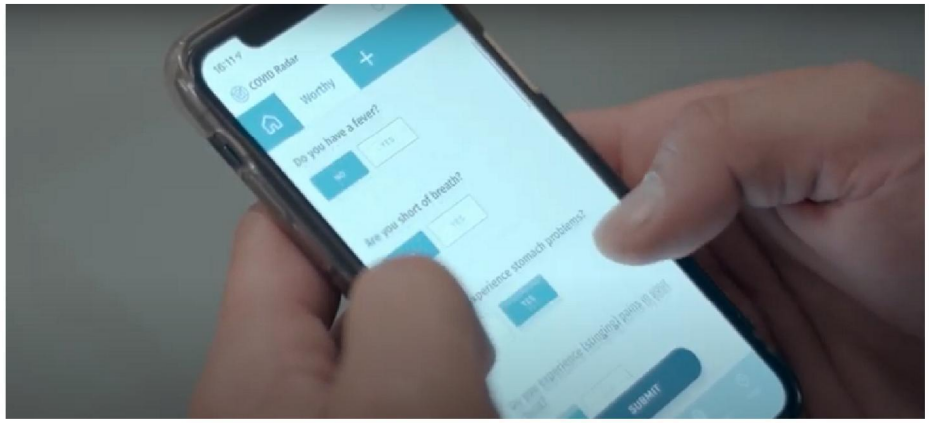

COVID Radar app
Introduction and initial analysis

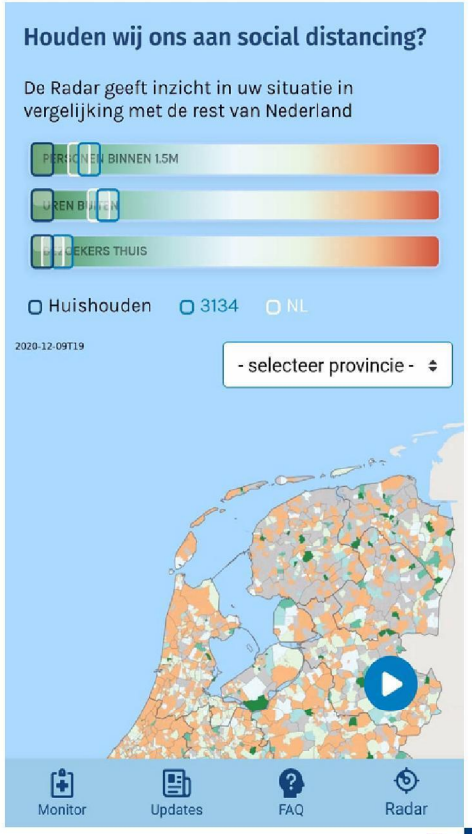
# COVID Radar

Doelstelling: lokaal Covid kunnen voorspellen -> individuele/regionale feedback

*Symptomen + Gedrag*

- Anoniem
- Regiospecifiek (tot op postcode 4 niveau)
- Terugkoppeling: inzicht en bewustwording voor de gebruiker



# COVID Radar – Introduction and initial analysis

*Background*

- Ontwikkeld door samenwerken tussen LUMC en Ortec, gefinancierd door ZonMW subsidie

- Sinds 2 April, dagelijkse vragenlijst
- 250 dagen
- 5.500.000 observaties
- +250.000 gebruikers
- 11.000 gebruikers met 100+ observaties
- Mogelijkheid tot 2 miljoen gebruikers
- Dynamische vragenlijst

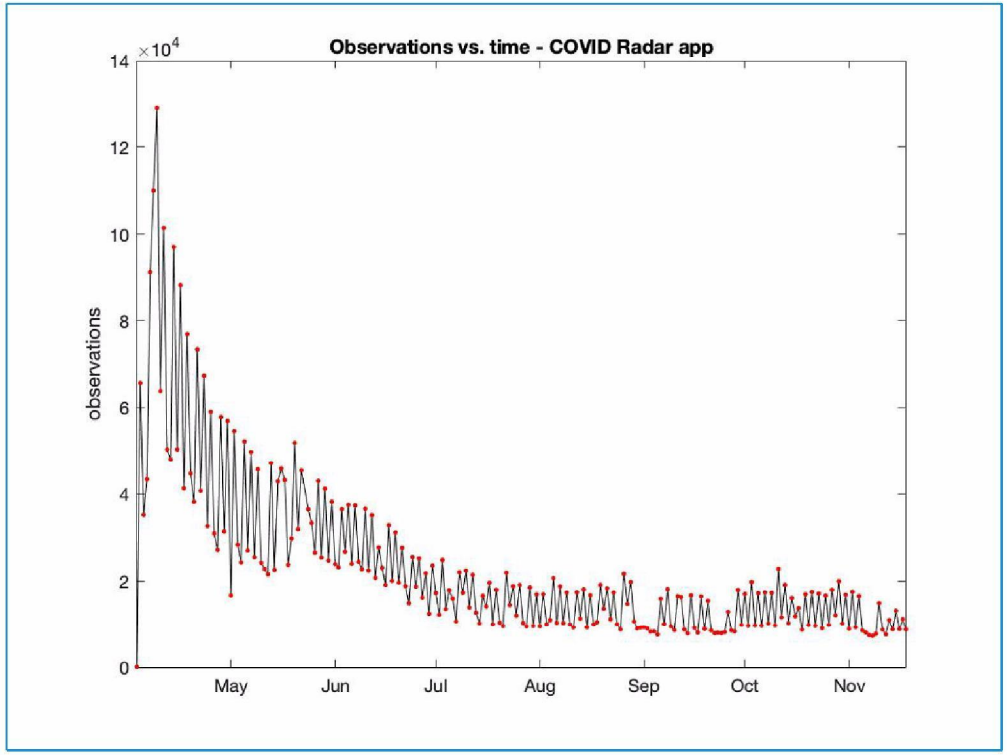
- Binnenkort lokale en landelijke wervingscampagnes

| *Variable name* | *Variable type* | *Variable description* | |
|---|---|---|---|
| *pc* | ID variable | postal code | |
| *gender* | categorical (M/F/O/N) | gender of user (male, female, other, none) | |
| *age* | categorical (10yr increments) | age group of user | |
| *hcpro* | binary | health-care professional (no/yes) | *Initial information* |
| *contact* | binary | contact with COVID-19 patient in past 14 days (no/yes) | |
| *hoesten* | binary | coughing (no/yes) | |
| *keelpijn* | binary | sore throat (no/yes) | |
| *koorts* | binary | fever (no/yes) | |
| *kortademig* | binary | shortness of breath (no/yes) | |
| *maagdarm* | binary | stomach issues (no/yes) | |
| *borstkas* | binary | pain in the chest (no/yes) | |
| *ogen* | binary | swollen eyes (no/yes) | |
| *geur* | binary | loss of smell or taste (no/yes) | *Symptom information* |
| *covid* | categorical (N, Y1, Y2) | user diagnosed with COVID- 19 (no/yes - in the past 2 weeks/yes - more than 2 weeks ago) | |
| *werk* | binary | work/school yesterday (no/yes) | |
| *uithuis* | integer [0-24] | hours spent outside yesterday | |
| *personen* | integer [0-20] | number of people within 5 meters yesterday | |
| *bezoek* | integer [0-20] | visitors at home yesterday | |
| *nabij* | integer [0-50] | number of people in two features above within 1.5m | *Behavior information* |
| *udid* | ID variable | household unique identifier | |
| *cdate* | unix timestamp | time and date user answered questionnaire | |
| *date* | timestamp | date user answered questionnaire | |

# COVID Radar – Introduction and initial analysis

*Results*

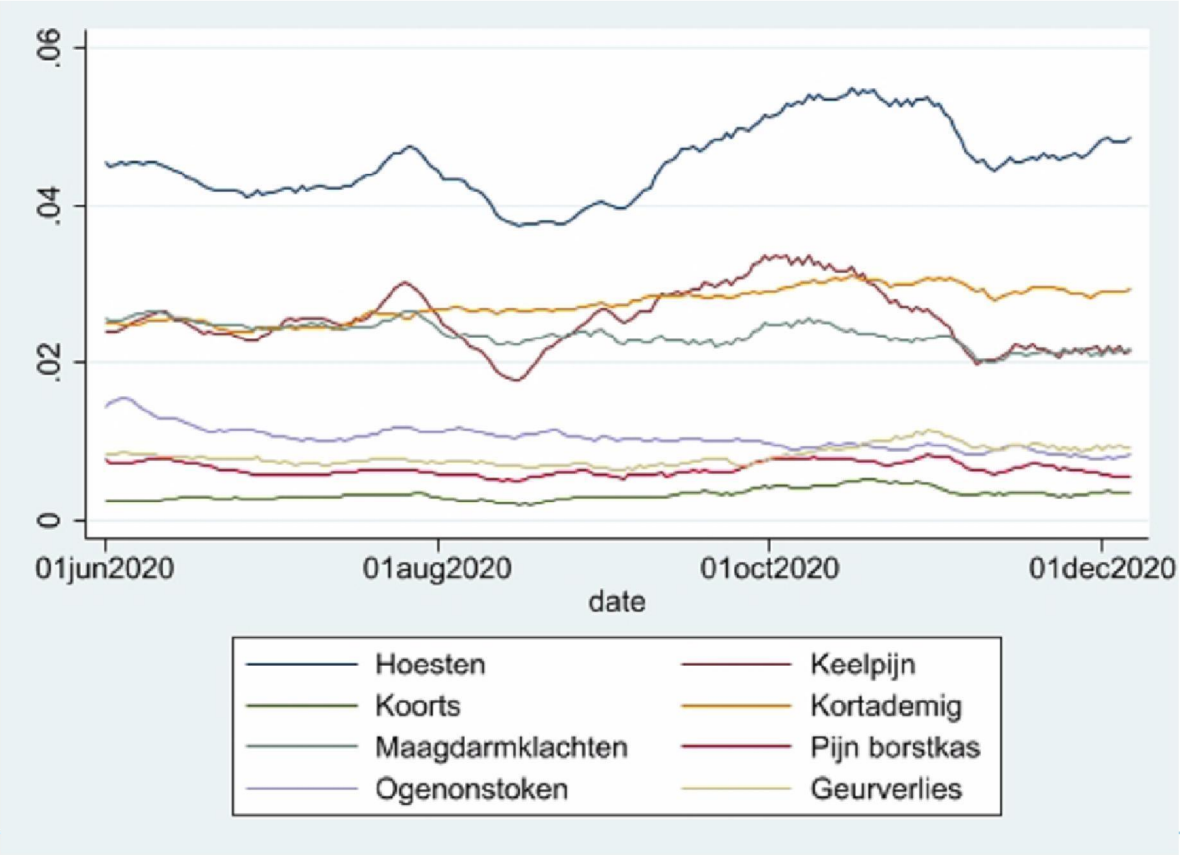
## Number of total users and number of observations

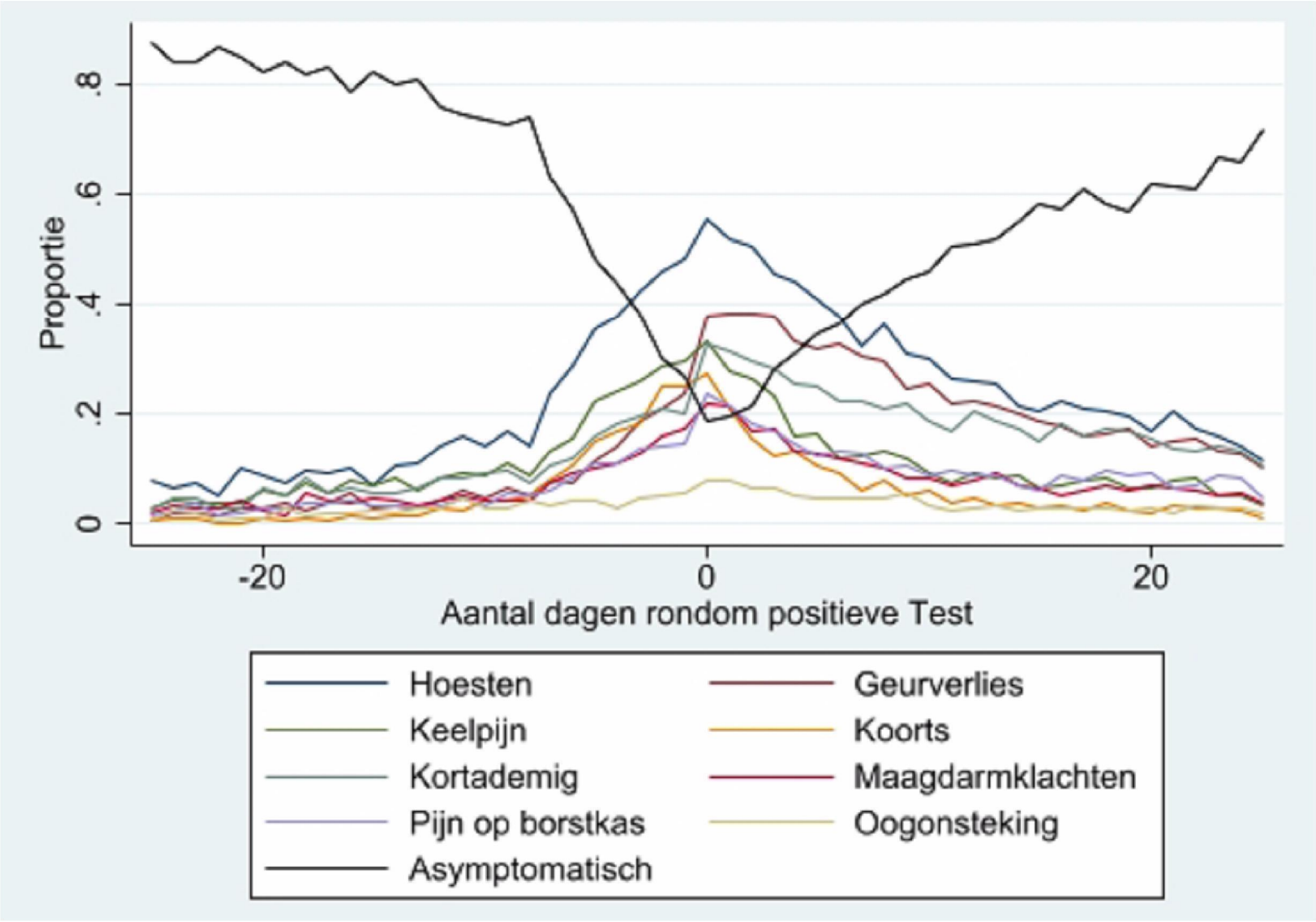


**COVID Radar – Introduction and initial analysis**

*Results*

- Symptoms reported by users vs. time

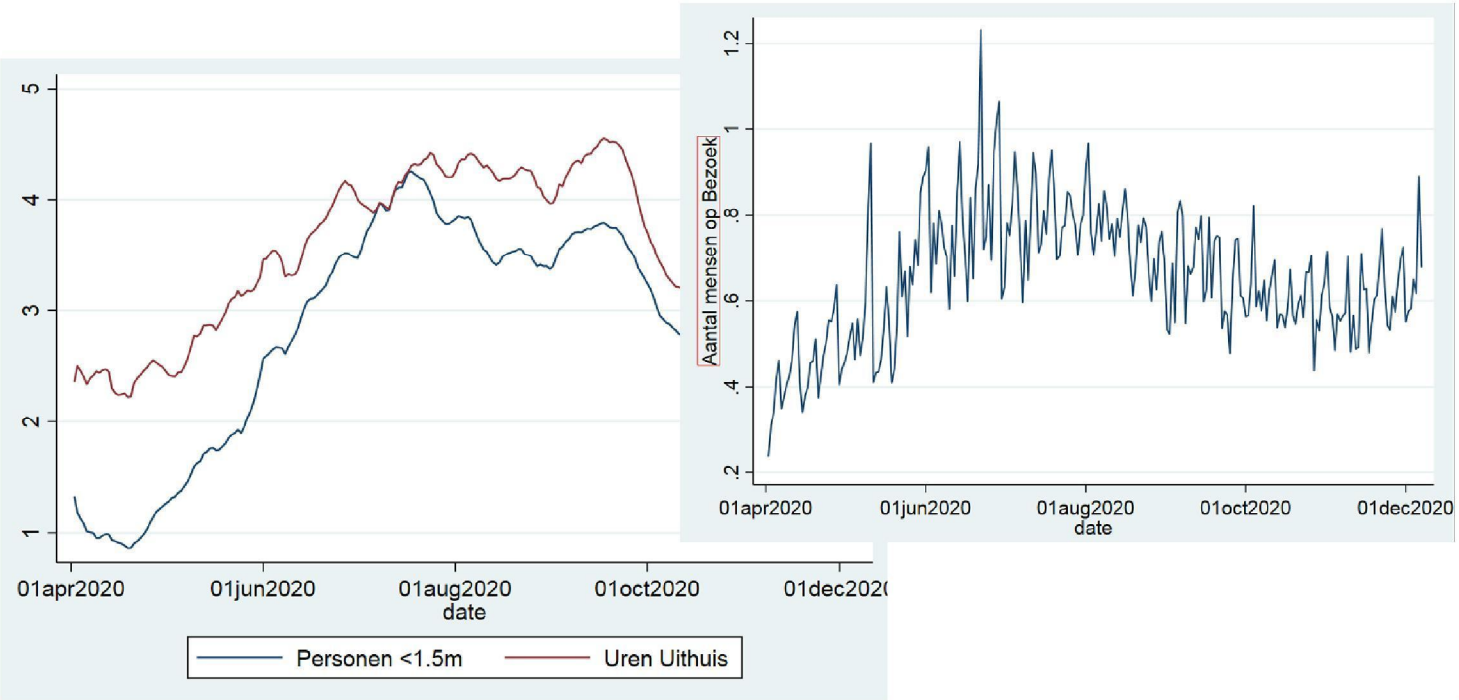


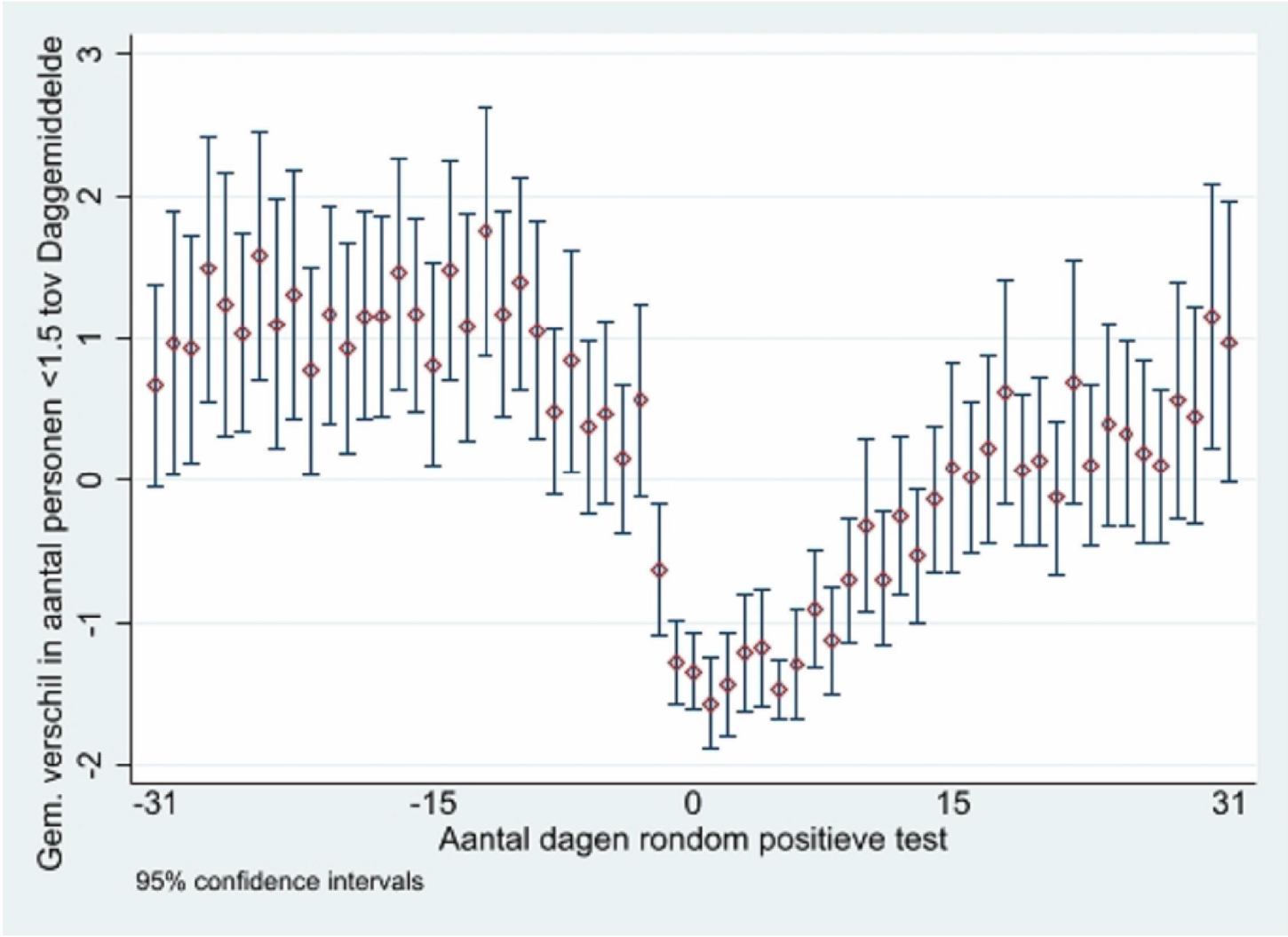

Proportie
0
.2
.4
.6
.8
-20
0
20
Aantal dagen rondom positieve Test
Hoesten
Keelpijn
Kortademig
Pijn op borstkas
Asymptomatisch
Geurverlies
Koorts
Maagdarmklachten
Oogonsteking

## COVID Radar – Introduction and initial analysis

*Results*

- Behavior reported by users vs. time




Gem. verschil in aantal personen <1.5 tov Daggemiddelde
3
2
1
0
-1
-2
-31
-15
0
15
31
Aantal dagen rondom positieve test
95% confidence intervals

**COVID Radar – Introduction and initial analysis**

*Discussion*

Conclusies

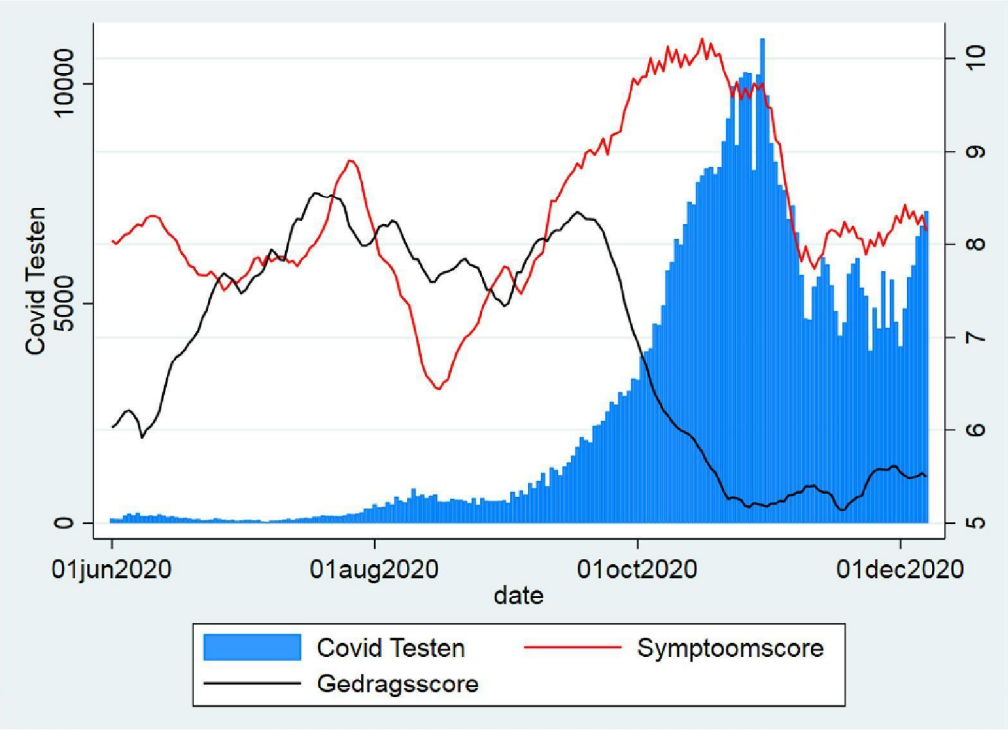
- Succesvolle en dynamische dataverzameling
- 'Live' gedragsdata
- Terugkoppeling naar individuele gebruiker en de regio
- Duidelijke associaties tussen symptomen, gedrag en positieve Corona testen
- Combinatie van gedrag met symptomen mogelijk predictief

**COVID Radar – Introduction and initial analysis**

*Discussion*

Samenwerking RIVM

- Impuls in aantal gebruikers (meer data)
- Implementatie data in dashboard (toepassing data)



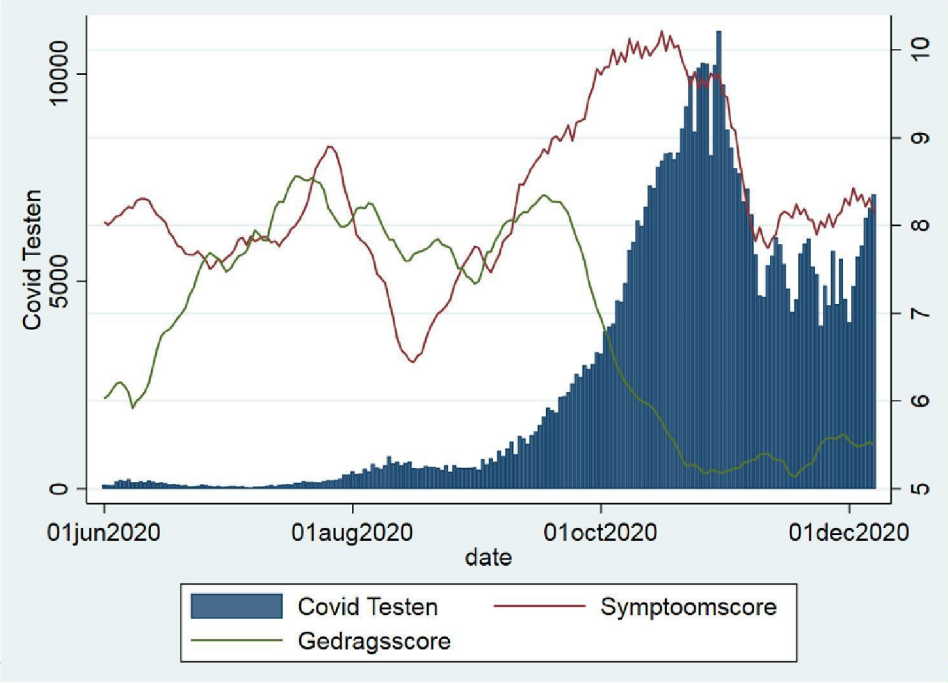
**COVID Radar – Introduction and initial analysis**

*Results*

Composite scores

- Symptoom composite score = som van percentage van gebruikers met hoesten, keelpijn, geurverlies en koorts
- Gedrags composite score = som van gemiddeld aantal uren buitenshuis en mensen binnen de 1.5 meter

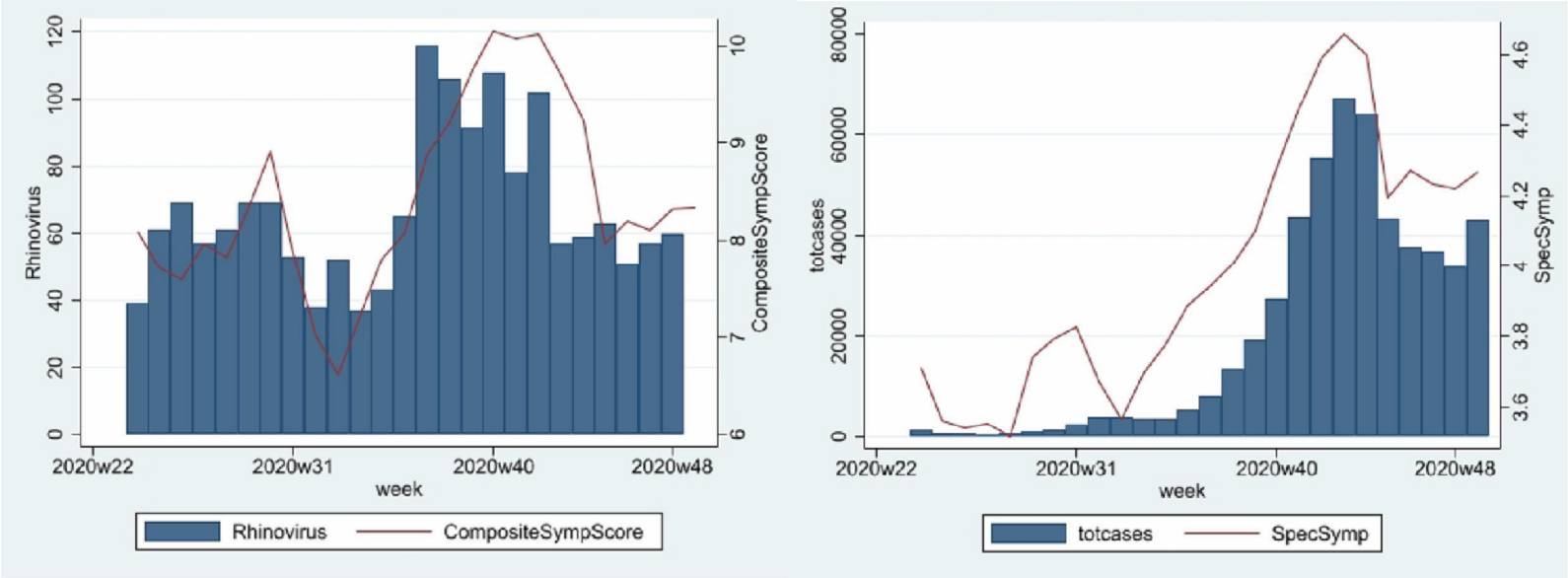
- 7 daags gemiddelde

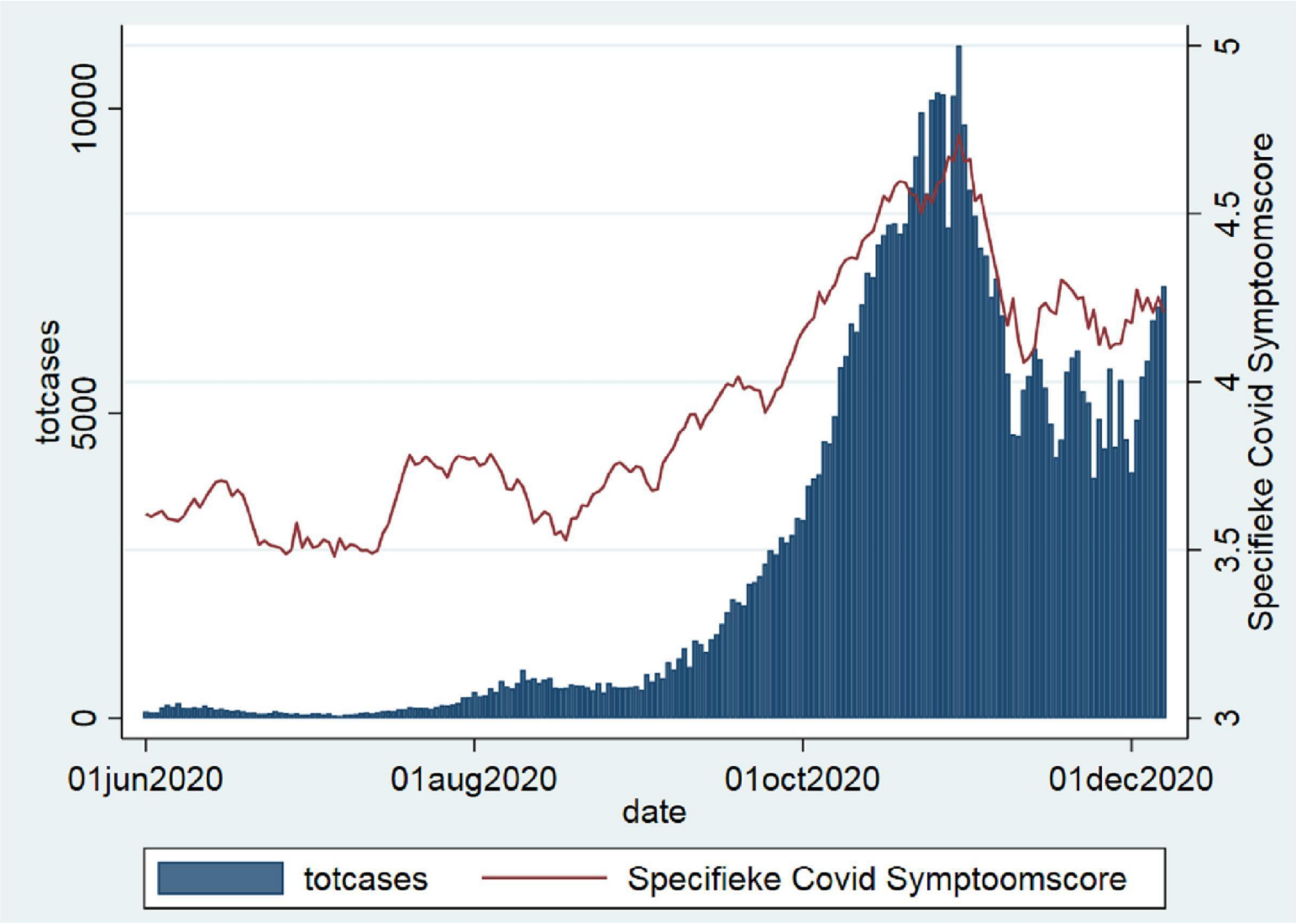


## COVID Radar – Introduction and initial analysis

*Results*

- Associatie met Rhinovirus
- Corrigeren van Symptomen -> geur, koorts, kortademig




totcases
0
5000
10000
Specifieke Covid Symptoomscore
3
3.5
4
4.5
5
01jun2020
01aug2020
01oct2020
01dec2020
date
totcases
Specifieke Covid Symptoomscore