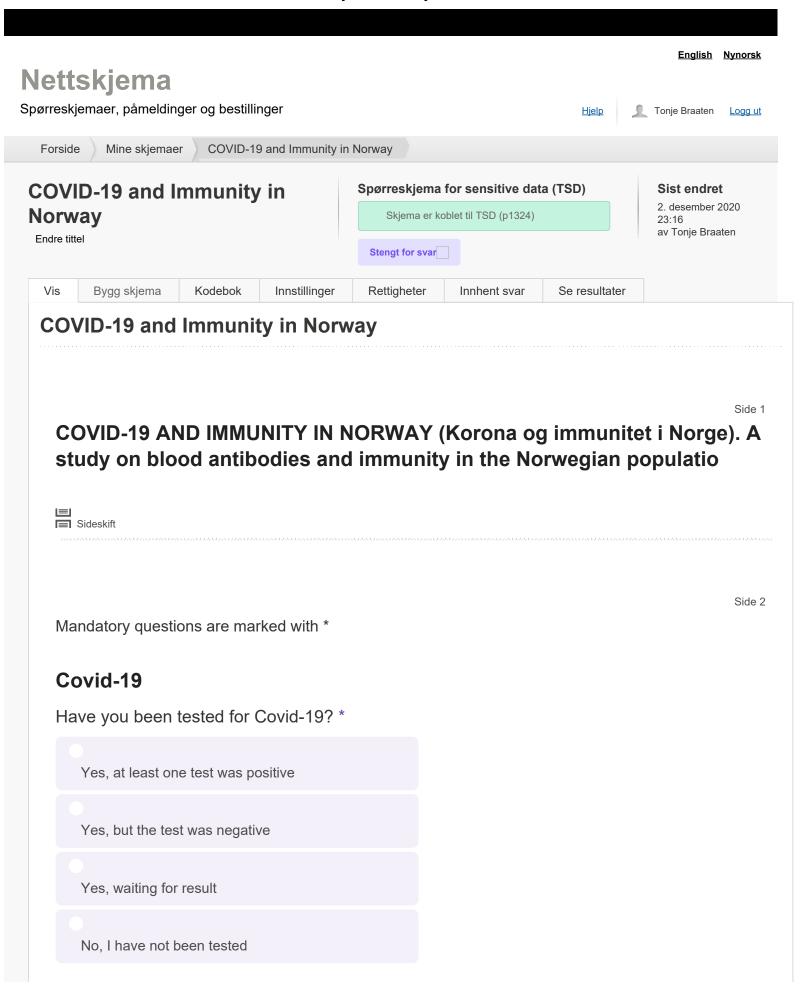
### Supplementary material - disclaimer

This supplementary material is hosted by *Eurosurveillance* as supporting information alongside the article **Seroprevalence of antibodies against SARS-CoV-2 virus in the adult Norwegian population, winter 2020/2021: pre-vaccination period**, on behalf of the authors, who remain responsible for the accuracy and appropriateness of the content. The same standards for ethics, copyright, attributions and permissions as for the article apply. Supplements are not edited by *Eurosurveillance* and the journal is not responsible for the maintenance of any links or email addresses provided therein.



When was the first time you tested positive? *
Dette elementet vises kun dersom alternativet «Yes, at least one test was positive» er valgt i spørsmålet «Have you been tested for Covid-19?»
February-March
April-May
June-July
August-September
October-November
Do you think you could have been infected with Covid-19? *
2
Dette elementet vises kun dersom alternativet «Yes, but the test was negative», «No, I have not been tested» eller «Yes, waiting for result» er valgt i spørsmålet «Have you been tested for Covid-19?»
No
Yes
Do not know / do not wish to answer
Did you have Covid-19 symptoms when you were infected? *
, , , , , , , , , , , , , , , , , , , ,

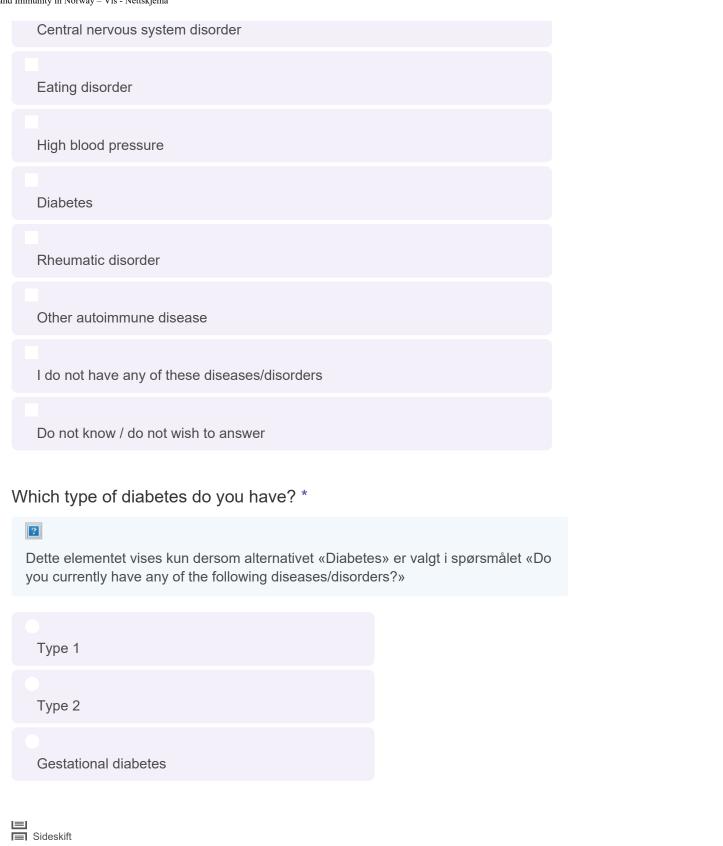
er valgt i spørsmålet «Have you been tested for Covid-19?»

No
Yes
Do not know / do not wish to answer
Which symptoms did you have? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Did you have Covid-19 symptoms when you were infected?»
Cold/flu symptoms such as coughing or runny nose
Difficulty breathing (more than usual)
Fever
Muscle or joint pain
Loss of sense of smell or taste
Stomach pain, nausea, or diarrhea
Other symptoms
In which month did you experience the symptoms? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Did you have Covid-19 symptoms when you were infected?»
Velg
How sick were you? *



Which symptoms did you have? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Have you had symptoms that could be due to Covid-19 during 2020?»
Cold/flu symptoms such as coughing or runny nose
Difficulty breathing (more than usual)
Fever
Muscle or joint pain
Loss of sense of smell or taste
Stomach pain, nausea, or diarrhea
Other symptoms
In which month did you experience the symptoms? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Have you had symptoms that could be due to Covid-19 during 2020?»
Velg
How sick were you? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Have you had symptoms that could be due to Covid-19 during 2020?»
Mildly sick

	Moderately sick	
	Very sick	
	Do not know / do not wish to answer	
We	re you hospitalised? *	
	ette elementet vises kun dersom alternativet «Yes» er ou had symptoms that could be due to Covid-19 during	
	No	
	Yes	
	Sideskift	
		ases/disorders? *
	you currently have any of the following disea	ases/disorders? *
		ases/disorders? *
	you currently have any of the following disea	ases/disorders? *
	you currently have any of the following disease Heart disease Cancer	ases/disorders? *
	you currently have any of the following disease	ases/disorders? *
	you currently have any of the following disease Heart disease Cancer	
	you currently have any of the following disease  Heart disease  Cancer  Asthma	
	you currently have any of the following disease Heart disease Cancer Asthma Chronic obstructive pulmonary disease (COPD) or other	



### **Travel**

How many days per week did you usually take public transport between January and March

Side 4

0		
1		
2 or more		
How many days per week have you usually ta	ken public transport since August	2020? *
0		
1		
2 or more		
I≡I Sideskift	en soner soner.	
		Side 5
Did you travel/were you traveling outside of No		
Did you haven were you havening outside of the	orway in February or March 2020?	
No	orway in February or March 2020?	
	orway in February or March 2020?	
No	orway in February or March 2020?	
No	orway in February or March 2020?	
No Yes  Which continent(s) did you travel to? *	er valgt i spørsmålet «Did you	
Yes  Which continent(s) did you travel to? *  Dette elementet vises kun dersom alternativet «Yes» e	er valgt i spørsmålet «Did you	
Yes  Which continent(s) did you travel to? *  Dette elementet vises kun dersom alternativet «Yes» e	er valgt i spørsmålet «Did you	

Asia	
Africa	
America	
Oceania	
Vhich country/countries in Europe did you trav	vel to? *
Dette elementet vises kun dersom alternativet «Europe «Which continent(s) did you travel to?»	e» er valgt i spørsmålet
Sweden	
Denmark	
Finland	
Great Britain	
Germany	
Austria	
Italy	
Spain	
France	
Poland	

Lithuania
Other country in Europe
Were you in quarantine upon arriving back in Norway from your travel abroad in February of March 2020? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Did you travel/were you traveling outside of Norway in February or March 2020?»
No
Yes
Have you traveled outside of Norway after March 2020? *
No
Yes
Which continent(s) did you travel to? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Have you traveled outside of Norway after March 2020?»
Europe
Asia
Africa
America

Oceania

Which country/countries in Europe did you travel to? \*



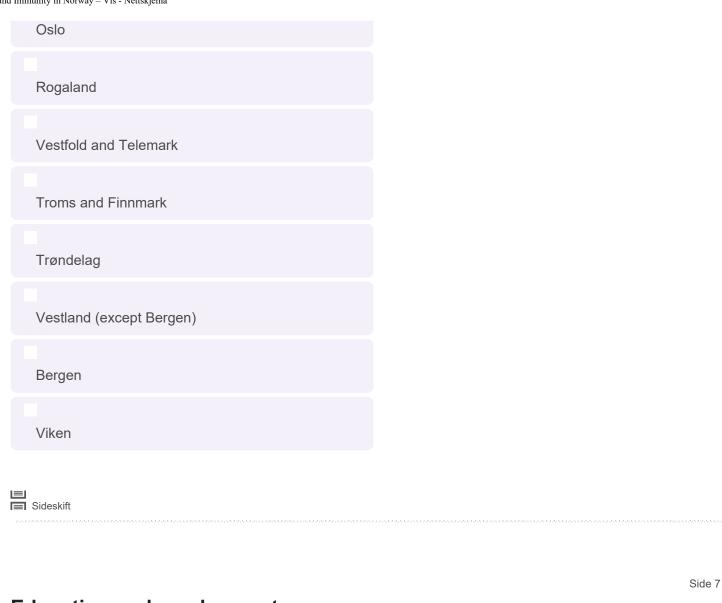
Dette elementet vises kun dersom alternativet «Europe» er valgt i spørsmålet «Which continent(s) did you travel to?»



Were you in quarantine upon arriving back in Norway from your travel abroad since March 2020?  $^{\ast}\,$ 

Dette elementet vises	kun dersom alternativet «Yes» er	valgt i spørsmålet «Have	
	f Norway after March 2020?»		
No			
Yes			
■  ■I Sideskift			
Did vou visit countie	es in Norway other than you	r home-county in Februar	Side 6 v. or March 20202 *
No	3 III Norway other than you	Thome county in rebracing	y 01 Wat 011 2020 :
Yes			
Which county/count	ies did you visit? *		
	kun dersom alternativet «Yes» er ay other than your home-county in		
Agder			
Innlandet			
Møre and Romsdal			
Nordland			
Oslo			

Rogaland	
Vestfold and Telemark	
Troms and Finnmark	
Trøndelag	
Vestland (except Bergen)	
Bergen	
Viken	
Did you visit counties in Norway other than you	ur home-county after March 2020? *
No	
Yes	
M/bigh county/counting did you vioit? *	
Which county/counties did you visit? *	
Dette elementet vises kun dersom alternativet «Yes» e visit counties in Norway other than your home-county a	
Agder	
Innlandet	
Møre and Romsdal	
Nordland	
Notulatiu	



# **Education and employment**

What is your highest completed level of education? \*

Primary school / Junior high school

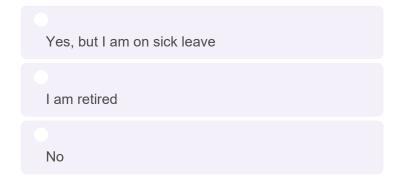
High school

Vocational school

Are you a student? \*

University or college

ınd Immunity in Norway – Vis - Nettskjema
No
Yes
How many days per week were you usually at school/college/university between March and May 2020? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Are you a student?»
0
1
2 or more
How many days per week have you usually been at school/college/university since August 2020? *
Dette elementet vises kun dersom alternativet «Yes» er valgt i spørsmålet «Are you a student?»
0
1
2 or more
Are you employed? *
Yes
I am laid off



How many days per week were you usually at your workplace (outside of the home) between March and May 2020? \*



How many days per week have you usually been at your workplace (outside of the home) since August 2020? \*

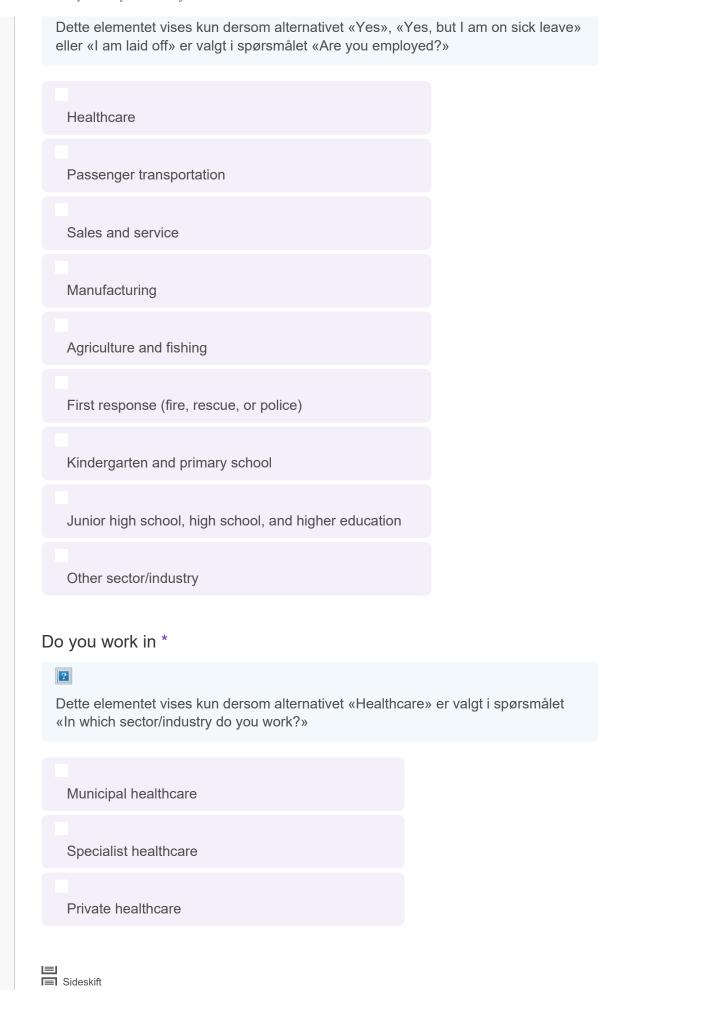


Dette elementet vises kun dersom alternativet «Yes», «Yes, but I am on sick leave» eller «I am laid off» er valgt i spørsmålet «Are you employed?»

0 1 2 eller more

In which sector/industry do you work? \*





## **Living conditions**

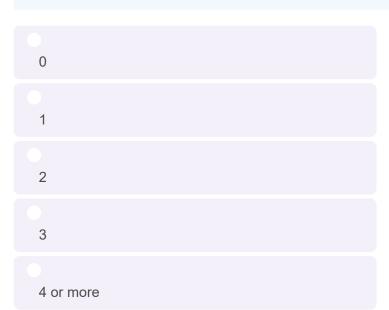
How many people live in your household? \*



How many children (0-15 years) do you live with? \*

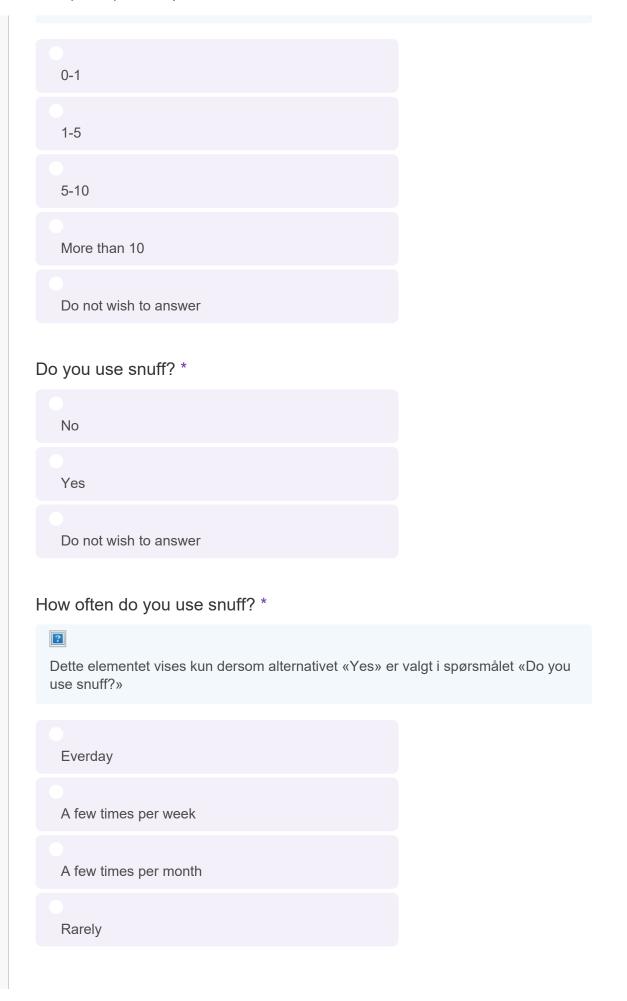


Dette elementet vises kun dersom alternativet «2», «4», «3», «6 or more» eller «5» er valgt i spørsmålet «How many people live in your household?»



Do you live with a child who goes to Kindergarten? *
2
Dette elementet vises kun dersom alternativet «3», «2», «4 or more» eller «1» er valgt i spørsmålet «How many children (0-15 years) do you live with?»
No
Yes
Do you live with a child who goes to school? *
?
Dette elementet vises kun dersom alternativet «3», «2», «4 or more» eller «1» er valgt i spørsmålet «How many children (0-15 years) do you live with?»
N.
No
Yes
Do you live in an apartment complex with a shared entrance? *
No
Yes
Has anyone else in your household been tested positive for Covid-19? *
No
Yes
165
Don't know / do not wish to answer

Has anyone in your social circle (friends, collea	gues) been tested positive for Covid-19? *
No	
Yes	
Don't know / do not wish to answer	
□ Sideskift	
Other questions	Side 9
How tall are you (in cm)? *	
How much do you weigh (in kg)? *	
Do you or have you previously smoked daily? *	
No	
Previously smoked	
Currently smoke	
Do not wish to answer	
How many years ago did you quit smoking? *	
Dette elementet vises kun dersom alternativet «Previous spørsmålet «Do you or have you previously smoked dai	



Have you used antibiotics in 2020? *
No
Yes
Do not know / do not wish to answer
Have you used steroids (e.g. Prednisolon) in 2020? *
No
Yes
Do not know / do not wish to answer
Did you get vaccinated for the current flu/influenza season (autumn 2020/2021)? *
No
Yes
Do you take cod liver oil or vitamin D supplements? *
No
Yes
Occasionally
Are you physically active at a moderate intensity level (slightly out-of-breath) at least 2.5 hours per week? *

No	
Yes	
Do not know / do not wish to answer	
Do you consent to being contacted again for fu	ture studies on Covid-19? *
Yes	
No	



Vilkår Personvern og vilkår for bruk Nettskjema bruker <u>informasjonskapsler</u> Tilgjengelighetserklæring Kontaktinformasjon Kontaktpunkter Nettskjema Ansvarlig for denne tjenesten Webseksjonen – USIT

Se nylige endringer i Nettskjema

#### S2: Analytical methods for detection of SARS-CoV-2 antibodies

Antibody measurement: A multiplexed bead-based flow cytometric assay, referred to as microsphere affinity proteomics (MAP), was adapted for detection of SARS-CoV2 antibodies 1. Thus amine-functionalized polymer beads were color-coded with fluorescent dyes as described earlier and reacted successively with amine-reactive biotin (sulfo-NHS-LC-biotin, Proteochem, USA) and neutravidin (Thermo Fisher). A DNA construct encoding the receptor-binding domain of Spike-1 protein (RBD) from SARS-CoV2 was provided by Florian Krammer, and the protocol described in <sup>2</sup> was used to produce recombinant protein in Expi293F cells <sup>2</sup>. Bacterially expressed full length nucleocapsid from SARS-CoV2 was purchased from Prospec Bio (www.prospecbio.com). Viral proteins solubilized in PBS were biotinylated chemically using a four to one molar ratio of sulfo-NHS-LC-biotin to protein. Free biotin was removed with G50 sephadex spin columns. Biotinylated proteins were bound to neutravidin-coupled microspheres with fluorescent barcodes. Beads with Neutravidin only were used as reference for background binding. Eluates from dried blood spots were incubated with a mixture of antigen-coupled and Neutravidin-only beads for 1h at 22°C under constant agitation. The beads were washed twice in PBT, labelled with R-Phycoerythrin-conjugated goat-anti-Human IgG-Fc (Jackson Immunoresearch) for 20 min, washed again and analyzed by flow cytometry (Attune Next, Thermo Fisher). Specific binding was measured as the ratio of R-Phycoerythrin fluorescence intensity of antigencoupled beads and neutravidin-only beads. Samples containing antibodies both to Nucleocapsid and RBD were considered to be positive. Reference panels containing samples from 287 individuals with PCR-confirmed SARS-CoV2 infection and 1343 pre-pandemic samples were used to set the cutoff. With a cutoff set to obtain a specificity of 100%, the sensitivity was 84% and 92% when including borderline values. The cutoff values for positives were five and ten for antibodies to RBD and Nucleocapsid, respectively. Borderline was defined as RBD higher than five.

#### References

- Wu, W., Slastad, H., de la Rosa Carrillo, D., Frey, T., Tjonnfjord, G., Boretti, E.,
   Aasheim, H.C., Horejsi, V. & Lund-Johansen, F. Antibody array analysis with label-based detection and resolution of protein size. *Mol Cell Proteomics* 8, 245-257 (2009).
- Amanat, F., Stadlbauer, D., Strohmeier, S., Nguyen, T.H., Chromikova, V., McMahon,
   M., Jiang, K., Arunkumar, G.A., Jurczyszak, D. & Polanco, J. A serological assay to
   detect SARS-CoV-2 seroconversion in humans. *Nature medicine*, 1-4 (2020).