COVID-19 weekly update

17th May 2022

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**clinical management**

**title:** Effect of Awake Prone Positioning on Endotracheal Intubation in Patients With COVID-19 and Acute Respiratory FailureA Randomized Clinical Trial

jama| 15th may 2022  
  
Question: Does prone positioning reduce endotracheal intubation in adults who were awake and not intubated and who had hypoxemic respiratory failure from COVID-19?

Findings: In this randomized clinical trial that included 400 adults with acute hypoxemic respiratory failure from COVID-19, awake prone positioning compared with usual care resulted in endotracheal intubation at 30 days in 34.1% vs 40.5% of participants, respectively. Although the hazard ratio was 0.81, the result was not statistically significant.

Meaning: Although the findings do not support prone positioning in this setting, the effect size for the primary study outcome was imprecise and does not exclude a clinically important benefit.  
<https://jamanetwork.com/journals/jama/fullarticle/2792506>

**title:** Venous or arterial thrombosis and deaths among COVID-19 cases: a European network cohort study

the lancet infectious diseases | 13th may 2022  
  
Background. There are few data on the incidence of thrombosis among COVID-19 cases, with most research concentrated on hospitalised patients. We aimed to estimate the incidence of venous thromboembolism, arterial thromboembolism, and death among COVID-19 cases and to assess the impact of these events on the risks of hospitalisation and death.

Methods. We conducted a distributed network cohort study using primary care records from the Netherlands, Italy, Spain, and the UK, and outpatient specialist records from Germany. The Spanish database was linked to hospital admissions. Participants were followed up from the date of a diagnosis of COVID-19 or positive RT-PCR test for SARS-CoV-2 (index date) for 90 days. The primary study outcomes were venous thromboembolic events, arterial thromboembolic events, and death, all over the 90 days from the index date. We estimated cumulative incidences for the study outcomes. Multistate models were used to calculate adjusted hazard ratios (HRs) for the association between venous thromboembolism or arterial thromboembolism occurrence and risks of hospitalisation or COVID-19 fatality.

Findings. Overall, 909 473 COVID-19 cases and 32 329 patients hospitalised with COVID-19 on or after Sept 1, 2020, were studied. The latest index dates across the databases ranged from Jan 30, 2021, to July 31, 2021. Cumulative 90-day incidence of venous thromboembolism ranged from 0·2% to 0·8% among COVID-19 cases, and up to 4·5% for those hospitalised. For arterial thromboembolism, estimates ranged from 0·1% to 0·8% among COVID-19 cases, increasing to 3·1% among those hospitalised. Case fatality ranged from 1·1% to 2·0% among patients with COVID-19, rising to 14·6% for hospitalised patients. The occurrence of venous thromboembolism in patients with COVID-19 was associated with an increased risk of death (adjusted HRs 4·42 [3·07–6·36] for those not hospitalised and 1·63 [1·39–1·90] for those hospitalised), as was the occurrence of arterial thromboembolism (3·16 [2·65–3·75] and 1·93 [1·57–2·37]).

Interpretation. Risks of venous thromboembolism and arterial thromboembolism were up to 1% among COVID-19 cases, and increased with age, among males, and in those who were hospitalised. Their occurrence was associated with excess mortality, underlying the importance of developing effective treatment strategies that reduce their frequency.  
<https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00223-7/fulltext>

title: THE IMPACT OF POST-HOSPITAL REMOTE MONITORING OF COVID-19 PATIENTS USING PULSE OXIMETRY: A NATIONAL OBSERVATIONAL STUDY USING HOSPITAL ACTIVITY DATA  
  
the lancet eclinical medicine| 12th may 2022  
  
Background. There was a national roll out of ‘COVID Virtual Wards’ (CVW) during England's second COVID-19 wave (Autumn 2020 – Spring 2021). These services used remote pulse oximetry monitoring for COVID-19 patients following discharge from hospital. A key aim was to enable rapid detection of patient deterioration. It was anticipated that the services would support early discharge, reducing pressure on beds. This study is an evaluation of the impact of the CVW services on hospital activity.

Methods. Using retrospective patient-level hospital admissions data, we built multivariate models to analyze the relationship between the implementation of CVW services and hospital activity outcomes: length of COVID-19 related stays and subsequent COVID-19 readmissions within 28 days. We used data from more than 98% of recorded COVID-19 hospital stays in England, where the patient was discharged alive between mid-August 2020 and late February 2021.

Findings. We found a longer length of stay for COVID-19 patients discharged from hospitals where a CVW was available, when compared to patients discharged from hospitals where there was no CVW (adjusted IRR 1·05, 95% CI 1·01 to 1·09). We found no evidence of a relationship between the availability of CVW and subsequent rates of readmission for COVID-19 (adjusted OR 0.97, 95% CI 0.91 to 1·03).

Interpretation. We found no evidence of early discharges or changes in readmissions associated with the roll out of COVID Virtual Wards across England. Our analysis made pragmatic use of national-scale hospital data, but it is possible that a lack of specific data (for example, on which patients were enrolled and on potentially important confounders) may have meant that true impacts, especially at a local level, were not ultimately discernible. It is important that future research is able to make use of better quality - preferably linked - data, from multiple sites.  
<https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00171-7/fulltext>

**title:** Agreement of treatment effects from observational studies and randomized controlled trials evaluating hydroxychloroquine, lopinavir-ritonavir, or dexamethasone for covid-19: meta-epidemiological study

BMJ| 10th may 2022  
  
Objective. To systematically identify, match, and compare treatment effects and study demographics from individual or meta-analysed observational studies and randomized controlled trials (RCTs) evaluating the same covid-19 treatments, comparators, and outcomes.

Design. Meta-epidemiological study. Data sources National Institutes of Health Covid-19 Treatment Guidelines, a living review and network meta-analysis published in The BMJ, a living systematic review with meta-analysis and trial sequential analysis in PLOS Medicine (The LIVING Project), and the Epistemonikos “Living OVerview of Evidence” (L·OVE) evidence database.

Eligibility criteria for selection of studies RCTs in The BMJ’s living review that directly compared any of the three most frequently studied therapeutic interventions for covid-19 across all data sources (that is, hydroxychloroquine, lopinavir-ritonavir, or dexamethasone) for any safety and efficacy outcomes. Observational studies that evaluated the same interventions, comparisons, and outcomes that were reported in The BMJ’s living review.

Data extraction and synthesis. Safety and efficacy outcomes from observational studies were identified and treatment effects for dichotomous (odds ratios) or continuous (mean differences or ratios of means) outcomes were calculated and, when possible, meta-analyzed to match the treatment effects from individual RCTs or meta-analyses of RCTs reported in The BMJ’s living review with the same interventions, comparisons, and outcomes (that is, matched pairs). The analysis compared the distribution of study demographics and the agreement between treatment effects from matched pairs. Matched pairs were in agreement if both observational and RCT treatment effects were significantly increasing or decreasing (P<0.05) or if both treatment effects were not significant (P≥0.05).

Results 17 new, independent meta-analyses of observational studies were conducted that compared hydroxychloroquine, lopinavir-ritonavir, or dexamethasone with an active or placebo comparator for any safety or efficacy outcomes in covid-19 treatment. These studies were matched and compared with 17 meta-analyses of RCTs reported in The BMJ’s living review. 10 additional matched pairs with only one observational study and/or one RCT were identified. Across all 27 matched pairs, 22 had adequate reporting of demographical and clinical data for all individual studies. All 22 matched pairs had studies with overlapping distributions of sex, age, and disease severity. Overall, 21 (78%) of the 27 matched pairs had treatment effects that were in agreement. Among the 17 matched pairs consisting of meta-analyses of observational studies and meta-analyses of RCTs, 14 (82%) were in agreement; seven (70%) of the 10 matched pairs consisting of at least one observational study or one RCT were in agreement. The 18 matched pairs with treatment effects for dichotomous outcomes had a higher proportion of agreement (n=16, 89%) than did the nine matched pairs with treatment effects for continuous outcomes (n=5, 56%).

Conclusions Meta-analyses of observational studies and RCTs evaluating treatments for covid-19 have summary treatment effects that are generally in agreement. Although our evaluation is limited to three covid-19 treatments, these findings suggest that meta-analyzed evidence from observational studies might complement, but should not replace, evidence collected from RCTs.  
<https://www.bmj.com/content/377/bmj-2021-069400>

TITLE: Clinical features of, and risk factors for, severe or fatal COVID-19 among people living with HIV admitted to hospital: analysis of data from the WHO Global Clinical Platform of COVID-19

The Lancet hiv| 10th may 2022  
  
Background. WHO has established a Global Clinical Platform for the clinical characterisation of COVID-19 among hospitalised individuals. We assessed whether people living with HIV hospitalised with COVID-19 had increased odds of severe presentation and of in-hospital mortality compared with individuals who were HIV-negative and associated risk factors.

Methods. Between Jan 1, 2020, and July 1, 2021, anonymised individual-level data from 338 566 patients in 38 countries were reported to WHO. Using the Platform pooled dataset, we performed descriptive statistics and regression analyses to compare outcomes in the two populations and identify risk factors.

Findings. Of 197 479 patients reporting HIV status, 16 955 (8·6%) were people living with HIV. 16 283 (96.0%) of the 16 955 people living with HIV were from Africa; 10 603 (62·9%) were female and 6271 (37·1%) were male; the mean age was 45·5 years (SD 13·7); 6339 (38·3%) were admitted to hospital with severe illness; and 3913 (24·3%) died in hospital. Of the 10 166 people living with HIV with known antiretroviral therapy (ART) status, 9302 (91·5%) were on ART. Compared with individuals without HIV, people living with HIV had 15% increased odds of severe presentation with COVID-19 (aOR 1·15, 95% CI 1·10–1·20) and were 38% more likely to die in hospital (aHR 1·38, 1·34–1·41). Among people living with HIV, male sex, age 45–75 years, and having chronic cardiac disease or hypertension increased the odds of severe COVID-19; male sex, age older than 18 years, having diabetes, hypertension, malignancy, tuberculosis, or chronic kidney disease increased the risk of in-hospital mortality. The use of ART or viral load suppression were associated with a reduced risk of poor outcomes; however, HIV infection remained a risk factor for severity and mortality regardless of ART and viral load suppression status.

Interpretation. In this sample of hospitalised people contributing data to the WHO Global Clinical Platform for COVID-19, HIV was an independent risk factor for both severe COVID-19 at admission and in-hospital mortality. These findings have informed WHO immunisation policy that prioritises vaccination for people living with HIV. As the results mostly reflect the data contribution from Africa, this analysis will be updated as more data from other regions become available.  
<https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018(22)00097-2/fulltext>

**title:** Differences in Outcomes and Factors Associated With Mortality Among Patients With SARS-CoV-2 Infection and Cancer Compared With Those Without Cancer: A Systematic Review and Meta-analysis

jama network open | 9th may 2022  
  
Question. What are the clinical outcomes for patients with both cancer and SARS-CoV-2 infection?

Findings. In this systematic review and meta-analysis of 81 studies involving 61 532 patients with cancer, patients who were younger, had lung cancer, or had hematologic cancer were at an increased risk of mortality from COVID-19. Among anticancer treatments, chemotherapy was associated with the highest mortality risk and endocrine therapy was associated with the lowest risk.

Meaning. Findings of this study suggest that younger patients with cancer are a high-risk population for poor outcomes from COVID-19.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792066>

**title:** Early Outpatient Treatment for Covid-19 with Convalescent Plasma

new england journal of medicine| 5th may 2022  
  
Background. Polyclonal convalescent plasma may be obtained from donors who have recovered from coronavirus disease 2019 (Covid-19). The efficacy of this plasma in preventing serious complications in outpatients with recent-onset Covid-19 is uncertain.

Methods. In this multicenter, double-blind, randomized, controlled trial, we evaluated the efficacy and safety of Covid-19 convalescent plasma, as compared with control plasma, in symptomatic adults (≥18 years of age) who had tested positive for severe acute respiratory syndrome coronavirus 2, regardless of their risk factors for disease progression or vaccination status. Participants were enrolled within 8 days after symptom onset and received a transfusion within 1 day after randomization. The primary outcome was Covid-19–related hospitalization within 28 days after transfusion.

Results. Participants were enrolled from June 3, 2020, through October 1, 2021. A total of 1225 participants underwent randomization, and 1181 received a transfusion. In the prespecified modified intention-to-treat analysis that included only participants who received a transfusion, the primary outcome occurred in 17 of 592 participants (2.9%) who received convalescent plasma and 37 of 589 participants (6.3%) who received control plasma (absolute risk reduction, 3.4 percentage points; 95% confidence interval, 1.0 to 5.8; P=0.005), which corresponded to a relative risk reduction of 54%. Evidence of efficacy in vaccinated participants cannot be inferred from these data because 53 of the 54 participants with Covid-19 who were hospitalized were unvaccinated and 1 participant was partially vaccinated. A total of 16 grade 3 or 4 adverse events (7 in the convalescent-plasma group and 9 in the control-plasma group) occurred in participants who were not hospitalized.

Conclusions. In participants with Covid-19, most of whom were unvaccinated, the administration of convalescent plasma within 9 days after the onset of symptoms reduced the risk of disease progression leading to hospitalization.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2119657>

**title:** Effect of Early Treatment with Ivermectin among Patients with Covid-19

new england journal of medicine| 5th may 2022  
  
Background. The efficacy of ivermectin in preventing hospitalization or extended observation in an emergency setting among outpatients with acutely symptomatic coronavirus disease 2019 (Covid-19), the disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is unclear.

Methods. We conducted a double-blind, randomized, placebo-controlled, adaptive platform trial involving symptomatic SARS-CoV-2–positive adults recruited from 12 public health clinics in Brazil. Patients who had had symptoms of Covid-19 for up to 7 days and had at least one risk factor for disease progression were randomly assigned to receive ivermectin (400 μg per kilogram of body weight) once daily for 3 days or placebo. (The trial also involved other interventions that are not reported here.) The primary composite outcome was hospitalization due to Covid-19 within 28 days after randomization or an emergency department visit due to clinical worsening of Covid-19 (defined as the participant remaining under observation for >6 hours) within 28 days after randomization.

Results. A total of 3515 patients were randomly assigned to receive ivermectin (679 patients), placebo (679), or another intervention (2157). Overall, 100 patients (14.7%) in the ivermectin group had a primary-outcome event, as compared with 111 (16.3%) in the placebo group (relative risk, 0.90; 95% Bayesian credible interval, 0.70 to 1.16). Of the 211 primary-outcome events, 171 (81.0%) were hospital admissions. Findings were similar to the primary analysis in a modified intention-to-treat analysis that included only patients who received at least one dose of ivermectin or placebo (relative risk, 0.89; 95% Bayesian credible interval, 0.69 to 1.15) and in a per-protocol analysis that included only patients who reported 100% adherence to the assigned regimen (relative risk, 0.94; 95% Bayesian credible interval, 0.67 to 1.35). There were no significant effects of ivermectin use on secondary outcomes or adverse events.

Conclusions. Treatment with ivermectin did not result in a lower incidence of medical admission to a hospital due to progression of Covid-19 or of prolonged emergency department observation among outpatients with an early diagnosis of Covid-19.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2115869>

**long-term effects**

**title:** Health outcomes in people 2 years after surviving hospitalisation with COVID-19: a longitudinal cohort study  
  
the lancet respiratory medicine| 11th may 2022  
  
Background. With the ongoing COVID-19 pandemic, growing evidence shows that a considerable proportion of people who have recovered from COVID-19 have long-term effects on multiple organs and systems. A few longitudinal studies have reported on the persistent health effects of COVID-19, but the follow-up was limited to 1 year after acute infection. The aim of our study was to characterise the longitudinal evolution of health outcomes in hospital survivors with different initial disease severity throughout 2 years after acute COVID-19 infection and to determine their recovery status.

Methods. We did an ambidirectional, longitudinal cohort study of individuals who had survived hospitalisation with COVID-19 and who had been discharged from Jin Yin-tan Hospital (Wuhan, China) between Jan 7 and May 29, 2020. We measured health outcomes 6 months (June 16–Sept 3, 2020), 12 months (Dec 16, 2020–Feb 7, 2021), and 2 years (Nov 16, 2021–Jan 10, 2022) after symptom onset with a 6-min walking distance (6MWD) test, laboratory tests, and a series of questionnaires on symptoms, mental health, health-related quality of life (HRQoL), return to work, and health-care use after discharge. A subset of COVID-19 survivors received pulmonary function tests and chest imaging at each visit. Age-matched, sex-matched, and comorbidities-matched participants without COVID-19 infection (controls) were introduced to determine the recovery status of COVID-19 survivors at 2 years. The primary outcomes included symptoms, modified British Medical Research Council (mMRC) dyspnoea scale, HRQoL, 6MWD, and return to work, and were assessed in all COVID-19 survivors who attended all three follow-up visits. Symptoms, mMRC dyspnoea scale, and HRQoL were also assessed in controls.

Findings. 2469 patients with COVID-19 were discharged from Jin Yin-tan Hospital between Jan 7 and May 29, 2020. 1192 COVID-19 survivors completed assessments at the three follow-up visits and were included in the final analysis, 1119 (94%) of whom attended the face-to-face interview 2 years after infection. The median age at discharge was 57·0 years (48·0–65·0) and 551 (46%) were women. The median follow-up time after symptom onset was 185·0 days (IQR 175·0–197·0) for the visit at 6 months, 349·0 days (337·0–360·0) for the visit at 12 months, and 685·0 days (675·0–698·0) for the visit at 2 years. The proportion of COVID-19 survivors with at least one sequelae symptom decreased significantly from 777 (68%) of 1149 at 6 months to 650 (55%) of 1190 at 2 years (p<0·0001), with fatigue or muscle weakness always being the most frequent. The proportion of COVID-19 survivors with an mMRC score of at least 1 was 168 (14%) of 1191 at 2 years, significantly lower than the 288 (26%) of 1104 at 6 months (p<0·0001). HRQoL continued to improve in almost all domains, especially in terms of anxiety or depression: the proportion of individuals with symptoms of anxiety or depression decreased from 256 (23%) of 1105 at 6 months to 143 (12%) 1191 at 2 years (p<0·0001). The proportion of individuals with a 6MWD less than the lower limit of the normal range declined continuously in COVID-19 survivors overall and in the three subgroups of varying initial disease severity. 438 (89%) of 494 COVID-19 survivors had returned to their original work at 2 years. Survivors with long COVID symptoms at 2 years had lower HRQoL, worse exercise capacity, more mental health abnormality, and increased health-care use after discharge than survivors without long COVID symptoms. COVID-19 survivors still had more prevalent symptoms and more problems in pain or discomfort, as well as anxiety or depression, at 2 years than did controls. Additionally, a significantly higher proportion of survivors who had received higher-level respiratory support during hospitalisation had lung diffusion impairment (43 [65%] of 66 vs 24 [36%] of 66, p=0·0009), reduced residual volume (41 [62%] vs 13 [20%], p<0·0001), and total lung capacity (26 [39%] vs four [6%], p<0·0001) than did controls.

Interpretation. Regardless of initial disease severity, COVID-19 survivors had longitudinal improvements in physical and mental health, with most returning to their original work within 2 years; however, the burden of symptomatic sequelae remained fairly high. COVID-19 survivors had a remarkably lower health status than the general population at 2 years. The study findings indicate that there is an urgent need to explore the pathogenesis of long COVID and develop effective interventions to reduce the risk of long COVID.  
<https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(22)00126-6/fulltext>

**title:** The Costs of Long COVID  
  
JAMA health forum| 12th may 2022  
  
…The massive cost of long COVID has several policy implications. Investing in treatments for long COVID is obviously a high priority. According to a recent report from the Rockefeller Foundation, progress to date has been “achingly slow” and that needs to change.10 Experimenting with ways to make employment easier for people with long-term complications is also a high priority. People with chronic fatigue may be better able to work at home or with frequent breaks than they can with a time-delimited office day and a long commute. By speeding up the transition to telework, enhanced employment opportunities for those with long COVID may be possible.

In addition, the economic cost of long COVID reinforces the value of comprehensive actions to prevent and treat new infections. Mask mandates are unpopular in many areas and a substantial share of the public resists being vaccinated—though each action should still be encouraged. But additional progress might also be made through expanding rapid COVID-19 test capability, global surveillance to detect new SARS-CoV-2 variants, and immediate action should any such variants be detected. Such measures have associated costs, but no matter how large these costs are, they pale compared with the potential benefits.  
<https://jamanetwork.com/journals/jama-health-forum/fullarticle/2792505>

**title:** Neuropsychiatric Ramifications of Severe COVID-19 and Other Severe Acute Respiratory Infections  
  
jama psychiatry| 11th may 2022  
  
Question. What are the risks of neuropsychiatric disorders in adults surviving COVID-19 hospitalization, and how do these compare with non-COVID severe respiratory infections?

Findings. In this cohort study of data from more than 8 million adults in England, during the COVID-19 pandemic, risks of new anxiety disorder, dementia, psychotic disorder, and bipolar disorder diagnoses were significantly increased in adults surviving hospitalization for COVID-19 or other severe acute respiratory infections compared with the general population. Risks of neuropsychiatric illnesses or commencement of related medications were similar for COVID-19 and non-COVID severe respiratory infections.

Meaning. The results of this study suggest that disease severity, rather than pathogen, is a relevant factor associated with neuropsychiatric ramifications after severe respiratory infections.  
<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2792404>

**rates and variants**

**title:** Risk of Infection and Hospitalization Among Vaccinated and Unvaccinated Children and Adolescents in New York After the Emergence of the Omicron Variant [research letter]

jama| 13th may 2022

In the US, 12.3 million youth aged 18 years and younger were diagnosed with COVID-19 by April 7, 2022.1 Studies conducted before the Omicron variant’s emergence indicated that the BNT162b2 vaccine is safe and effective in preventing COVID-19 outcomes in persons aged 5 years and older.2-5 Compared with adolescents aged 12 to 17 years (30-μg doses), less is known about vaccination outcomes for children aged 5 to 11 years (10-μg doses), who were fully vaccinated only after the emergence of Omicron…  
  
…The risks of infection and hospitalization were elevated for unvaccinated vs vaccinated children aged 5 to 11 and 12 to 17 years, although the risk declined as Omicron became more prevalent. Protection declined with time since vaccination. These results complement recent findings of reduced vaccine effectiveness for adolescents against the Delta variant2 and the dual effects of the variant and waning protection against infection, with sustained protection against hospitalizations.4

Study limitations include that home testing was not reported and could affect case numbers if testing practices differed by vaccination status. Booster doses were not accounted for in the weekly analysis but comprised a small percentage of vaccinations (12.5% of adolescents by January 31, 2022). In the analysis period of time since vaccination, children aged 5 to 11 years were vaccinated soon after vaccine approval; and those aged 12 to 17 years, relatively later. The 2 groups may differ in test seeking or exposures.  
<https://jamanetwork.com/journals/jama/fullarticle/2792525>

**title:** Protecting Children Against Omicron [editorial]

jama| 13th may 2022

…Although these 2 studies found relatively short time periods to waning of vaccine effectiveness, hope is on the horizon. As SARS-CoV-2 infections increase in children, hybrid immunity, a combination of immunity induced by vaccine and natural infection, will likely provide additional protection against future infections.15,16 Moderna recently announced preliminary results from a trial of its bivalent booster vaccine (mRNA-1273.211), with higher neutralizing antibody responses against the ancestral SARS-CoV-2, Beta, and Omicron variants 180 days after the booster dose.17 Also promising is that the study by Fleming-Dutra and colleagues3 demonstrated an increase in vaccine effectiveness after a booster dose for adolescents. Pfizer and BioNTech recently submitted an application to the FDA for EUA of a booster dose of COVID-19 vaccine for children aged 5 to 11 years,18 although the ideal timing of booster doses for children and adolescents remains unknown. In addition, Moderna reportedly will be submitting its entire pediatric database on children to as young as 6 months of age to the FDA.19 These data will help address questions of both immunogenicity and safety.

The encouraging message should be that although vaccine protection for children and adolescents was lower in the Omicron era than with previous variants and that such protection wanes rapidly, vaccine effectiveness against hospitalization remains high and booster doses confer additional protection.  
<https://jamanetwork.com/journals/jama/fullarticle/2792526>

**infection control**

title: Is it really time to ditch the mask?  
  
BMJ |11th may 2022  
  
The mandatory use of face masks in indoor public areas and on public transport as a mitigation measure to prevent covid-19 transmission was abolished between February and April 2022 in Denmark, Sweden, the Netherlands, and the UK.1 This is in contrast to many other European countries, including Austria, Germany, France, Italy, Portugal, and Spain, that are maintaining face mask requirements in some settings, including on public transport.2 With the omicron BA.2 variant still spreading rapidly, uncertainty about what future variants may emerge, and ventilation related mitigation still limited in many areas, removing all mask mandates may be unwise at this point. Two suggested reasons for this policy shift are the public’s alleged pandemic fatigue and reluctance to carry on with protection measures,3 and the proposal that removing mask mandates provides an opportunity to build herd immunity through widespread infections with omicron.4 Neither of these arguments stand up to scrutiny.

Pandemic fatigue hinges on the idea that the public’s adherence to risk reduction strategies diminishes over time as weariness sets in.56 This theory has often been contradicted by surveys and studies that have found public adherence to protection measures has been high throughout much of the pandemic.7 If the public are, however, now exasperated by pandemic measures,8 it may not necessarily be the covid rules themselves. Instead, populations may have become more sceptical of their governments due to a perceived break in the social contract and a lack of perceived coherence, transparency, communication, or justification for decision making.9 As the writer James Baldwin has pointed out, allegiance must be reciprocal and the public grow weary if it is not.10 The relationship between the public and their government has been undermined by high ranking government officials flaunting rules in the UK and elsewhere,11 the failure to implement adequate ventilation, the lack of clear, consistent guidance on mask wearing where exposure was unavoidable,12 and neglecting to make masks and other measures (isolation and quarantine, for example) financially accessible to all.

The indiscriminate removal of mask mandates exacerbates this disconnect between governments and their citizens by reducing the quality of life and independence of a sizable proportion of the population. We must remember that multimorbidity is common,13 is linked to structural inequity, and increases the risk of severe covid-19 disease.14 For many people, regularly being in high risk indoor spaces such as on public transport, in government buildings, grocery shops, or doctors’ offices is not always optional. By removing widespread mask wearing in spaces that people must use without otherwise minimising levels of exposure, governments are effectively pushing individuals to risk their health and wellbeing. The fact that this de facto exclusion of vulnerable people from public life has been relatively uncontested is only because many societies have already become inured to exclusion, poverty, illness, and the deaths of those most likely to be harmed by covid-19.

For some commentators, the arguably milder omicron variant is perceived as an opportunity to foster herd immunity through infection and offset the lagging global vaccination effort.4 However, it is always preferable for herd immunity to be a product of high vaccination coverage, particularly as it also reduces the risk of long term covid-19 complications and sequelae (long covid).15 Many European countries have large sections of the population who are unvaccinated, including people in high risk occupations and facing economic deprivation, with data showing that there are often socioeconomic gradients in vaccine uptake.161718

While previous covid-19 infection seems to provide protection against acute reinfection with omicron, it has a limit and we do not yet know how long this lasts.19 Despite the high prevalence of omicron infection this winter, the later BA.2 sublineage spread rapidly in Denmark20 and the UK, maintaining high case numbers, pressure on healthcare services, and social disruption. It is therefore highly uncertain how much protection current infection with omicron could provide against any future variant. Furthermore, infection, regardless of the variant involved, exposes people to the risk of long covid, the burden and prevalence of which we are still seeking to fully understand.212223

The data we have so far show that masks are effective in preventing transmission, particularly indoors.24 However, effectiveness increases with the proportion of people wearing them.25 Masks are among the most effective non-pharmaceutical measures we have for covid-1926 but are not consistently adopted by communities, hindering clear impact assessment.27 In addition, insufficient investment in outbreak investigation, contact tracing, and reporting have made it harder to capture the protective effect of masks in real world settings.

The decision to lift any covid-19 mitigation measure should be made through a transparent, inclusive, and evidence based process of public debate28 considering the accountability for reasonableness framework (which sets out a fair process for decision making involving publicity, relevance, revisability, and enforcement). Decision making should explicitly consider every person’s right to be protected from avoidable and reasonably foreseeable harm, aim to reduce discrimination, and enhance individual autonomy.

Widespread mask use should remain part of the arsenal that helps us to protect people’s health and reduce the social and economic burden of covid-19, especially if new variants emerge that present a higher disease risk and put increased strain on healthcare services. It will be difficult for governments to backpedal now and reintroduce mask mandates in public and crowded indoor places. But the current policy will allow covid-19 to spread more easily, increasing the harmful effects of covid-19, including perpetuating inequities and exclusion. To blunt these harms, European governments should make a sustained effort to demonstrate the added value of wearing masks in high risk indoor spaces with large population mixing, while seeking to mitigate the environmental impact of disposable masks and make mask use financially accessible to all.  
<https://www.bmj.com/content/377/bmj.o1186>

**title:** Covid-19: Fourth dose of mRNA vaccines is safe and boosts immunity, study finds

BMJ| 10th may 2022  
  
Fourth doses of covid-19 mRNA vaccines are safe and provide a substantial boost to antibody concentrations and cellular immunity when given more than six months after a third dose of Pfizer’s vaccine, a study has found.

The latest findings from the UK Cov-Boost study, published in Lancet Infectious Diseases,1 compared antibody and T cell responses after a fourth dose of an mRNA covid-19 vaccine with immune responses after a third dose. Giving a fourth dose of Pfizer’s and a half dose of Moderna’s vaccine was effective at increasing antibody levels and cellular immunity up to and above the baseline and peak levels seen after third dose boosters, the results show…  
<https://www.bmj.com/content/377/bmj.o1170>

**title:** Association of Prior BNT162b2 COVID-19 Vaccination With Symptomatic SARS-CoV-2 Infection in Children and Adolescents During Omicron Predominance

JAMA | 13th may 2022  
  
Question Does the estimated effectiveness of 2 doses of the BNT162b2 COVID-19 vaccine against symptomatic SARS-CoV-2 Omicron variant infection (based on the odds ratio for the association of prior vaccination and infection) wane rapidly among children and adolescents, as has been observed for adults?

Findings In a test-negative, case-control study conducted from December 2021 to February 2022 during Omicron variant predominance that included 121 952 tests from sites across the US, estimated vaccine effectiveness against symptomatic infection for children 5 to 11 years of age was 60.1% 2 to 4 weeks after dose 2 and 28.9% during month 2 after dose 2. Among adolescents 12 to 15 years of age, estimated vaccine effectiveness was 59.5% 2 to 4 weeks after dose 2 and 16.6% during month 2; estimated booster dose effectiveness in adolescents 2 to 6.5 weeks after the booster was 71.1%.

Meaning Among children and adolescents, estimated vaccine effectiveness for 2 doses of BNT162b2 against symptomatic infection decreased rapidly, and among adolescents increased after a booster dose.  
<https://jamanetwork.com/journals/jama/fullarticle/2792524>

**title:** Neutralizing Antibodies Against the SARS-CoV-2 Omicron Variant (BA.1) 1 to 18 Weeks After the Second and Third Doses of the BNT162b2 mRNA Vaccine  
  
jama network open |13th MAY 2022  
  
…SARS-CoV-2 neutralizing antibodies are correlated with protection against infection and disease.6 Our study found a rapid decline in Omicron-specific serum neutralizing antibody titers only a few weeks after the second and third doses of BNT162b2. A limitation of our study is that its cross-sectional design precludes evaluation of antibody decrease rates on an individual level. Nevertheless, the observed decrease in population neutralizing antibody titers corresponds to the decrease in vaccine efficacy against polymerase chain reaction–confirmed Omicron infection in Denmark and symptomatic Omicron infection in the United Kingdom.3,4 Taken together, vaccine-induced protective antibody responses following a second and third dose of BNT162b2 are transient and additional booster doses may be necessary, particularly in older people; however, conserved T-cell immunity and nonneutralizing antibodies may still provide protection against hospitalization and death.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792295>

**title:** Safety and efficacy of BCG re-vaccination in relation to COVID-19 morbidity in healthcare workers: A double-blind, randomised, controlled, phase 3 trial

the lancet eclinical medicine| 1st june 2022  
  
BCG vaccination prevents severe childhood tuberculosis (TB) and was introduced in South Africa in the 1950s. It is hypothesised that BCG trains the innate immune system by inducing epigenetic and functional reprogramming, thus providing non-specific protection from respiratory tract infections. We evaluated BCG for reduction of morbidity and mortality due to COVID-19 in healthcare workers in South Africa…  
  
Between May 4 and Oct 23, 2020, we enrolled 1000 healthcare workers with a median age of 39 years (IQR 30–49), 70·4% were female, 16·5% nurses, 14·4% medical doctors, 48·5% had latent TB, and 15·3% had evidence of prior SARS-CoV-2 exposure. Hospitalisation due to COVID-19 occurred in 15 participants (1·5%); ten (66·7%) in the BCG group and five (33·3%) in the placebo group, hazard ratio (HR) 2·0 (95% CI 0·69–5·9, p = 0·20), indicating no statistically significant protection. Similarly, BCG had no statistically significant effect on COVID-19 (p = 0·63, HR = 1·08, 95% CI 0·82–1·42). Two participants (0·2%) died from COVID-19 and two (0·2%) from other reasons, all in the placebo group.

Interpretation. BCG did not protect healthcare workers from SARS-CoV-2 infection or related severe COVID-19 disease and hospitalisation.  
<https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00144-4/fulltext>

**title:** EVALUATION OF MRNA-1273 COVID-19 VACCINE IN CHILDREN 6 TO 11 YEARS OF AGE

new england journal of medicine| 11th may 2022

Vaccination of children to prevent coronavirus disease 2019 (Covid-19) is an urgent public health need. The safety, immunogenicity, and efficacy of the mRNA-1273 vaccine in children 6 to 11 years of age are unknown.

Methods. Part 1 of this ongoing phase 2–3 trial was open label for dose selection; part 2 was an observer-blinded, placebo-controlled expansion evaluation of the selected dose. In part 2, we randomly assigned children (6 to 11 years of age) in a 3:1 ratio to receive two injections of mRNA-1273 (50 μg each) or placebo, administered 28 days apart. The primary objectives were evaluation of the safety of the vaccine in children and the noninferiority of the immune response in these children to that in young adults (18 to 25 years of age) in a related phase 3 trial. Secondary objectives included determination of the incidences of confirmed Covid-19 and severe acute respiratory syndrome coronavirus 2 infection, regardless of symptoms. Interim analysis results are reported.

Results. In part 1 of the trial, 751 children received 50-μg or 100-μg injections of the mRNA-1273 vaccine, and on the basis of safety and immunogenicity results, the 50-μg dose level was selected for part 2. In part 2 of the trial, 4016 children were randomly assigned to receive two injections of mRNA-1273 (50 μg each) or placebo and were followed for a median of 82 days (interquartile range, 14 to 94) after the first injection. This dose level was associated with mainly low-grade, transient adverse events, most commonly injection-site pain, headache, and fatigue. No vaccine-related serious adverse events, multisystem inflammatory syndrome in children, myocarditis, or pericarditis were reported as of the data-cutoff date. One month after the second injection (day 57), the neutralizing antibody titer in children who received mRNA-1273 at a 50-μg level was 1610 (95% confidence interval [CI], 1457 to 1780), as compared with 1300 (95% CI, 1171 to 1443) at the 100-μg level in young adults, with serologic responses in at least 99.0% of the participants in both age groups, findings that met the prespecified noninferiority success criterion. Estimated vaccine efficacy was 88.0% (95% CI, 70.0 to 95.8) against Covid-19 occurring 14 days or more after the first injection, at a time when B.1.617.2 (delta) was the dominant circulating variant.

Conclusions. Two 50-μg doses of the mRNA-1273 vaccine were found to be safe and effective in inducing immune responses and preventing Covid-19 in children 6 to 11 years of age; these responses were noninferior to those in young adults.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2203315>

**title:** Effect of mRNA Vaccine Boosters against SARS-CoV-2 Omicron Infection in Qatar

NEW ENGLAND JOURNAL OF MEDICINE| 12TH MAY 2022  
  
Waning of vaccine protection against coronavirus disease 2019 (Covid-19) and the emergence of the omicron (or B.1.1.529) variant of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have led to expedited efforts to scale up booster vaccination. Protection conferred by booster doses of the BNT162b2 (Pfizer–BioNTech) and mRNA-1273 (Moderna) vaccines in Qatar, as compared with protection conferred by the two-dose primary series, is unclear.

Methods. We conducted two matched retrospective cohort studies to assess the effectiveness of booster vaccination, as compared with that of a two-dose primary series alone, against symptomatic SARS-CoV-2 infection and Covid-19–related hospitalization and death during a large wave of omicron infections from December 19, 2021, through January 26, 2022. The association of booster status with infection was estimated with the use of Cox proportional-hazards regression models.

Results. In a population of 2,239,193 persons who had received at least two doses of BNT162b2 or mRNA-1273 vaccine, those who had also received a booster were matched with persons who had not received a booster. Among the BNT162b2-vaccinated persons, the cumulative incidence of symptomatic omicron infection was 2.4% (95% confidence interval [CI], 2.3 to 2.5) in the booster cohort and 4.5% (95% CI, 4.3 to 4.6) in the nonbooster cohort after 35 days of follow-up. Booster effectiveness against symptomatic omicron infection, as compared with that of the primary series, was 49.4% (95% CI, 47.1 to 51.6). Booster effectiveness against Covid-19–related hospitalization and death due to omicron infection, as compared with the primary series, was 76.5% (95% CI, 55.9 to 87.5). BNT162b2 booster effectiveness against symptomatic infection with the delta (or B.1.617.2) variant, as compared with the primary series, was 86.1% (95% CI, 67.3 to 94.1). Among the mRNA-1273–vaccinated persons, the cumulative incidence of symptomatic omicron infection was 1.0% (95% CI, 0.9 to 1.2) in the booster cohort and 1.9% (95% CI, 1.8 to 2.1) in the nonbooster cohort after 35 days; booster effectiveness against symptomatic omicron infection, as compared with the primary series, was 47.3% (95% CI, 40.7 to 53.3). Few severe Covid-19 cases were noted in the mRNA-1273–vaccinated cohorts.

Conclusions. The messenger RNA (mRNA) boosters were highly effective against symptomatic delta infection, but they were less effective against symptomatic omicron infection. However, with both variants, mRNA boosters led to strong protection against Covid-19–related hospitalization and death.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2200797>

**title:** Protection by a Fourth Dose of BNT162b2 against Omicron in Israel

NEW ENGLAND JOURNAL OF MEDICINE| 5TH MAY 2022  
  
On January 2, 2022, Israel began administering a fourth dose of BNT162b2 vaccine to persons 60 years of age or older. Data are needed regarding the effect of the fourth dose on rates of confirmed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and of severe coronavirus disease 2019 (Covid-19).

Methods. Using the Israeli Ministry of Health database, we extracted data on 1,252,331 persons who were 60 years of age or older and eligible for the fourth dose during a period in which the B.1.1.529 (omicron) variant of SARS-CoV-2 was predominant (January 10 through March 2, 2022). We estimated the rate of confirmed infection and severe Covid-19 as a function of time starting at 8 days after receipt of a fourth dose (four-dose groups) as compared with that among persons who had received only three doses (three-dose group) and among persons who had received a fourth dose 3 to 7 days earlier (internal control group). For the estimation of rates, we used quasi-Poisson regression with adjustment for age, sex, demographic group, and calendar day.

Results. The number of cases of severe Covid-19 per 100,000 person-days (unadjusted rate) was 1.5 in the aggregated four-dose groups, 3.9 in the three-dose group, and 4.2 in the internal control group. In the quasi-Poisson analysis, the adjusted rate of severe Covid-19 in the fourth week after receipt of the fourth dose was lower than that in the three-dose group by a factor of 3.5 (95% confidence interval [CI], 2.7 to 4.6) and was lower than that in the internal control group by a factor of 2.3 (95% CI, 1.7 to 3.3). Protection against severe illness did not wane during the 6 weeks after receipt of the fourth dose. The number of cases of confirmed infection per 100,000 person-days (unadjusted rate) was 177 in the aggregated four-dose groups, 361 in the three-dose group, and 388 in the internal control group. In the quasi-Poisson analysis, the adjusted rate of confirmed infection in the fourth week after receipt of the fourth dose was lower than that in the three-dose group by a factor of 2.0 (95% CI, 1.9 to 2.1) and was lower than that in the internal control group by a factor of 1.8 (95% CI, 1.7 to 1.9). However, this protection waned in later weeks.

Conclusions. Rates of confirmed SARS-CoV-2 infection and severe Covid-19 were lower after a fourth dose of BNT162b2 vaccine than after only three doses. Protection against confirmed infection appeared short-lived, whereas protection against severe illness did not wane during the study period.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2201570>

**title:** Amplifying Appeals to the Common Good in COVID-19 Vaccine Messaging  
  
JAMA health forum | 13th May2022  
  
We are all in this together.” This appeal to solidarity and the common good from the World Health Organization's One World: #TogetherAtHome campaign at the start of the COVID-19 pandemic exemplified the promise of a silver lining: for all its pain and suffering, our sense of obligation to one another could get us through. Appeals like this have purpose during times of fear and uncertainty. Elimination of an infectious disease, given its transmissibility, demands it.

Today, this message feels distant and idealistic, and the spirit of solidarity it conveys has remained maddeningly elusive. Even the availability of a vaccine, typically a means in which to appeal to the common good, has been mired in a debate about individual risk and benefit. For instance, rather than creating an ethos of kinship, vaccine requirements in workplaces, restaurants, concert venues, and universities have instead fueled disagreements about the nature and magnitude of disease risk and whether this risk justifies infringement on individual liberties.

In this Viewpoint, we highlight how appeals to self-interest as a means to encourage vaccination have come to prevail in the pandemic. We argue for the need to transition from this approach to appeals that reclaim a spirit of solidarity. We suggest 3 strategies to promote COVID-19 vaccination anchored in our obligations to one another…  
<https://jamanetwork.com/journals/jama-health-forum/fullarticle/2792400>

**title:** Factors Associated With Serological Response to SARS-CoV-2 Vaccination in Patients With Multiple Sclerosis Treated With Rituximab  
  
jama network open | 12th may 2022  
  
Question Are certain demographic or clinical factors associated with a favorable vaccine response to tozinameran among rituximab-treated patients with multiple sclerosis?

Findings In this cohort study of 67 patients with multiple sclerosis, among several assessed disease- and treatment-associated factors, B-cell count was the only factor associated with the serological response to tozinameran, whereas the cellular response was not associated with any of the investigated factors. B-cell counts of at least 40/μL were identified as the optimal cutoff to achieve a serological response in most patients.

Meaning These results suggest that rituximab-treated patients with multiple sclerosis may be vaccinated with tozinameran as soon as possible, with rituximab treatment delayed until B-cell levels reach 40/μL, when an additional vaccine dose should be considered.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792178>

**title:** mRNA Booster Improves a COVID-19 Vaccine’s Effectiveness  
  
JAMA | 10th MAY 2022  
  
After a single shot of the Ad26.COV2.S (Janssen/Johnson & Johnson) adenovirus–based COVID-19 vaccine, an mRNA booster shot protected people with COVID-19 from an emergency department visit, a trip to an urgent care clinic, or hospitalization more effectively than 2 doses of Ad26.COV2.S, according to a study from the CDC’s VISION Network.  
  
The VISION Network is a collaboration between the CDC and 7 US health care systems that tracks COVID-19 vaccine effectiveness. The network’s recent study analyzed data from 80 287 emergency department or urgent care visits and 25 244 hospitalizations between mid-December 2021 and early March 2022 to assess different booster regimens. The analysis found that after an mRNA-based booster, Ad26.COV2.S was 78% effective in protecting against COVID-19–related hospitalization compared with 31% effectiveness of 1 dose and 67% effectiveness of 2 doses. In contrast, 3 doses of an mRNA vaccine were 90% effective in protecting against disease severe enough to require hospitalization…  
<https://jamanetwork.com/journals/jama/fullarticle/2791919>

**title:** Two mRNA COVID-19 Vaccines Stimulate Different Immune Responses  
  
JAMA | 10th may 2022  
  
Subtle variations in immune responses to the mRNA-1273 (Moderna) and BNT162b2 (Pfizer-BioNTech) COVID-19 vaccines suggest that each may confer somewhat different protection, according to a study in Science Translational Medicine. This could mean that a mix-and-match booster strategy might increase protection against future variants and could have implications for future therapy development.

Both vaccines induce robust antibodies that neutralize the SARS-CoV-2 virus, making them highly effective against the early D614G strain of SARS-CoV-2. However, while both induce robust humoral responses, differences, particularly in certain Fc-mediated effector functions, may account for observed differences in effectiveness against more recent variants, which better evade neutralization…  
<https://jamanetwork.com/journals/jama/fullarticle/2791948>

**title:** Four Vaccine Doses Prevented Severe Omicron COVID-19 Better Than 3  
  
jama| 10th may 2022  
  
Older patients in Israel who received a fourth dose of the BNT162b2 (Pfizer-BioNTech) SARS-CoV-2 vaccine were more than 3 times less likely to develop severe COVID-19 than those who received only 3 doses. But while protection against severe disease did not wane during the testing period, protection against confirmed infection appeared short-lived.

Conducted in early 2022 when Omicron was the dominant SARS-CoV-2 variant, the study, reported in the New England Journal of Medicine, examined more than 1.25 million persons aged 60 years or older. Each had received a third dose at least 4 months before the study period ended on March 2.

Among patients who had their fourth dose at least 8 days earlier, the unadjusted rate of severe COVID-19 disease was 1.5 per 100 000 person-days. The rate was 3.9 in the 3-dose control group and 4.2 in a second internal control group that received a fourth dose 3 to 7 days earlier.

Adjusting for demographic and exposure differences, the rate of severe COVID-19 among patients during the fourth week after the fourth dose was 3.5 times less than the 3-dose group, and 2.3 times less than the internal control group. Protection against severe illness hadn’t waned during the 6 weeks after the fourth dose.

As for confirmed infections, the unadjusted rate 4 weeks after receiving a fourth dose was 177 per 100 000 person-days compared with 361 in the 3-dose and 388 in the internal control groups. Although the adjusted rate of confirmed infection in the 4-dose group was 2 times less than the 3-dose and 1.8 times less than the internal control groups, this protection declined in later weeks…  
<https://jamanetwork.com/journals/jama/fullarticle/2791949>

**title:** Assessment of Neutralizing Antibody Response Against SARS-CoV-2 Variants After 2 to 3 Doses of the BNT162b2 mRNA COVID-19 Vaccine  
  
jama network open| 9th may 2022  
  
Question Are neutralizing antibodies against the Omicron variant of SARS-CoV-2 sufficiently induced after 2 to 3 doses of the BNT162b2 messenger RNA vaccine in recipients of different ages?

Findings In this cohort study of 82 Japanese participants, 28% and 6% had neutralizing antibodies against the Omicron variant at 2 and 7 months, respectively, after 2 doses of the vaccine; both titer values were low in all age groups. After receiving a booster vaccination, all participants acquired much higher levels of neutralizing antibodies irrespective of age.

Meaning This study suggests that booster vaccination was associated with induction of higher levels of neutralizing antibodies against the Omicron variant, irrespective of the recipient’s age.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792068>

**HEALTH MANGEMENT & workforce well-being**

**title:** Resident Physician Wellness Postpandemic - How Does Healing Occur?

JAMA | 12th may 2022  
  
Burnout, an ever-present risk in medicine, is defined as a pathological syndrome in which emotional depletion and maladaptive detachment develop in response to prolonged occupational stress.1 Since March of 2020, physicians and health care teams have witnessed extraordinary COVID-19–related morbidity and mortality, struggled with the awareness of compelling health inequity in conjunction with increased advocacy for social justice, and provided substantial care in an environment with uncertain occupational and personal risk.

Those especially affected include resident physicians, for whom relevant stressors may further disrupt training and create an uncertain future in which to launch careers. This profile of stress during the COVID-19 pandemic meets the requirements for burnout and makes the resident physician vulnerable to burnout and the attendant consequences. The future course of SARS-CoV-2 infection remains uncertain, but now is the time for much-needed recalibration and hopeful reinvigoration. Illness, exhaustion, despair, sadness, and hopelessness experienced during the early waves of the pandemic create longer-term risks to the health and wellness of resident physicians and may influence an entire career of clinical practice. It is important to recognize these risks, understand lessons learned, and provide restorative support where needed…  
<https://jamanetwork.com/journals/jama/fullarticle/2792508>

**title:** Satisfaction with Scotland’s GP services fell during pandemic

BMJ | 11th may 2022  
  
The recent changes to covid-19 restrictions indicate a new phase of the pandemic, where we are   
Patient satisfaction with family doctor services in Scotland fell sharply during the covid pandemic, a fall that doctors’ leaders have blamed on covid restrictions reducing access to practices.

Results from the Scottish Health and Care Experience Survey showed that only 67% of respondents gave a positive rating for the care they received in 2021.1 This was down from 79% in the 2020 survey and from 90% in the very first survey in this series in 2009-10…  
<https://www.bmj.com/content/377/bmj.o1190>

**title:** Calling time on the use of war metaphors in covid-19

BMJ | 13th may 2022  
  
More than two years since the covid-19 pandemic started, Katherine Clark and S. Elissa Altin, consider the impact that war metaphors have had on patient and physician wellbeing

In 2020, as cases rose, health systems scrambled to adapt, and the economy was shut down—our entire world changed to flatten the curve. During these early days, the language used to describe the pandemic was that of an armed battle. Patients were “struck with illness,” and physicians were the “warriors deployed to the front lines.” The federal government was “mobilising supply chains” to pull the “ammunition” of personal protective equipment (PPE) and ventilators from the “national stockpile.” The administration employed the Defence Production Act to produce additional medical supplies…  
<https://www.bmj.com/content/377/bmj.o1214>

**recovery**

**title:** Temporal changes of the incidence of childhood cancer in Germany during the COVID-19 pandemic: Updated analyses from the German Childhood Cancer Registry

the lancet regional health europe| 11th may 2022  
  
…We previously speculated that the unexpected increase in childhood cancer incidence rates in Germany in 2020 might be the consequence of greater parental attention to early disease symptoms in their child and possibly also doctor's awareness during the COVID-19 pandemic and hence more timely healthcare consultations and referral to tertiary facilities. Since many childhood cancers tend to present with non-specific symptoms that mimic those of infectious including COVID-19, increased parental and physician's awareness and earlier presentation might have indeed led to a shorter diagnostic process and thereby earlier diagnoses. The GCCR lacks regrettably information about disease stage at diagnosis. Analyses by stage might have given indications whether, for example, the observed increase in some cancer types was due to more diagnoses of early stages. That we did observe indications of a potential rebound effect in the 2021 incidence estimates for lymphoma (lymphomas overall, others than Hodgkin lymphoma) and non-CNS solid tumours but not for other diagnostic groups, speaks however against this explanation as being the only cause for the increase. Although it is reassuring that we found no signs of missed or delayed childhood cancer diagnoses in Germany throughout 2020 and 2021, the underlying reasons for the marked increase in incidence rates in 2020 remain largely unclear. Especially the continuing increase in the incidence of CNS tumours in 2021 is noteworthy, as this is the diagnostic group where complete registration has traditionally been a challenge. A possible explanation of the increase relates to improvements in completeness of reporting. During the COVID-19 pandemic waves, children with a CNS tumour might have been less frequently treated in adult neuro-oncology or neurology departments than before but more often in paediatric haematology-oncology units, where reporting to the GCCR is an established routine. An actual increase in risk for childhood cancer overall in direct or indirect response to the COVID-19 pandemic appears highly unlikely according to the current scientific knowledge, but seems conceivable for lymphoid leukaemias7 and in particular its major subtype B-precursor acute lymphoblastic leukaemia8

<https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00091-6/fulltext>

**title:** Trends in Colorectal Surgery During the COVID-19 Pandemic  
  
jama health forum | 6th may 2022  
  
Ever since its widespread outbreak, the COVID-19 pandemic has challenged health care systems worldwide. Allocation of resources in an effort to contain the spread of the virus, along with the reluctance of many patients to seek health care because of restrictions and social isolation, have severely disrupted preventive screenings and cancer care worldwide. Beds were needed for critically ill patients with COVID-19, and staff were required to care for those patients. Therefore, a resource transfer led to a prohibition on elective surgery for varying lengths of time in every state in the US and elsewhere in the world, generally between March and May 2020. There have been numerous publications in the past 2 years reporting the association of the COVID-19 pandemic with the diagnosis and treatment of colon and rectal cancer…  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792069>

**public health & health inequalities**

**title:** The COVID-19 Pandemic and Racial and Ethnic Disparities in Estimated Excess Mortality From External Causes

jama internal medicine | 9th may 2022  
  
As of February 2022, there have been about 79 million cases of COVID-19 and 930 000 deaths in the US. Although these numbers are staggering, they only tell part of the story. The health effects of the pandemic extend far beyond COVID-19 itself. Indirect factors, such as increased isolation, unemployment, and poverty, were particularly deleterious in a society already struggling with 2 public health crises: the opioid overdose epidemic and structural racism. In 2020, the first year of the pandemic, there were over 75 000 deaths from opioid overdoses, a 35% increase from 2019. In May 2020, the murder of George Floyd at the hands of police officers in Minneapolis catalyzed broader recognition of the role of structural racism in centuries of health inequities in the US.

In a Research Letter in this issue of JAMA Internal Medicine, Chen et al use data from the Wide-ranging Online Data for Epidemiologic Research (WONDER) database of the Centers for Disease Control and Prevention (CDC) to explore how the COVID-19 pandemic has been associated with an increased risk of mortality from external causes such as drug overdose, homicide, and suicide.1 Their findings are sobering, estimating more than 17 000 additional fatalities from external causes during 2020 and also important racial and ethnic disparities. Black people were estimated to have experienced the highest excess homicide rate (6.7 per 100 000 population), and American Indian and Alaskan Native communities had the highest estimated excess deaths from drug overdose (11.21 per 100 000 population)…  
<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2791683>

**title:** Estimating the Burden of Influenza-like Illness on Daily Activity at the Population Scale Using Commercial Wearable Sensors

jama network open | 12th may 2022  
  
 Question How can the true burden of influenza-like illnesses (ILIs) be estimated given that most cases of ILIs are mild and go undocumented ?

Findings This cohort study of 15 122 adults who reported ILI symptoms and had data from wearable sensors at symptom onset found an overall reduction in mobility equivalent to 15% of the active US population becoming completely immobilized for 1 day. More than 60% of this reduction occurred among persons who had sought no medical care.

Meaning This study suggests that the burden of ILIs is much greater than had previously been understood.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792216>

**title:** Admissions of Children and Adolescents With Deliberate Self-harm to Intensive Care During the SARS-CoV-2 Outbreak in Australia

jama network open |11th may 2022  
  
Question Was the SARS-CoV-2 outbreak in Australia associated with an increase in intensive care unit (ICU) admissions of children and adolescents with severe deliberate self-harm?

Findings This cohort study identified 813 patients aged 12 to 17 years admitted to pediatric ICUs with deliberate self-harm over 6.5 years. Monthly admissions per million children and adolescents increased significantly at the onset of the pandemic, from 7.2 admissions in March 2020 to 11.4 admissions by August 2020.

Meaning This study found that the coronavirus pandemic in Australia was associated with a significant increase in admissions of children and adolescents to intensive care with deliberate self-harm.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792172>

**title:** Changes in US Clinician Waivers to Prescribe Buprenorphine Management for Opioid Use Disorder During the COVID-19 Pandemic and After Relaxation of Training Requirements

jama network open | 12th may 2022  
  
The COVID-19 pandemic worsened the opioid overdose crisis.1 Buprenorphine management for opioid use disorder (OUD) reduces overdose risk and can be offered in office-based settings or via telehealth. Federal regulations require that clinicians complete training and obtain a waiver from the Drug Enforcement Administration (DEA) to prescribe buprenorphine.2 To increase buprenorphine access during the COVID-19 pandemic, federal and state regulations were relaxed to allow greater use of telehealth.3 Additionally, starting in April 2021, new guidelines allow clinicians to submit a Notice of Intent application to treat 30 or fewer patients without training; training is required for larger patient panels.4 This study examines the numbers of clinicians with waivers before and during the pandemic using national data…  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2792222>

**title:** COVID-19, childhood obesity, and NAFLD: colliding pandemics

the lancet gastroenterology & hepatology | 1st june 2022  
  
The COVID-19 pandemic drastically affected the lives of children and young people worldwide in 2020 and 2021. Public health measures to reduce community transmission of SARS-CoV-2 included unprecedented school closures and stay-at-home orders. In the UK, national lockdown measures in March, 2020, closed nurseries, primary and secondary schools, and universities for most students through the remainder of the school year. In 2021, primary and secondary schools were again closed in the UK from January to early March. Alongside these school closures were varying levels of restrictions on outdoor recreation, social gatherings, and economic activities. Although the role of social inequalities in exacerbating the negative effects of lockdown on the health and wellbeing of children was evident after the first wave of COVID-19,1 stark new data highlight the effects of the pandemic and socioeconomic deprivation on childhood obesity rates…  
<https://www.thelancet.com/journals/langas/article/PIIS2468-1253(22)00100-5/fulltext>

**international perspectives**

**title:** Covid-19: WHO chief calls for a shift in China’s “unsustainable” policy

BMJ |13th may 2022  
  
China’s pandemic restrictions have become unfeasible and require a rethink, the World Health Organization’s director general Tedros Adhanom Ghebreyesus said in a rare criticism of the country’s zero covid policy.

Experts have questioned China’s uncompromising public health restrictions, saying they are harmful to the economy and health while likely incapable of containing the infectious omicron variant.1 It is the first time that senior WHO officials have voiced such an opinion.

“We don’t think that it is sustainable, considering the behaviour of the virus now and what we anticipate in the future,” Tedros said at a WHO press briefing on 10 May. A “shift in approach would be very important,” he said.

China has ramped up restrictions in Shanghai in the past month in an effort to reign in a covid-19 outbreak…  
<https://www.bmj.com/content/377/bmj.o1199>

**title:** Zero COVID in China: what next?

the lancet | 14th may 2022  
  
Two years after SARS-COV-2 was declared a public health emergency, global estimates of excess   
How China cornered itself into an unsustainable COVID-19 control strategy, and the slim prospects for change. Shawn Yuan reports.

More than 2 years after China ended its unprecedented lockdown in Wuhan as the first COVID-19 outbreak paralysed the central Chinese city, the Chinese Government remains adamant on sticking with its zero-COVID strategy, raising serious questions of exactly how China is going to exit this pandemic.

Starting in March this year, China's biggest city, Shanghai, has been hit with its worst outbreak, with hundreds of thousands of cases logged. Subsequent strict lockdowns in the city have caused havoc among residents, separating families and straining food and medical resources.

Initially only certain districts were put under lockdown, prohibiting cross-district travel, and as the case numbers began to spike, the lockdown spread to the entire city: residents were only allowed to leave the house once every few days, depending on the risk level of the neighbourhood, and those who tested positive would be transported to quarantine centres or hospitals, and their neighbours would then also be prohibited movement.

The goal of this round of lockdown remains the same: to adhere with the dynamic zero-COVID strategy that essentially is aimed at stamping out outbreaks with mass testing and lockdowns to achieve zero cases, also dubbed defeating the virus, as put by the Government…  
<https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00873-X/fulltext>

**title:** How Hong Kong’s vaccination missteps led to the world’s highest covid-19 death rate

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Omicron has taken Hong Kong from having one of the lowest covid-19 death rates in the world to having the highest daily death rate per capita. A key reason for this is the island’s handling of vaccination, writes Rhoda Kwan

Hong Kong’s strict guidelines on social distancing and its restrictions on travel ensured months of low infection rates for covid-19, until the omicron variant hit the city in February 2022. Before that, Hong Kong had reported 212 deaths related to covid-19; around 9000 people have since died from the virus in the city’s fifth wave of infection.

As of late April, more than 70% of deaths were in patients aged 80 or older, 73% of whom were unvaccinated. The hospital system has been overwhelmed, with patients occupying hospital beds in parking lots, bodies kept in hospital corridors and in patient rooms, and morgues overflowing.

This is despite vaccines being readily available in the city since February 2021. Hong Kong had procured enough doses of the Pfizer and Sinovac vaccines for its population of seven million, and both vaccines were made available at community vaccination centres and private clinics across the city within weeks of the rollout. Older citizens were given priority access to vaccination….  
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