COVID-19 Evidence Bulletin

30th November 2022

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**clinical management**

**title:** Hospitalizations and mortality during the first year of the COVID-19 pandemic in Hong Kong, China: An observational study

The Lancet Regional Health – Western Pacific | 23rd november 2022

Summary

Background

Hong Kong followed a strict COVID-19 elimination strategy in 2020. We estimated the impact of the COVID-19 pandemic responses on all-cause and cause-specific hospitalizations and deaths in 2020.

Methods

Interrupted time-series analysis using negative binomial regression accounting for seasonality and long-term trend was used on weekly 2010–2020 data to estimate the change in hospitalization risk and excess mortality occurring both within and out of hospitals.

Findings

In 2020, as compared to a 2010–2019 baseline, we observed an overall reduction in all-cause hospitalizations, and a concurrent increase in deaths. The overall hospitalization reduction (per 100,000 population) was 4809 (95% CI: 4692, 4926) in 2020, with respiratory diseases (632, 95% CI: 607, 658) and cardiovascular diseases (275, 95% CI: 264, 286) contributing most. The overall excess mortality (per 100,000 population) was 25 (95% CI: 23, 27) in 2020, mostly among individuals with pre-existing cardiovascular diseases (12, 95% CI: 11, 13). A reduction in excess in-hospital mortality (−10 per 100,000, 95% CI: −12, −8) was accompanied by an increase in excess out-of-hospital mortality (32, 95% CI: 29, 34).

Interpretation

The COVID-19 pandemic might have caused indirect impact on population morbidity and mortality likely through changed healthcare seeking particularly in youngest and oldest individuals and those with cardiovascular diseases. Better healthcare planning is needed during public health emergencies with disruptions in healthcare services.

<https://www.thelancet.com/journals/lanwpc/article/PIIS2666-6065(22)00260-7/fulltext>

**title:** Impact of community asymptomatic rapid antigen testing on covid-19 related hospital admissions: synthetic control study

bmj| 23rd november 2022

Abstract

Objective To analyse the impact of voluntary rapid testing for SARS-CoV-2 antigen in Liverpool city on covid-19 related hospital admissions.

Design Synthetic control analysis comparing hospital admissions for small areas in the intervention population with a group of control areas weighted to be similar for past covid-19 related hospital admission rates and sociodemographic factors.

Setting Liverpool city, UK, 6 November 2020 to 2 January 2021, under the intervention of Covid-SMART (systematic meaningful asymptomatic repeated testing) voluntary, open access supervised self-testing with lateral flow devices, compared with control areas selected from the rest of England.

Population General population of Liverpool (n=498 042) and a synthetic control population from the rest of England.

Main outcome measure Weekly covid-19 related hospital admissions for neighbourhoods in England.

Results The introduction of community testing was associated with a 43% (95% confidence interval 29% to 57%) reduction (146 (96 to 192) in total) in covid-19 related hospital admissions in Liverpool compared with the synthetic control population (non-adjacent set of neighbourhoods with aggregate trends in covid-19 hospital admissions similar to Liverpool) for the initial period of intensive testing with military assistance in national lockdown from 6 November to 3 December 2020. A 25% (11% to 35%) reduction (239 (104 to 333) in total) was estimated across the overall intervention period (6 November 2020 to 2 January 2021), involving fewer testing centres, before England’s national roll-out of community testing, after adjusting for regional differences in tiers of covid-19 restrictions from 3 December 2020 to 2 January 2021.

Conclusions The city-wide pilot of community based asymptomatic testing for SARS-CoV-2 was associated with substantially reduced covid-19 related hospital admissions. Large scale asymptomatic rapid testing for SARS-CoV-2 could help reduce transmission and prevent hospital admissions.

<https://www.bmj.com/content/379/bmj-2022-071374#:~:text=Results%20The%20introduction%20of%20community,aggregate%20trends%20in%20covid%2D19>

**infection control**

**title:** Withholding methotrexate after COVID-19 vaccination: different strategies, same results? [Correspondence]

the lancet rheumatology | december 2022

We read with great interest the Article by Teny Grace Skaria and colleagues…about the strategy of withdrawing methotrexate after the ChAdOx1 nCov-19 (Oxford–AstraZeneca) vaccine in patients with rheumatoid arthritis and psoriatic arthritis. Their study confirmed the benefit of 2-week methotrexate interruption after vaccination in a population of patients predominantly younger than 60 years (MIVAC I and MIVAC II), and further demonstrated the benefit of methotrexate interruption only after the second vaccine dose (MIVAC II)—a strategy that might lead to a lower incidence of flares…Levels of antibodies against the spike receptor binding domain (anti-RBD) were comparable at the end of MIVAC I and MIVAC II, suggesting that withdrawing methotrexate after the second vaccine might be equivalent to withdrawing it after both vaccine doses. However, structural differences between the studies might preclude a definitive conclusion about the equivalence of the strategies regarding immunogenicity. MIVAC I excluded patients who were positive for anti-RBD or anti-nucleocapsid antibodies before the first vaccine dose; whereas MIVAC II only excluded patients with anti-nucleocapsid antibodies detectable after the first dose. This distinct baseline criterion most likely resulted in a greater number of patients with previous SARS-CoV-2 infection (ie, anti-RBD antibody positive or formerly anti-nucleocapsid antibody-positive patients who became negative before enrolment) in MIVAC II. Patients with previous SARS-CoV-2 infection are known to respond better to vaccines compared with patients who are naive to SARS-CoV-2… In addition, studies have shown that post-infection longevity for anti-nucleocapsid antibodies was lower than anti-RBD antibodies and waned rapidly in immunosuppressed patients…Therefore, MIVAC II might have included some patients with previous SARS-CoV-2 infection at baseline who were prone to a more robust vaccine response. Supporting this notion, a comparison (using χ2 test) of overall MIVAC I and II patients’ seroconversion rates after the first dose, as depicted in table 2,…showed that pooled MIVAC I patients had lower seroconversion rates (n=104 [66%]) than did pooled MIVAC II patients (n=126 [80%]; p=0·0039), regardless of the methotrexate holding strategy. Even among patients in methotrexate-hold groups, those who withdrew methotrexate after the first dose had lower seroconversion rates (MIVAC I n=50 [63%]) than patients who did not (MIVAC II n=63 [83%]; p=0·0044). In summary, MIVAC I and II populations are probably different regarding previous exposure to SARS-CoV-2, which might account for the comparable immunogenicity observed with different methotrexate discontinuation schemes. Stopping methotrexate solely after the second vaccine dose instead of after both doses in the primary vaccine schedule might be safer, but further studies are necessary to compare the immune benefit of these strategies…

<https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(22)00336-8/fulltext>

**title:** Withholding methotrexate after COVID-19 vaccination: different strategies, same results? – Author's reply

the lancet rheumatology | december 2022

We thank Ana De Medeiros-Ribeiro and colleagues for their interest in our study. Before inclusion in the MIVAC-I study, patients were screened for anti-receptor binding domain (RBD) antibodies. Such screening was not done before MIVAC II because patients had already received one dose of the AZD1222 vaccine and were anti-RBD antibody-positive.

De Medeiros-Ribeiro and colleagues suggest that this absence of screening for anti-RBD antibodies would lead to inclusion of more patients in MIVAC II with possible hybrid immunity who would have shown increased immunogenicity post vaccination. However, we have taken all other possible measures to exclude patients with past SARS-CoV-2 infection, including exclusion of known COVID-19 and nasopharyngeal RT-PCR-positive cases, individuals with symptoms of COVID-19 or acute febrile illness 6 months before random assignment, and primary contacts of SARS-CoV-2-positive cases, as well as screening for anti-nucleocapsid antibodies. Thus, it is theoretically correct that there might be individuals who have hybrid immunity in MIVAC II, but on a practical level, this number should have been mitigated by such stringent screening. Another reason patients are unlikely to have hybrid immunity is the relatively low antibody titres after the first dose of vaccine in all patients in the MIVAC trials. We had shown previously that patients with previous SARS-CoV-2 infection develop very high antibody titres (>5000 IU/mL) after a single dose of vaccine; we found this to be the case even in patients on immunosuppression…We have re-examined our data and identified 13 individuals who had antibody titres above 500 IU/mL, who were equally distributed between the two trials (six from MIVAC I, and seven from MIVAC II; p=0·6). The level of antibodies after the second dose in the methotrexate continuation groups of MIVAC I and II were similar. If there were significant number of people with previous SARS-CoV-2 infection in MIVAC II, this would have been expected to lead to higher levels of antibodies in the methotrexate continuation group of MIVAC II when compared with the same in MIVAC I.

De Medeiros-Ribeiro and colleagues have correctly pointed out that patients in MIVAC I who withheld methotrexate had lower seroconversion after the first dose than did any of the groups in MIVAC II (who continued methotrexate during the first dose). Although we do not have any specific hypothesis to explain why this effect occurred, serological response after only one dose of vaccine is variable in itself…We agree with De Medeiros-Ribeiro and colleagues that further studies are needed to corroborate our findings…

<https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(22)00335-6/fulltext>

**title:** Protection against symptomatic infection with delta (B.1.617.2) and omicron (B.1.1.529) BA.1 and BA.2 SARS-CoV-2 variants after previous infection and vaccination in adolescents in England, August, 2021–March, 2022: a national, observational, test-negative, case-control study

The Lancet Infectious Diseases | 24th november 2022

Summary

Background

Little is known about protection against SARS-CoV-2 infection following previous infection with specific individual SARS-CoV-2 variants, COVID-19 vaccination, and a combination of previous infection and vaccination (hybrid immunity) in adolescents. We aimed to estimate protection against symptomatic PCR-confirmed infection with the delta (B.1.617.2) and omicron (B.1.1.529) variants in adolescents with previous infection, mRNA vaccination, and hybrid immunity.

Methods

We conducted an observational, test-negative, case-control study using national SARS-CoV-2 testing and COVID-19 mRNA vaccination data in England. Symptomatic adolescents aged 12–17 years who were unvaccinated or had received primary BNT162b2 immunisation at symptom onset and had a community SARS-CoV-2 PCR test were included. Vaccination and previous SARS-CoV-2 infection status in adolescents with PCR-confirmed COVID-19 (cases) were compared with vaccination and previous infection status in adolescents who had a negative SARS-CoV-2 PCR test (controls). Vaccination data were collected from the National Immunisation Management System, and were linked to PCR testing data. The primary outcome was protection against SARS-CoV-2 delta and omicron infection (defined as 1 – odds of vaccination or previous infection in cases divided by odds of vaccination or previous infection in controls).

Findings

Between Aug 9, 2021, and March 31, 2022, 1 161 704 SARS-CoV-2 PCR tests were linked to COVID-19 vaccination status, including 390 467 positive tests with the delta variant and 212 433 positive tests with the omicron variants BA.1 and BA.2. In unvaccinated adolescents, previous SARS-CoV-2 infection with wildtype, alpha (B.1.1.7), or delta strains provided greater protection against subsequent delta infection (>86·1%) than against subsequent omicron infection (<52·4%); previous delta or omicron infection provided similar protection against omicron reinfection (52·4% [95% CI 50·9–53·8] vs 59·3% [46·7–69·0]). In adolescents with no previous infection, vaccination provided lower protection against omicron infection than against delta infection, with omicron protection peaking at 64·5% (95% CI 63·6–65·4) at 2–14 weeks after dose two and 62·9% (60·5–65·1) at 2–14 weeks after dose three, with waning protection after each dose. Adolescents with hybrid immunity from previous infection and vaccination had the highest protection, irrespective of the SARS-CoV-2 strain in the primary infection. The highest protection against omicron infection was observed in adolescents with vaccination and previous omicron infection, reaching 96·4% (95% CI 84·4–99·1) at 15–24 weeks after vaccine dose two.

Interpretation

Previous infection with any SARS-CoV-2 variant provided some protection against symptomatic reinfection, and vaccination added to this protection. Vaccination provides low-to-moderate protection against symptomatic omicron infection, with waning protection after each dose, while hybrid immunity provided the most robust protection. Although more data are needed to investigate longer-term protection and protection against infection with new variants, these data question the need for additional booster vaccine doses for adolescents in populations with already high protection against SARS-CoV-2 infection…

<https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00729-0/fulltext>

**title:** Considerations of hybrid immunity and the future of adolescent COVID-19 vaccination [Comment]

The Lancet Infectious Diseases | 24th november 2022  
  
Pre-licensure clinical trials for the BNT162b2 COVID-19 vaccine showed high efficacy among adolescents… Similarly, post-licensure studies in this population found high mRNA vaccine effectiveness against both SARS-CoV-2 infection and hospitalisation during the pre-omicron period… However, emergence of the omicron variant in November, 2021, as well as later omicron subvariants, resulted in decreased COVID-19 vaccine effectiveness and more rapid waning of protection, particularly against infection… Incidence of infection and subsequent seroprevalence across age groups, including adolescents, dramatically increased in the early omicron-dominant period; as of February, 2022, infection-induced seroprevalence estimates among adolescents aged 12–17 years in the USA were approximately 75%... and greater than 86% among those aged 12–15 years in England…

There is a growing body of research examining the protection afforded by hybrid immunity, which refers to immune protection in individuals who have had at least one dose of a COVID-19 vaccine and at least one previous SARS-CoV-2 infection before or after vaccination… Studies among adults in Canada and Qatar found that hybrid immunity provided more robust protection against omicron infection than either previous infection or vaccination alone….In The Lancet Infectious Diseases, Annabel Powell and colleague provide the first estimates of protection against SARS-CoV-2 infection from hybrid immunity among adolescents aged 12–17 years.

Using a population-based, observational, test-negative, case-control design, Powell and colleagues… estimated protection against symptomatic SARS-CoV-2 infection among adolescents in England by combinations of previous infection with specific individual SARS-CoV-2 variants and at least one dose of mRNA vaccine. The authors used national, community-based PCR testing data during periods of delta (B.1.617.2) and omicron (B.1.1.529; BA.1 and BA.2) predominance (Aug 9, 2021–March 31, 2022). The study population consisted of more than 1·1 million symptomatic adolescents with linked vaccination records, including nearly 115 000 adolescents with previously documented SARS-CoV-2 infection. Among unvaccinated adolescents, the authors found substantially lower protection from previous infection (wildtype, alpha [B.1.1.7], or delta) against subsequent omicron infection compared with against subsequent delta infection, and only 59% protection from a previous omicron infection against omicron reinfection. Hybrid immunity showed more robust protection against omicron infection, irrespective of the primary infection variant. Among the infection and vaccination combinations studied, the greatest protection against omicron (96%) was seen in adolescents with a previously documented omicron infection and two mRNA vaccine doses; this protection was maintained through 24 weeks, the maximum follow-up time available for this combination.

The study by Powell and colleagues… is an important addition to the COVID-19 vaccine literature and the first to report on hybrid immunity in the adolescent population, who might have higher rates of previous infection than some adult age groups…The authors also analysed the potential effect of timing of vaccination relative to infection; although limited by low case numbers, the findings suggest robust protection from hybrid immunity regardless of the order of infection and vaccination. The study was not without limitations. The end of the community-based PCR testing programme in England resulted in the omission of later omicron subvariants from this analysis; only omicron BA.1 and BA.2 were examined, and those data were combined. Additionally, the study was unable to examine the protection afforded by the combination of previous omicron infection and three mRNA vaccine doses, and the authors did not assess protection against severe COVID-19 outcomes. Despite this, the authors' examination of the protection of infection alone, mRNA vaccination alone, and infection and vaccination combinations in the adolescent population provides a wealth of information for researchers and policy makers. However, new omicron subvariants and novel, bivalent vaccine products produce new questions. These unknowns, in addition to increasingly complex, heterogenous immune protection within populations, create challenges for decision making regarding vaccination.

Increased infection-induced seroprevalence,… the waning of COVID-19 vaccine effectiveness,… and the relatively low rates of severe COVID-19 outcomes in adolescents have called into question the need for additional COVID-19 vaccine doses in this population. However, the durable protection of SARS-CoV-2 infection alone previously seen against delta infections… was not evident against omicron infections in the present study by Powell and colleagues…. Hybrid immunity has shown more robust and longer-lasting protection than previous infection or vaccination alone, which we feel provides argument for continued primary series and booster vaccination in populations with previous infection, including adolescents. Similarly, WHO states that prevention of mild disease, indirect impact on transmission, and reduction of post-COVID-19 conditions provides a strong rationale for vaccinating even low-priority groups, irrespective of previous SARS-CoV-2 exposure….The absolute burden of severe disease due to high COVID-19 transmission is an additional consideration for continued vaccination.

In the future, improved understanding of hybrid immunity might allow for the integration of infection and vaccine-induced immunity considerations into COVID-19 vaccination strategies. However, given the current unknown long-term impacts of COVID-19 and repeat SARS-CoV-2 infection, and the increased immune evasion of recent variants and subvariants, remaining up-to-date with COVID-19 vaccination provides the best protection against future SARS-CoV-2 infection and related complications, including for adolescents. Ongoing monitoring of the breadth and duration of protection from infection and vaccination combinations in all age groups should be prioritised as SARS-CoV-2 continues to evolve…

<https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00759-9/fulltext>

**title:** Neutralization of Omicron Subvariant BA.2.75 after Bivalent Vaccination [Correspondence]

nejm | 23rd november 2022

… Bivalent messenger RNA (mRNA) vaccines containing the ancestral severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and B.1.1.529 (omicron) variant spike sequences were recently made available to address the waves of infection and coronavirus disease 2019 (Covid-19) caused by omicron variants. The omicron BA.1–containing bivalent vaccine mRNA-1273.214, currently authorized for use in multiple countries, elicits strong neutralizing antibody responses against omicron BA.1 and the epidemiologically dominant BA.4 and BA.5 subvariants…The omicron BA.2.75 subvariant, which has steadily increased in prevalence in at least 36 countries, contains potential antibody-escape spike mutations…We aimed to characterize the neutralization of BA.2.75 after mRNA-1273.214 boosting and to further elucidate the cross-neutralization potential of this bivalent vaccine against multiple omicron variants…

In this phase 2–3 study, geometric mean titers (GMTs) of neutralizing antibodies at a 50% inhibitory dilution were assessed in serum samples collected at day 29 after the administration of 50 μg of mRNA-1273.214 as a second booster dose in adults who had previously received both the mRNA-1273 primary series and a first booster dose of 50 μg of mRNA-1273 at least 3 months earlier and had no evidence of SARS-CoV-2 infection within 3 months before study enrollment…

These data further support the cross-neutralization ability of the omicron-containing bivalent booster vaccine against emerging omicron subvariants that are not contained in the vaccine. Real-world data on the effectiveness of booster vaccines are needed to evaluate whether the potent and broad neutralizing antibody responses elicited by bivalent vaccines confer enhanced protection against Covid-19.

<https://www.nejm.org/doi/full/10.1056/NEJMc2212772?query=featured_coronavirus>

**public health & health inequalities**

**title:** Investing in robust surveillance of the effects of covid-19 and future emerging infections in pregnancy should be prioritised [Opinion]

bmj |23rd november 2022

As we write this, covid-19 cases have plateaued again in the UK and across Europe, after rising earlier in the autumn. But many studies specifically focusing on covid-19 in pregnancy have stopped collecting data, so we have no immediate way of assessing the effect of this and future waves of infection on pregnant women. In a recent BMJ Medicine paper we showed that the outcomes of admission to hospital with symptomatic covid-19 among unvaccinated pregnant women were similar during the omicron dominance period and the wild type period…This comparison was only possible because of ongoing pregnancy surveillance and provided real world evidence of the protective effect of vaccination against severe disease in pregnancy.

Nevertheless, we still have concerns around vaccination rates among pregnant women and messaging around immunisation during pregnancy. We have both drawn perspectives from our different countries. In the UK, the latest vaccination rates are around 70%, with vaccines being recommended to pregnant women with risk factors in December 2020 and to all pregnant women from April 2021 as part of the age prioritised rollout in the general population. In Norway, vaccination was recommended for pregnant women with risk factors from May 2021 and for all pregnant women in their second or third trimester from 18 August 202… Surveillance data from the Norwegian Institute of Public Health show that vaccination uptake among pregnant women rose from 27% in September 2021 to 75% in February 2022 and 87% in May 2022…Thus vaccination rates are higher in Norway despite a shorter period of availability.

National vaccine recommendations were based on national surveillance of the infection and the burden of severe disease among pregnant women and on the best available evidence from vaccine trials. The UK had higher rates of hospital admission with symptomatic covid-19 in pregnancy than Norway and thus an earlier recommendation for vaccination to protect women and their infants. When this recommendation was issued, there were very few studies on vaccine use in pregnancy, and the public debate was polarised regarding benefits and potential side effects.

The situation for pregnant women in the UK in the first months of 2020 was very different to the situation in other European countries. The risk of admission with symptomatic covid-19 in the UK was 4.9 per 1000 maternities,… contrasting with zero admissions in Iceland and 0.4 per 1000 maternities in Denmark, Finland, and Norway,… although all countries used a surveillance system modelled on the UK Obstetric Surveillance System (UKOSS). The low burden of severe infection in countries like Norway meant that the countries could wait to provide vaccine recommendations for pregnant women until the body of literature grew and robust safety data were available. The available data on vaccination and risk of severe disease could then be combined, discussed with relevant groups of health personnel providing care for pregnant women, and used to make a joint recommendation; this process might have contributed to higher trust and uptake.

In the initial period of the pandemic, little was known about the effects of SARS-CoV-2 in pregnant women, and successive case series from single hospitals or groups of hospitals were published, including larger and larger groups of pregnant women admitted to hospital. Improved clinical knowledge was undoubtedly essential, but the race for larger datasets to the exclusion of population based data might have served to overlook low admission rates and potential lessons for primary prevention and benefits for vulnerable groups.

The observed differences in covid-19 infection rates between countries most likely reflect a complex interplay of factors such as population density, employment, and household make-up, but it is striking that the Nordic countries had implemented public health measures at or above the Oxford lockdown index of 50 by 15 March 2020, whereas the UK crossed this threshold a week later… The observed differences in infection rates in the first wave might indicate that this and other public health measures limiting viral transmission also protected pregnant women before the availability of vaccines. Nevertheless, public health measures impeding pregnant women from accessing pregnancy services can have devastating consequences. Lockdown measures in India led to a decline in hospital births and an increase in adverse pregnancy outcomes,… and concerns have been raised in the UK about the negative effects on women’s mental health in pregnancy and puerperium.

We can only tackle these questions concerning the effects of infection and public health control measures if we recognise the importance of the surveillance of pregnant populations in pandemic situations and of including pregnant women in clinical trials. Based on experiences from the H1N1 epidemic in 2009, UKOSS had a study funded by the NIHR that was set up and then paused, ready to be activated in the event of a pandemic. A similar protocol was adapted for SARS-CoV-2 in pregnancy surveillance in several other countries, including Norway,… Italy… and The Netherlands,… which enabled more reliable comparison across countries. But funding for surveillance of the consequences of the pandemic for the pregnant population has been scarce, and the studies have, in many instances, been undertaken by clinicians operating on a shoestring and juggling high clinical workloads.

As new variants of the SARS-CoV-2 virus emerge and a new influenza wave is expected, investing in robust surveillance of the effects on health in pregnancy should be prioritised. Such robust information about groups more vulnerable to infection will have a key role in communication and strategies to mitigate health inequalities…

<https://www.bmj.com/content/379/bmj.o2810>

**mental health**

**title:** CDC Report: Urgent Need to Address Teens’ Adverse Experiences During Pandemic [News]

jama| 29th november 2022   
  
Three-quarters of US adolescents reported at least 1 adverse experience, such as abuse, neglect, witnessing violence, or having a family member attempt or die by suicide during the COVID-19 pandemic, according to a CDC report. Youths reporting multiple adverse childhood experiences, or ACEs, were substantially more likely to report poor current mental health or a past-year suicide attempt than those without these experiences.

Poor adolescent mental health was a growing concern before the pandemic, according to the report authors, but it has since escalated into a crisis. The team analyzed survey data collected from 4390 high school students between January and June 2021. Most of the students reported at least 1, about half reported 1 to 2, 12% reported 3, and about 8% reported 4 or more ACEs during the pandemic or during the past 12 months. The effects of these experiences were cumulative, with youth who reported the most ACEs being the most likely to report poor mental health. Those who had 4 or more adverse experiences were 4 times more likely to report poor current mental health and 25 times more likely to report a suicide attempt than those without such negative experiences.

Certain types of adverse experiences were particularly harmful to mental health. Emotional abuse was associated with about twice the risk of poor mental health and about 3.5 times the risk of a suicide attempt. About one-third of adolescents who reported a sexual assault also reported attempting suicide.

“This analysis highlights the ongoing, urgent need to address adversity experienced before and during the pandemic to mitigate its impact on mental and behavioral health,” the authors wrote. They recommended a comprehensive approach to prevent adverse experiences among youth, including bolstering economic support for families, supporting quality child care, and connecting youth and parents with community support. The authors also recommended multipronged approaches to preventing suicide and better integration of mental health care into primary care.

<https://jamanetwork.com/journals/jama/fullarticle/2798730>

**health management**

**title:** UNDERSTANDING AND NEUTRALISING COVID-19 MISINFORMATION AND DISINFORMATION [ANALYSIS]

bmj| 22ND November 2022

Key messages

Research on the political and commercial determinants of health points to the importance of understanding how evidence is generated and promulgated.

During the covid-19 pandemic, several groups have been active in opposing evidence based public health measures.

A rapid rise in misinformation and disinformation in digital and physical environments over a short period…an “infodemic”.

Active management of infodemics must form part of a comprehensive pandemic response.

Further investigations into the social and public health effects of misinformation groups are needed to inform policy…

Questions for the public inquiry

To what extent were groups promoting contrarian messages against scientific evidence able to influence policy?

How effective was the government in countering misinformation and disinformation campaigns (and did they draw on cognitive psychology and media studies)?

To what extent did weaknesses in public messaging leave space for online misinformation and disinformation to take hold?...

<https://www.bmj.com/content/379/bmj-2022-070331>

**international perspectives**

**title:** Preoccupied with the war, Russia skipped one wave of covid and ignored another [Features]

bmj| 25th november 2022

…The question of how Russia is doing in the ongoing pandemic is an opaque one. In February 2022 the first omicron wave hit Russia harder than any previous covid-19 wave: more than 200 000 cases were registered daily at its peak, up from 30 000 during the alpha wave in early 2021.

On 24 February, the day the UK dropped its self-isolation restrictions, Russian troops started to bomb Ukrainian cities. All covid-19 issues in Russia were forgotten as the state turned exclusively to promoting the war.

Since then, Europe has faced two more omicron waves. With the Russian government busy supporting its troops and soothing the population’s discontent, what became of Russia’s covid response? One major wave seems to have missed the country completely, while previous waves had hit as hard as in Europe, if not worse. As 2022 draws to a close, where does the Russian covid response go from here?...

<https://www.bmj.com/content/379/bmj.o2825>

We

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