COVID-19 weekly update

January 24th 2022

**clinical management**

**Title:** Early assessment of the clinical severity of the SARS-CoV-2 omicron variant in South Africa: a data linkage study

the lancet| 19th january 2022

Background

The SARS-CoV-2 omicron variant of concern was identified in South Africa in November, 2021, and was associated with an increase in COVID-19 cases. We aimed to assess the clinical severity of infections with the omicron variant using S gene target failure (SGTF) on the Thermo Fisher Scientific TaqPath COVID-19 PCR test as a proxy.

Methods

We did data linkages for national, South African COVID-19 case data, SARS-CoV-2 laboratory test data, SARS-CoV-2 genome data, and COVID-19 hospital admissions data. For individuals diagnosed with COVID-19 via TaqPath PCR tests, infections were designated as either SGTF or non-SGTF. The delta variant was identified by genome sequencing. Using multivariable logistic regression models, we assessed disease severity and hospitalisations by comparing individuals with SGTF versus non-SGTF infections diagnosed between Oct 1 and Nov 30, 2021, and we further assessed disease severity by comparing SGTF-infected individuals diagnosed between Oct 1 and Nov 30, 2021, with delta variant-infected individuals diagnosed between April 1 and Nov 9, 2021.

Findings

From Oct 1 (week 39), 2021, to Dec 6 (week 49), 2021, 161 328 cases of COVID-19 were reported in South Africa. 38 282 people were diagnosed via TaqPath PCR tests and 29 721 SGTF infections and 1412 non-SGTF infections were identified. The proportion of SGTF infections increased from two (3·2%) of 63 in week 39 to 21 978 (97·9%) of 22 455 in week 48. After controlling for factors associated with hospitalisation, individuals with SGTF infections had significantly lower odds of admission than did those with non-SGTF infections (256 [2·4%] of 10 547 *vs* 121 [12·8%] of 948; adjusted odds ratio [aOR] 0·2, 95% CI 0·1–0·3). After controlling for factors associated with disease severity, the odds of severe disease were similar between hospitalised individuals with SGTF versus non-SGTF infections (42 [21%] of 204 *vs* 45 [40%] of 113; aOR 0·7, 95% CI 0·3–1·4). Compared with individuals with earlier delta variant infections, SGTF-infected individuals had a significantly lower odds of severe disease (496 [62·5%] of 793 *vs* 57 [23·4%] of 244; aOR 0·3, 95% CI 0·2–0·5), after controlling for factors associated with disease severity.

Interpretation

Our early analyses suggest a significantly reduced odds of hospitalisation among individuals with SGTF versus non-SGTF infections diagnosed during the same time period. SGTF-infected individuals had a significantly reduced odds of severe disease compared with individuals infected earlier with the delta variant. Some of this reduced severity is probably a result of previous immunity.

Full article: [Early assessment of the clinical severity of the SARS-CoV-2 omicron variant in South Africa: a data linkage study - The Lancet](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00017-4/fulltext)

**Title:** Effect of Subcutaneous Casirivimab and Imdevimab Antibody Combination vs Placebo on Development of Symptomatic COVID-19 in Early Asymptomatic SARS-CoV-2 InfectionA Randomized Clinical Trial

JAMA|14th january 2022

**Question**  Does treatment with a subcutaneous combination of casirivimab and imdevimab prevent progression to symptomatic COVID-19 when given to recently infected, asymptomatic individuals?

**Findings**  In this randomized clinical trial that included 314 SARS-CoV-2 reverse transcriptase–quantitative polymerase chain reaction–positive individuals living with an infected household contact, 29.0% of asymptomatic seronegative participants treated with subcutaneous casirivimab and imdevimab, 1200 mg (600 mg of each antibody), developed symptomatic COVID-19 over 28 days vs 42.3% of those treated with placebo. This difference was statistically significant.

**Meaning**  Treatment with subcutaneous casirivimab and imdevimab antibody combination compared with placebo significantly reduced the incidence of symptomatic COVID-19 among recently exposed, asymptomatic individuals.

Full article: [Effect of Subcutaneous Casirivimab and Imdevimab Antibody Combination vs Placebo on Development of Symptomatic COVID-19 in Early Asymptomatic SARS-CoV-2 Infection: A Randomized Clinical Trial | Infectious Diseases | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/article-abstract/2788256)

**Title:** COVID-19 Therapeutics for Nonhospitalized Patients

jama| 14th january 2022

Substantial progress has been made in therapeutics for nonhospitalized patients with COVID-19, but supply of and access to treatment remain limited. This Viewpoint summarizes currently available therapeutics for nonhospitalized patients in the setting of the Omicron variant including principles for equitable allocation.

Full article: [COVID-19 Therapeutics for Nonhospitalized Patients | Infectious Diseases | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/article-abstract/2788254)

**Title:** Assessment of Clinical Outcomes Among Children and Adolescents Hospitalized With COVID-19 in 6 Sub-Saharan African Countries

jama pediatrics| 19th january 2022

**Question**  What are the clinical outcomes and associated factors among children and adolescents hospitalized with COVID-19 in sub-Saharan Africa?

**Findings**  In this cohort study of 469 children and adolescents hospitalized with COVID-19 in 6 sub-Saharan African countries, morbidity and mortality were substantially higher than reported among those in non-African settings and were independently associated with age younger than 1 year and select noncommunicable disease comorbidities.

**Meaning**  This study’s findings may have implications for clinical practice and health policy regarding pediatric COVID-19 in African countries; given their high risk of adverse outcomes, COVID-19 vaccination and therapeutic interventions are needed for African children and adolescents.

Full article: [Assessment of Clinical Outcomes Among Children and Adolescents Hospitalized With COVID-19 in 6 Sub-Saharan African Countries | Adolescent Medicine | JAMA Pediatrics | JAMA Network](https://jamanetwork.com/journals/jamapediatrics/fullarticle/2788373)

**Title:** Effect of P2Y12 Inhibitors on Survival Free of Organ Support Among Non–Critically Ill Hospitalized Patients With COVID-19

jama| 18th january 2022

**Question**  What is the effect of a P2Y12 inhibitor added to anticoagulant therapy on clinical outcomes in non–critically ill patients hospitalized for COVID-19?

**Findings**  In this bayesian, adaptive, randomized clinical trial that included 562 patients, use of a therapeutic dose of heparin plus a P2Y12 inhibitor, compared with a therapeutic dose of heparin only (usual care), did not increase the odds of improvement in the number of days alive and free of cardiovascular or respiratory organ support within 21 days during the index hospitalization (adjusted odds ratio, 0.83), and the posterior probability of futility (defined as an odds ratio <1.2) was 96%.

**Meaning**  These findings do not support the addition of a P2Y12 inhibitor to a therapeutic dose of heparin among non–critically ill patients hospitalized for COVID-19.

Full article: [Effect of P2Y12 Inhibitors on Survival Free of Organ Support Among Non–Critically Ill Hospitalized Patients With COVID-19: A Randomized Clinical Trial | Anticoagulation | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/fullarticle/2788141)

**Infection control**

**Title:** Covid-19: England prepares to ease plan B restrictions

BMJ| 20th january 2022

Plan B restrictions in England, including mandatory face masks and advice to work from home, will end from 27 January, the prime minister, Boris Johnson, has announced.

But as levels of infection remain high and the NHS is still under extreme pressure, health organisations have warned that the planned changes have not been guided by data.

Face masks will no longer be mandatory on public transport or in shops, and this requirement has been dropped immediately for secondary school pupils in classrooms. However, people are still advised to wear face coverings in closed or crowded spaces, particularly if coming into contact with people they do not normally meet.

There will be no requirement to show covid passes to attend certain events, although organisations will be allowed to use them if they choose. The guidance to work from home will end immediately, and restrictions on visits to care homes will also be relaxed in the coming weeks.

There will still be a legal requirement for people to self-isolate if they test positive for covid-19. However, Johnson told the Commons that there would “soon be a time” when self-isolation guidance could be removed entirely. The self-isolation rules expire on 24 March, and the prime minister said that he did not expect to renew them.

Full news article: [Covid-19: England prepares to ease plan B restrictions | The BMJ](https://www.bmj.com/content/376/bmj.o163)

**Title:** Covid-19: Lateral flow tests in children fail minimum performance standards, study finds

bmj| 19th January 2022

Many lateral flow antigen tests commonly used to detect covid-19 in children fall short of the minimum standards set by the World Health Organization, as well as UK and US regulators, researchers have said.[**1**](https://www.bmj.com/content/376/bmj.o132#ref-1)

The research team from the University of Manchester and Germany’s Institute for Quality and Efficiency in Health Care analysed 17 studies (12 peer reviewed and five preprints) published in English between January 2020 and May 2021. These involved 6355 children who used eight antigen tests from six different brands. The team compared the accuracy of lateral flow tests with polymerase chain reaction (PCR) tests.

The paper, published in *BMJ Evidence-Based Medicine*, found that the overall sensitivity of the evaluated tests was just over 64% and the overall specificity was just over 99%.

It said that no test “fully satisfied the minimum performance requirements” as recommended by WHO (sensitivity of at least 80% and specificity of at least 97%), the US Food and Drug Administration (80% sensitivity), or the UK’s Medicines and Healthcare Products Regulatory Agency (80% with two sided 95% confidence interval entirely above 70% and minimum acceptable specificity of 95% with two sided 95% CI entirely above 90%).

Full news article: [Covid-19: Lateral flow tests in children fail minimum performance standards, study finds | The BMJ](https://www.bmj.com/content/376/bmj.o132)

**Title:** Heterologous versus homologous COVID-19 booster vaccination in previous recipients of two doses of CoronaVac COVID-19 vaccine in Brazil (RHH-001): a phase 4, non-inferiority, single blind, randomised study

The lancet| 21st january 2022

Introduction

The inactivated whole-virion SARS-CoV-2 vaccine (CoronaVac, Sinovac) has been widely used in a two-dose schedule. We assessed whether a third dose of the homologous or a different vaccine could boost immune responses.

Methods

RHH-001 is a phase 4, participant masked, two centre, safety and immunogenicity study of Brazilian adults (18 years and older) in São Paulo or Salvador who had received two doses of CoronaVac 6 months previously. The third heterologous dose was of either a recombinant adenoviral vectored vaccine (Ad26.COV2-S, Janssen), an mRNA vaccine (BNT162b2, Pfizer–BioNTech), or a recombinant adenoviral-vectored ChAdOx1 nCoV-19 vaccine (AZD1222, AstraZeneca), compared with a third homologous dose of CoronaVac. Participants were randomly assigned (5:6:5:5) by a RedCAP computer randomisation system stratified by site, age group (18–60 years or 61 years and over), and day of randomisation, with a block size of 42. The primary outcome was non-inferiority of anti-spike IgG antibodies 28 days after the booster dose in the heterologous boost groups compared with homologous regimen, using a non-inferiority margin for the geometric mean ratio (heterologous *vs* homologous) of 0·67. Secondary outcomes included neutralising antibody titres at day 28, local and systemic reactogenicity profiles, adverse events, and serious adverse events. This study was registered with Registro Brasileiro de Ensaios Clínicos, number RBR–9nn3scw.

Findings

Between Aug 16, and Sept 1, 2021, 1240 participants were randomly assigned to one of the four groups, of whom 1239 were vaccinated and 1205 were eligible for inclusion in the primary analysis. Antibody concentrations were low before administration of a booster dose with detectable neutralising antibodies of 20·4% (95% CI 12·8–30·1) in adults aged 18–60 years and 8·9% (4·2–16·2) in adults 61 years or older. From baseline to day 28 after the booster vaccine, all groups had a substantial rise in IgG antibody concentrations: the geometric fold-rise was 77 (95% CI 67–88) for Ad26.COV2-S, 152 (134–173) for BNT162b2, 90 (77–104) for ChAdOx1 nCoV-19, and 12 (11–14) for CoronaVac. All heterologous regimens had anti-spike IgG responses at day 28 that were superior to homologous booster responses: geometric mean ratios (heterologous *vs* homologous) were 6·7 (95% CI 5·8–7·7) for Ad26.COV2-S, 13·4 (11·6–15·3) for BNT162b2, and 7·0 (6·1–8·1) for ChAdOx1 nCoV-19. All heterologous boost regimens induced high concentrations of pseudovirus neutralising antibodies. At day 28, all groups except for the homologous boost in the older adults reached 100% seropositivity: geometric mean ratios (heterologous vs homologous) were 8·7 (95% CI 5·9–12·9) for Ad26.COV2-S vaccine, 21·5 (14·5–31·9) for BNT162b2, and 10·6 (7·2–15·6) for ChAdOx1 nCoV-19. Live virus neutralising antibodies were also boosted against delta (B.1.617.2) and omicron variants (B.1.1.529). There were five serious adverse events. Three of which were considered possibly related to the vaccine received: one in the BNT162b2 group and two in the Ad26.COV2-S group. All participants recovered and were discharged home.

Interpretation

Antibody concentrations were low at 6 months after previous immunisation with two doses of CoronaVac. However, all four vaccines administered as a third dose induced a significant increase in binding and neutralising antibodies, which could improve protection against infection. Heterologous boosting resulted in more robust immune responses than homologous boosting and might enhance protection.

Funding

Ministry of Health, Brazil.

Full article: [Heterologous versus homologous COVID-19 booster vaccination in previous recipients of two doses of CoronaVac COVID-19 vaccine in Brazil (RHH-001): a phase 4, non-inferiority, single blind, randomised study - The Lancet](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00094-0/fulltext)

**Title:** Efficacy of the adjuvanted subunit protein COVID-19 vaccine, SCB-2019: a phase 2 and 3 multicentre, double-blind, randomised, placebo-controlled trial

the lancet| 20th January 2022

Background

A range of safe and effective vaccines against SARS CoV 2 are needed to address the COVID 19 pandemic. We aimed to assess the safety and efficacy of the COVID-19 vaccine SCB-2019.

Methods

This ongoing phase 2 and 3 double-blind, placebo-controlled trial was done in adults aged 18 years and older who were in good health or with a stable chronic health condition, at 31 sites in five countries (Belgium, Brazil, Colombia, Philippines, and South Africa). The participants were randomly assigned 1:1 using a centralised internet randomisation system to receive two 0·5 mL intramuscular doses of SCB-2019 (30 μg, adjuvanted with 1·50 mg CpG-1018 and 0·75 mg alum) or placebo (0·9% sodium chloride for injection supplied in 10 mL ampoules) 21 days apart. All study staff and participants were masked, but vaccine administrators were not. Primary endpoints were vaccine efficacy, measured by RT-PCR-confirmed COVID-19 of any severity with onset from 14 days after the second dose in baseline SARS-CoV-2 seronegative participants (the per-protocol population), and the safety and solicited local and systemic adverse events in the phase 2 subset. This study is registered on EudraCT (2020–004272–17) and [ClinicalTrials.gov](http://clinicaltrials.gov/) ([NCT04672395](http://clinicaltrials.gov/show/NCT04672395)).

Findings

30 174 participants were enrolled from March 24, 2021, until the cutoff date of Aug 10, 2021, of whom 30 128 received their first assigned vaccine (n=15 064) or a placebo injection (n=15 064). The per-protocol population consisted of 12 355 baseline SARS-CoV-2-naive participants (6251 vaccinees and 6104 placebo recipients). Most exclusions (13 389 [44·4%]) were because of seropositivity at baseline. There were 207 confirmed per-protocol cases of COVID-19 at 14 days after the second dose, 52 vaccinees versus 155 placebo recipients, and an overall vaccine efficacy against any severity COVID-19 of 67·2% (95·72% CI 54·3–76·8), 83·7% (97·86% CI 55·9–95·4) against moderate-to-severe COVID-19, and 100% (97·86% CI 25·3–100·0) against severe COVID-19. All COVID-19 cases were due to virus variants; vaccine efficacy against any severity COVID-19 due to the three predominant variants was 78·7% (95% CI 57·3–90·4) for delta, 91·8% (44·9–99·8) for gamma, and 58·6% (13·3–81·5) for mu. No safety issues emerged in the follow-up period for the efficacy analysis (median of 82 days [IQR 63–103]). The vaccine elicited higher rates of mainly mild-to-moderate injection site pain than the placebo after the first (35·7% [287 of 803] *vs* 10·3% [81 of 786]) and second (26·9% [189 of 702] *vs* 7·4% [52 of 699]) doses, but the rates of other solicited local and systemic adverse events were similar between the groups.

Interpretation

Two doses of SCB-2019 vaccine plus CpG and alum provides notable protection against the entire severity spectrum of COVID-19 caused by circulating SAR-CoV-2 viruses, including the predominating delta variant.

Full article: [Efficacy of the adjuvanted subunit protein COVID-19 vaccine, SCB-2019: a phase 2 and 3 multicentre, double-blind, randomised, placebo-controlled trial - The Lancet](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00055-1/fulltext)

**Title:** The impact of contact tracing and testing on controlling COVID-19 outbreak without lockdown in Hong Kong: An observational study

The Lancet regional health western pacific| 14th January 2022

Background

Maintaining effective contact tracing to control COVID-19 is challenging. Rapid growth in the number of infected cases can overload tracing and testing capacity, resulting in failure to trace contacts and delays in confirming an infection until after symptom onset (confirmation delay), hence increasing transmissibility. A substantial outbreak in Hong Kong, which was suppressed with non-pharmaceutical interventions (NPIs), provided an opportunity to assess the impact of overloading contact tracing and of efforts to improve its efficiency.

Methods

Using epidemiological-link (epi-link) data, we calculated the probability and duration of confirmation delay for cases with and without an epi-link, among all 3,148 confirmed cases between 5 July and 15 August 2020. Logistic regression was performed to determine the relationship between the number of recently confirmed infections and the probability of confirmation delay for epi-linked (contact-traced) cases. We estimated the impact on this relationship of targeted testing of at-risk groups.

Findings

The probability and duration of confirmation delay were associated with the rise in daily case number during growth of the outbreak. The proportion with confirmation delay among contact-traced cases increased from about 60%60% to nearly 85%85% as the number of cases grew from 1 to 50 per day (p-value = 0.003). The subsequent introduction of testing services for at-risk groups substantially reduced the proportion and it did not approach 85%85% again until the daily number of cases exceeded 125. This 2.5-fold improvement in capacity contributed crucially to suppression of the outbreak.

Interpretation

The number of recently confirmed infections is an indicator of the load on the contact-tracing system, the consequence of which can be assessed by the probability of confirmation delay. Measures to monitor and improve contact-tracing efficiency, alongside social distancing interventions, can enable outbreaks to be controlled without lockdown.

Full article: [The impact of contact tracing and testing on controlling COVID-19 outbreak without lockdown in Hong Kong: An observational study - The Lancet Regional Health – Western Pacific](https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065(21)00283-2/fulltext)

**Title:** Immunogenicity and Reactogenicity of Vaccine Boosters after Ad26.COV2.S Priming

NEJM| 19th January 2022

**BACKGROUND**

The Ad26.COV2.S vaccine, which was approved as a single-shot immunization regimen, has been shown to be effective against severe coronavirus disease 2019. However, this vaccine induces lower severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike protein (S)–specific antibody levels than those induced by messenger RNA (mRNA)–based vaccines. The immunogenicity and reactogenicity of a homologous or heterologous booster in persons who have received an Ad26.COV2.S priming dose are unclear.

**METHODS**

In this single-blind, multicenter, randomized, controlled trial involving health care workers who had received a priming dose of Ad26.COV2.S vaccine, we assessed immunogenicity and reactogenicity 28 days after a homologous or heterologous booster vaccination. The participants were assigned to receive no booster, an Ad26.COV2.S booster, an mRNA-1273 booster, or a BNT162b2 booster. The primary end point was the level of S-specific binding antibodies, and the secondary end points were the levels of neutralizing antibodies, S-specific T-cell responses, and reactogenicity. A post hoc analysis was performed to compare mRNA-1273 boosting with BNT162b2 boosting.

**RESULTS**

Homologous or heterologous booster vaccination in 434 participants resulted in higher levels of S-specific binding antibodies, neutralizing antibodies, and T-cell responses than a single Ad26.COV2.S vaccination. The increase in binding antibodies was significantly larger with heterologous regimens that included mRNA-based vaccines than with the homologous booster. The mRNA-1273 booster was most immunogenic and was associated with higher reactogenicity than the BNT162b2 and Ad26.COV2.S boosters. Local and systemic reactions were generally mild to moderate in the first 2 days after booster administration.

**CONCLUSIONS**

The Ad26.COV2.S and mRNA boosters had an acceptable safety profile and were immunogenic in health care workers who had received a priming dose of Ad26.COV2.S vaccine. The strongest responses occurred after boosting with mRNA-based vaccines. Boosting with any available vaccine was better than not boosting. (Funded by the Netherlands Organization for Health Research and Development ZonMw; SWITCH ClinicalTrials.gov number, [**NCT04927936. opens in new tab**](http://clinicaltrials.gov/show/NCT04927936).)

Full article: [Immunogenicity and Reactogenicity of Vaccine Boosters after Ad26.COV2.S Priming | NEJM](https://www.nejm.org/doi/full/10.1056/NEJMoa2116747?query=featured_coronavirus)

**Title:** Association Between 3 Doses of mRNA COVID-19 Vaccine and Symptomatic Infection Caused by the SARS-CoV-2 Omicron and Delta Variants

JAMA| 21st january 2022

**Question**  What is the association between 3 doses of mRNA COVID-19 vaccine and symptomatic SARS-CoV-2 infection with the Omicron and Delta variants?

**Findings**  In this test-negative case-control analysis that included 70 155 tests from symptomatic adults, the likelihood of vaccination with 3 mRNA vaccine doses (vs unvaccinated) was significantly lower among both Omicron (odds ratio, 0.33) and Delta (odds ratio, 0.065) cases than SARS-CoV-2–negative controls; a similar pattern was observed with 3 vaccine doses vs 2 doses (Omicron odds ratio, 0.34; Delta odds ratio, 0.16).

**Meaning**  These findings suggest that vaccination with 3 doses of mRNA COVID-19 vaccine, compared with being unvaccinated and with receipt of 2 doses, was associated with protection against both the Omicron and Delta variants, although higher odds ratios for the association with Omicron infection suggest less protection for Omicron than for Delta.

Full article: [Association Between 3 Doses of mRNA COVID-19 Vaccine and Symptomatic Infection Caused by the SARS-CoV-2 Omicron and Delta Variants | Vaccination | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/fullarticle/2788485)

**Title:** Comparison of mRNA-1273 and BNT162b2 Vaccines on Breakthrough SARS-CoV-2 Infections, Hospitalizations, and Death During the Delta-Predominant Period

Jama| 20th January 2022

Immune responses to mRNA-1273 (Moderna) and BNT162b2 (Pfizer-BioNTech) vaccines decline by 6 months after vaccination,[1](https://jamanetwork.com/journals/jama/article-abstract/2788408#jld220001r1) although antibody titers are higher with mRNA-1273.[1](https://jamanetwork.com/journals/jama/article-abstract/2788408#jld220001r1),[2](https://jamanetwork.com/journals/jama/article-abstract/2788408#jld220001r2) Comparison of vaccinated nonimmunocompromised adults showed lower risk of hospitalization for recipients of mRNA-1273 than BNT162b2 during March-August 2021.[3](https://jamanetwork.com/journals/jama/article-abstract/2788408#jld220001r3) This study examined breakthrough infections, hospitalizations, and mortality in a general population for these 2 vaccines during the Delta period while considering risk characteristics of vaccine recipients and the varying time since vaccination.

Full research letter: [Comparison of mRNA-1273 and BNT162b2 Vaccines on Breakthrough SARS-CoV-2 Infections, Hospitalizations, and Death During the Delta-Predominant Period | Infectious Diseases | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/article-abstract/2788408)

**Title:** Association of Major Depressive Symptoms With Endorsement of COVID-19 Vaccine Misinformation Among US Adults

JAMA NETWORK OPEN| 21st january 2022

**Question**  Are major depressive symptoms associated with increased risk of believing common misinformation about COVID-19 vaccines among US adults?

**Findings**  In this survey study including 15 464 US adults, people with moderate or greater major depressive symptoms on an initial survey were more likely to endorse at least 1 of 4 false statements about COVID-19 vaccines on a subsequent survey, and those who endorsed these statements were half as likely to be vaccinated.

**Meaning**  These findings suggest another potential benefit of public health efforts to address depressive symptoms, namely reducing susceptibility to misinformation.

Full article: [Association of Major Depressive Symptoms With Endorsement of COVID-19 Vaccine Misinformation Among US Adults | Depressive Disorders | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788284)

**Title:** Changes in COVID-19 Vaccine Hesitancy Among Black and White Individuals in the US

JAMA network open| 21st January 2022

**Question**  How has COVID-19 vaccine hesitancy changed among Black and White individuals in the US since vaccines became publicly available?

**Findings**  This survey study of 1200 US adults found that COVID-19 vaccine hesitancy decreased more rapidly among Black individuals than among White individuals since December 2020. A key factor associated with this pattern seems to be the fact that Black individuals more rapidly came to believe that vaccines were necessary to protect themselves and their communities.

**Meaning**  This study suggests that ongoing efforts to increase vaccine uptake among Black individuals in the US should attend to a range of vaccination barriers beyond vaccine hesitancy.

Full article: [Changes in COVID-19 Vaccine Hesitancy Among Black and White Individuals in the US | Health Disparities | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788286)

**Title:** Seroprevalence of Antibodies Specific to Receptor Binding Domain of SARS-CoV-2 and Vaccination Coverage Among Adults in Los Angeles County, April 2021: The LA Pandemic Surveillance Cohort Study

jama network open| 20th january 2022

Understanding the presence of adaptive immune responses that are associated with protection from disease (potential protective immunity) caused by SARS-CoV-2 at the population level is critical for public policy. Potential protective immunity can be acquired either through vaccination or past infection.[1](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788249#zld210299r1)-[3](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788249#zld210299r1) We used history of vaccination or presence of antibodies specific to the receptor binding domain (RBD antibodies) of the spike protein of the SARS-CoV-2 virus as potential markers for potential protective immunity as both are strongly associated with presence of neutralizing antibodies.[4](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788249#zld210299r4),[5](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788249#zld210299r5) We conducted surveys and serologic tests in a representative community sample to estimate the fraction of the Los Angeles County (LAC) adult population that had potential protective immunity in April 2021. We tested for differences in potential protective immunity by demographics and whether presence of RBD antibodies waned with time since infection.

Full article: [Seroprevalence of Antibodies Specific to Receptor Binding Domain of SARS-CoV-2 and Vaccination Coverage Among Adults in Los Angeles County, April 2021: The LA Pandemic Surveillance Cohort Study | Infectious Diseases | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788249)

**Title:** Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials

JAMA Network open| 18th january 2022

**Question**  What was the frequency of adverse events (AEs) in the placebo groups of COVID-19 vaccine trials?

**Findings**  In this systematic review and meta-analysis of 12 articles including AE reports for 45 380 trial participants, systemic AEs were experienced by 35% of placebo recipients after the first dose and 32% after the second. Significantly more AEs were reported in the vaccine groups, but AEs in placebo arms (“nocebo responses”) accounted for 76% of systemic AEs after the first COVID-19 vaccine dose and 52% after the second dose.

**Meaning**  This study found that the rate of nocebo responses in placebo arms of COVID-19 vaccine trials was substantial; this finding should be considered in public vaccination programs.

Full article: [Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials: A Systematic Review and Meta-analysis | Clinical Pharmacy and Pharmacology | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788172)

**Title:** Addressing Vaccine Hesitancy In Different Ethnic Communities

NHS Confederation| 17th january 2022

Cheshire and Merseyside Health and Care Partnership used insight gained from a four-stage programme to understand the impact that COVID 19 was having on ethnic minority communities, and work with the different communities to understand the causes of the vaccine hesitancy. This programme of work, which entailed partnership working between multiple agencies as well as with the various communities, led to a significant increase in vaccine uptake in just four months.

* [Case study](https://www.nhsconfed.org/case-studies/addressing-vaccine-hesitancy-different-ethnic-communities)

**workforce wellbeing**

**Title:** Covid-19: Advice on wider use of FFP3 masks should extend to GPs, BMA says

BMJ| 21st January 2022

FFP3 masks should be worn by staff caring for patients with suspected or confirmed respiratory viral infections that are spread by airborne transmission, such as SARS-CoV-2, winter guidance from the UK Health Security Agency has said.[**1**](https://www.bmj.com/content/376/bmj.o176#ref-1)

This is a change from previous guidance which said that high grade masks should only be worn in intensive care units or where certain aerosol generating procedures (AGPs) are carried out.

The move follows the recognition of SARS-CoV-2 as a virus that can be spread through airborne transmission, as well as droplets, and comes a year after healthcare workers wrote an open letter calling for recognition of airborne transmission and FFP3 masks for all staff working with patients with confirmed or suspected covid-19.[**2**](https://www.bmj.com/content/376/bmj.o176#ref-2)

The BMA has welcomed the recommendation but stressed that it must now also be extended to GP practices. Occupational medicine co-chair Raymond Agius said, “Now that doctors and healthcare workers in hospitals will be wearing respiratory protective equipment (RPE) it makes no sense that GP colleagues are still having to make do with ineffective surgical masks, often in small and cramped surgeries, particularly as we know that the omicron variant is highly transmissible

Full news article: [Covid-19: Advice on wider use of FFP3 masks should extend to GPs, BMA says | The BMJ](https://www.bmj.com/content/376/bmj.o176)

Guidance: [Infection prevention and control for seasonal respiratory infections in health and care settings (including SARS-CoV-2) for winter 2021 to 2022 - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control-recommendations#transmission-based-precautions)

**Health management**

**Title:** Covid-19: Government criticised for block booking private beds to deal with omicron

bmj| 18th january 2022

The BMA has criticised the government for striking a costly agreement to block book private hospital beds in case they are required for NHS patients in the event of a major surge in covid-19 cases.

Last week, under direction from the health secretary, Sajid Javid, NHS England agreed to pay private sector providers between £75m and £90m a month for the next three months in case they are required to provide extra bed capacity with omicron cases high. Private providers will receive the “minimum income guarantee” for being on standby even if they don’t treat any NHS patients, and could receive up to £525m if they do.

The deal, in place from 10 January until 31 March 2022, was made despite NHS England’s chief executive Amanda Pritchard warning Javid that it left the NHS “exposed financially” and represented “a material risk that the NHS pays for activity that is not performed.”[**1**](https://www.bmj.com/content/376/bmj.o128#ref-1) “On a per bed basis this is significantly more expensive than the equivalent cost of an NHS site with much less certainty on the potential staffed capacity,” Pritchard warned.

Full news article: [Covid-19: Government criticised for block booking private beds to deal with omicron | The BMJ](https://www.bmj.com/content/376/bmj.o128)

**Title:** Healthcare use in 700 000 children and adolescents for six months after covid-19: before and after register based cohort study

BMJ| 17th January 2022

**Objectives** To explore whether and for how long use of healthcare services is increased among children and adolescents after covid-19.

**Design** Before and after register based study.

**Setting** General population of Norway.

**Participants** Norwegians aged 1-19 years (n=706 885) who were tested for SARS-CoV-2 from 1 August 2020 to 1 February 2021 (n=10 279 positive, n=275 859 negative) or not tested (n=420 747) and were not admitted to hospital, by age groups 1-5, 6-15, and 16-19 years.

**Main outcome measures** Monthly percentages of all cause and cause specific healthcare use in primary care (general practitioner, emergency ward) and specialist care (outpatient, inpatient) from six months before to about six months after the week of being tested for SARS-CoV-2, using a difference-in-differences approach.

**Results** A substantial short term relative increase in primary care use was observed for participants during the first month after a positive SARS-CoV-2 test result compared with those who tested negative (age 1-5 years: 339%, 95% confidence interval 308% to 369%; 6-15 years: 471%, 450% to 491%; 16-19 years: 401%, 380% to 422%). Use of primary care for the younger age groups was still increased at two months (1-5 years: 22%, 4% to 40%; 6-15 years: 14%, 2% to 26%) and three months (1-5 years: 26%, 7% to 46%, 6-15 years: 15%, 3% to 28%), but not for the oldest group (16-19 years: 11%, −2% to 24% and 6%, −7% to 19%, respectively). Children aged 1-5 years who tested positive also showed a minor long term (≤6 months) relative increase in primary care use (13%, −0% to 26%) that was not observed for the older age groups, compared with same aged children who tested negative. Results were similar yet the age differences less pronounced compared with untested controls. For all age groups, the increase in primary care visits was due to respiratory and general or unspecified conditions. No increased use of specialist care was observed.

**Conclusion** Covid-19 among children and adolescents was found to have limited impact on healthcare services in Norway. Preschool aged children might take longer to recover (3-6 months) than primary or secondary school students (1-3 months), usually because of respiratory conditions.

Full article: [Healthcare use in 700 000 children and adolescents for six months after covid-19: before and after register based cohort study | The BMJ](https://www.bmj.com/content/376/bmj-2021-066809)

**other**

**Title:** Covid-19: Poland’s medical council sees mass resignations over government inaction on pandemic

BMJ| 18th January 2022

Thirteen of the 17 members of the medical council that advises Poland’s government on its pandemic response have resigned saying that ministers are ignoring their advice, downplaying the risk, and encouraging vaccine denial as the country slides into a potentially catastrophic fifth wave.

In a statement sent to Reuters news agency, the 13 epidemiologists and infectious disease experts blamed their decision on a lack of cooperation from the government.

“The mismatch between scientific and medical rationale and practice has become especially glaring in the context of very limited action in the face of the autumn wave and then the threat of the omicron variant, despite the enormous number of deaths expected,” they wrote.[**1**](https://www.bmj.com/content/376/bmj.o137#ref-1)

Full news article: [Covid-19: Poland’s medical council sees mass resignations over government inaction on pandemic | The BMJ](https://www.bmj.com/content/376/bmj.o137)

**Title:** Brazil sees omicron cases soar but data blackout obscures true impact

BMj| 18th January 2022

The omicron variant of SARS-CoV-2 has led to a spike in infections in Brazil with a rolling average of 69 010 new daily cases reported on 14 January, up from 22 626 a week earlier. But the true increase is likely to be significantly higher because of insufficient testing and failing public health databases, said public health experts.

Full news article: [Covid-19: Brazil sees omicron cases soar but data blackout obscures true impact | The BMJ](https://www.bmj.com/content/376/bmj.o133)

**Title:** Physician Health Care Visits for Mental Health and Substance Use During the COVID-19 Pandemic in Ontario, Canada

JAma Network open|21st January 2022

**Question**  Has the incidence of physicians seeking outpatient care for mental health and substance use changed during the COVID-19 pandemic?

**Findings**  In a cohort study of 34 055 physicians, the rate of outpatient visits for mental health and substance use increased on average by 13% per physician during the first 12 months of the pandemic compared with the prior 12 months.

**Meaning**  These findings suggest that the COVID-19 pandemic is associated with greater mental health services use among physicians.

Full article: [Physician Health Care Visits for Mental Health and Substance Use During the COVID-19 Pandemic in Ontario, Canada | Health Care Workforce | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788289)

**Title:** Trends in Health Service Use for Canadian Adults With Dementia and Parkinson Disease During the First Wave of the COVID-19 Pandemic

jama Health forum| 21st January 2022

**Question**  Was the COVID-19 pandemic associated with changes in health service use and mortality among community-dwelling persons with dementia and Parkinson disease compared with older adults?

**Findings**  In this population-based repeated cross-sectional analysis, large declines in hospital use and nursing home admission were experienced across all cohorts. After the first wave, most services returned to historical levels, with physician visits elevated and mostly virtual, nursing home admissions reduced, and excess all-cause mortality.

**Meaning**  The pandemic was associated with meaningful health service disruptions for persons with dementia and Parkinson disease, highlighting that continued support for virtual care is needed to ensure optimal health outcomes.

Full article: [JAMA Health Forum – Health Policy, Health Care Reform, Health Affairs | JAMA Health Forum | JAMA Network](https://jamanetwork.com/journals/jama-health-forum/fullarticle/2788318)

**Title:** Trends in US Ambulatory Care Patterns During the COVID-19 Pandemic, 2019-2021

jama| 18th january 2022

**Question**  Were there differences in returns to expected rates of US ambulatory care use between more vs less socioeconomically disadvantaged patients in the first year of the COVID-19 pandemic?

**Findings**  In this retrospective cohort study that included more than 14.5 million patients, there was an overall increase in the return to expected rates of use of 6 ambulatory care services between March 2020 and February 2021. This increase was significantly lower for patients with Medicaid or those with Medicaid-Medicare dual eligibility than for those with commercial, Medicare Advantage, or Medicare fee-for-service.

**Meaning**  As the pandemic progressed through early 2021, there remained significant differences by insurance type in the return to expected rates in the use of 6 ambulatory services.

Full article: [Trends in US Ambulatory Care Patterns During the COVID-19 Pandemic, 2019-2021 | Cancer Screening, Prevention, Control | JAMA | JAMA Network](https://jamanetwork.com/journals/jama/fullarticle/2788140)

**Title:** School Closures During Social Lockdown and Mental Health, Health Behaviors, and Well-being Among Children and Adolescents During the First COVID-19 Wave

jama pediatrics| 18th january 2022

**Question**  Is there an association between school closure during broader social lockdown measures during the COVID-19 pandemic and mental health symptoms, health behaviors, and well-being of children and adolescents, aged 0 to 19 years?

**Findings**  In this systematic review of 36 studies from 11 countries, school closures and social lockdown during the first COVID-19 wave were associated with adverse mental health symptoms (such as distress and anxiety) and health behaviors (such as higher screen time and lower physical activity) among children and adolescents. The effects of school closures could not be assessed separately from broader social lockdown measures.

**Meaning**  The potential epidemiologic benefits of school closures during broader social lockdown measures for controlling infectious diseases should be balanced with the potential for adverse mental health symptoms and health behaviors among children and adolescents.

Full article: [School Closures During Social Lockdown and Mental Health, Health Behaviors, and Well-being Among Children and Adolescents During the First COVID-19 Wave: A Systematic Review | Adolescent Medicine | JAMA Pediatrics | JAMA Network](https://jamanetwork.com/journals/jamapediatrics/fullarticle/2788069)

**Title:** Evaluation of an Optical Defocus Treatment for Myopia Progression Among Schoolchildren During the COVID-19 Pandemic

jama network open| 14th january 2022

**Question**  Is an optical defocus treatment associated with slowed myopia progression among schoolchildren experiencing lockdown related to the COVID-19 pandemic?

**Findings**  In this exploratory analysis of 2 cohort studies including 171 schoolchildren during COVID-19 lockdown, treatment using a defocus incorporated multiple segments lens was associated with 46% less myopia progression and 34% less axial elongation compared with regular single vision lens treatment.

**Meaning**  These findings suggest that an optical defocus treatment may be associated with slower myopia progression, which has been exaggerated during the COVID-19 pandemic, among schoolchildren.

Full article: [Evaluation of an Optical Defocus Treatment for Myopia Progression Among Schoolchildren During the COVID-19 Pandemic | Ophthalmology | JAMA Network Open | JAMA Network](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788118)

*You may also be interested in the UK Health Security Agency’s weekly* [*COVID-19 Literature Digest 21/1/22*](https://ukhsalibrary.koha-ptfs.co.uk/wp-content/uploads/sites/40/2022/01/UKHSA_Evidence_Digest_COVID19_20220121.pdf)

We

[TRFT Library & Knowledge Service](https://www.trftlibraryknowledge.com/) aim to bring together the latest guidelines, research and news on Covid-19 through our [Covid-19 portal](https://www.trftlibraryknowledge.com/coronavirus.html). For daily updates on Covid-19 visit our '[Latest Health](https://trfthealthweeklydigest.wordpress.com/)' newsfeed, or use the hashtag [#covid19rftlks](https://twitter.com/hashtag/covid19rftlks?src=hashtag_click) to see our latest tweets on Covid-19 research, guidelines and news.

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