



COVID-19 Literature Digest – 09/04/2021

Dear all,

Please find [today's report](#) below.

PHE's COVID-19 Literature Digest has been produced since February 2020. A selection of our previous Digests [can be found here](#). This resource aims to highlight a small selection of recent COVID-19 papers that are relevant to UK settings, contain new data, insights or emerging trends. The Digest Team generate a report once per week (Fri). The reports include both preprints, which should be treated with caution as they are NOT peer-reviewed and may be subject to change, and also research that has been subject to peer review and wider scrutiny. The Digest is very rapidly produced and does not claim to be a perfect product; the inclusion or omission of a publication should not be viewed as an endorsement or rejection by PHE. We do not accept responsibility for the availability, reliability or content of the items included in this resource.

To join our email distribution list please send a request to COVID.LitDigest@phe.gov.uk. If you are interested in papers relating to behaviour and social science please contact COVID19.behaviouralscience@phe.gov.uk to sign up to receive the PHE Behavioural Sciences Weekly Report.

Best wishes,

Emma Farrow, James Robinson

On behalf of the PHE COVID-19 Literature Digest Team

Report for 09.04.2021 (please note that papers that have **NOT been peer-reviewed** are highlighted in red).

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Serology and immunology

Publication Date	Title/URL	Journal / Article type	Digest
30.03.2021	Antibody evasion by the P.1 strain of SARS-CoV-2	Cell / Article	<ul style="list-style-type: none">• New strains with multiple mutations: P.1 from Brazil, B.1.351 from South Africa, B.1.1.7 from UK (12, 10 and 9 changes in spike respectively)• Despite similar RBD mutations P.1 is easier to neutralise than B.1.351. Despite the reduction in neutralisation titres, it is hoped immunisation with vaccines designed against parent/ancestral strains will provide protection from P.1.
06.04.2021	Antibody Persistence through 6 Months after the Second Dose of mRNA-1273 Vaccine for Covid-19	N Engl J Med / Correspondence	<ul style="list-style-type: none">• Antibodies elicited by mRNA-1273 [Moderna] in 33 healthy adult participants persisted through 6 months after second dose, as detected by three distinct serologic assays.• Ongoing studies: monitoring immune responses beyond 6 months; determining effect of a booster dose to extend duration / breadth of activity against emerging viral variants.
26.03.2021	Sensitivity of infectious SARS-CoV-2 B.1.1.7 and B.1.351 variants to neutralizing antibodies	Nat Med / article	<ul style="list-style-type: none">• Examined sensitivity of the B.1.1.7 and B.1.351 variants to SARS-CoV-2 antibodies present in sera and nasal swabs from individuals infected with previously circulating strains or recently vaccinated, in comparison with a D614G reference virus.• Results indicate that B1.351, but not B.1.1.7, may increase the risk of infection in immunised individuals.
22.03.2021	Serological surveillance of SARS-CoV-2: Six-month trends and antibody response in a cohort of public health workers	J Infect / Article	<ul style="list-style-type: none">• 2246 UK healthcare workers tested monthly March - Nov 2020 for SARS-CoV-2 spike (S) protein and nucleoprotein (N) antibodies using five different immunoassays.• 264 were seropositive in ≥ 2 assays. Assays showed > 85% agreement for ever-positivity, although this changed markedly over time.• Trends in SARS-CoV-2 antibodies following infection are highly dependent on assay used. Ongoing serosurveillance using multiple assays is critical for monitoring course and long-term progression of antibodies.• Preprint recently included

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Vaccines

Publication Date	Title/URL	Journal / Article type	Digest
30.03.2021	Efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine against SARS-CoV-2 variant of concern 202012/01 (B.1.1.7): an exploratory analysis of a randomised controlled trial	Lancet / Article	<ul style="list-style-type: none"> • ChAdOx1 nCoV-19 (Oxford-AstraZeneca) vaccine provides protection against symptomatic disease caused by novel B.1.1.7 lineage (UK variant). • Vaccination with ChAdOx1 nCoV-19 also results in a reduction in the duration of shedding and viral load, which might reduce transmission of disease
26.03.2021	Vaccine effectiveness of the first dose of ChAdOx1 nCoV-19 and BNT162b2 against SARS-CoV-2 infection in residents of Long-Term Care Facilities (VIVALDI study)	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • In a cohort study of 10,412 older adults living in Long-Term Care Facilities across England, a first dose of Pfizer-Biontech (n=3,022) or Oxford-AstraZeneca vaccine (n=6,138) was associated with substantially reduced SARS-CoV-2 infection risk from 4 weeks to at least 7 weeks.
30.03.2021	Thromboembolism and the Oxford-AstraZeneca COVID-19 vaccine: side-effect or coincidence?	Lancet / Correspondence	<ul style="list-style-type: none"> • Authors analysed Danish nationwide population-based data to estimate the natural incidence of venous thromboembolism • Data suggest reported number of thromboembolic events among Europeans after AstraZeneca vaccine (at least those reported as deriving from venous system) not increased relative to expected number estimated from incidence rates from entire Danish population prior to vaccination programme
31.03.2021	A Prothrombotic Thrombocytopenic Disorder Resembling Heparin-Induced Thrombocytopenia Following Coronavirus-19 Vaccination	Research Square (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Summarises clinical and laboratory features of 9 patients who exhibited blood clotting events following vaccination with AZD1222 (Oxford-AstraZeneca) vaccine. • Authors suggest these events resemble a known disorder – heparin-induced thrombocytopenia (HIT) – which is treatable if identified promptly. • NOTE: at time of publication, WHO maintains the benefits of AstraZeneca vaccine outweigh risks and recommends that vaccinations continue; the authors disclose conflicts of interest including personal fees from Pfizer and other pharmaceutical companies. • Associated commentary: https://www.bmj.com/content/373/bmj.n883

31.03.2021	Pfizer-BioNTech Announce Positive Topline Results of Pivotal COVID-19 Vaccine Study in Adolescents	Pfizer (non-peer reviewed) / News	<ul style="list-style-type: none"> • Pfizer announce headline results from a phase 3 trial with participants aged 12-15 years old. Data suggests Pfizer-Biontech COVID-19 vaccine demonstrates 100% efficacy and robust antibody responses, and was well tolerated in this group.
29.03.2021	Initial report of decreased SARS-CoV-2 viral load after inoculation with the BNT162b2 vaccine	Nat Med / brief communication	<ul style="list-style-type: none"> • Analysis of a real-world dataset of positive SARS-CoV-2 test results in Israel after inoculation with Pfizer-BioNTech vaccine found substantially reduced viral load for infections occurring 12–37 day after first vaccine dose. • Reduced viral loads suggests potentially lower infectiousness, further contributing to vaccine effect on virus spread.
25.03.2021	T-Cell and Antibody Responses to First BNT162b2 Vaccine Dose in Previously SARS-CoV-2-Infected and Infection-Naive UK Healthcare Workers: A Multicentre, Prospective, Observational Cohort Study	Preprints with the Lancet (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Study of 237 healthcare workers (HCWs) found one dose of BNT162b2 (Pfizer–BioNTech) vaccine generates robust T-cell and antibody responses in 99% of people • HCWs with a prior history of SARS-CoV-2 infection have significantly higher T-cell and antibody responses than naive individuals. • Associated press release: https://www.gov.uk/government/news/new-study-finds-strong-immune-response-following-covid-19-vaccination
02.04.2021	Interim Estimates of Vaccine Effectiveness of BNT162b2 and mRNA-1273 COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Health Care Personnel, First Responders, and Other Essential and Frontline Workers — Eight U.S. Locations, December 2020–March 2021	MMWR Morb Mortal Wkly Rep / Article	<ul style="list-style-type: none"> • Real world study of 3,950 U.S health care personnel, first responders, and other essential and frontline workers: full immunisation (≥14 days after second dose) with authorised mRNA COVID-19 vaccines (BNT162b2 and mRNA-1273) was 90% effective against SARS-CoV-2 infections regardless of symptom status; partial immunisation (≥14 days after first dose but before second dose) was 80% effective.
29.03.2021	Coronavirus and vaccination rates in people aged 70 years and over by socio-demographic characteristic, England: 8 December 2020 to 11 March 2021	Office for National Statistics / Report	<ul style="list-style-type: none"> • Between 8 Dec 2020 - 11 March 2021, 90.2% of all residents in England aged 70 and over received at least one dose of a COVID-19 vaccine. • Vaccination rates markedly lower in certain groups: people identifying as Black African and Black Caribbean (58.8% and 68.7%), Muslim (72.3%); disabled people (86.6% vs 91% for non-disabled). • Modelling suggests these differences remain after accounting for geography, underlying health conditions and certain indicators of socio-economic inequality.
01.04.2021	Coronavirus and vaccine hesitancy, Great Britain: 17 February to 14 March 2021	Office for National Statistics / Report	<ul style="list-style-type: none"> • Data from Opinions and Lifestyle Survey (17 Feb -14 March 2021). • Positive sentiment towards vaccine reported in 94% of adults; 6% reported vaccine hesitancy, a decrease from 9% in previous period (13 Jan -7 Feb 2021).

			<ul style="list-style-type: none"> • Highest vaccine hesitancy decreasing since previous period for: adults 16-29 years (12%, was 17%); Black or Black British adults (22%, was 44%); parents living with a dependent child aged 0 to 4 years (11%, was 16%); adults in most deprived areas of England (12%, was 16%).
26.03.2021	Trends, patterns and psychological influences on COVID-19 vaccination intention: findings from a large prospective community cohort study in England and Wales (Virus Watch)	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Among adults (n=14,713) who participated in both of University College London's Virus Watch surveys, 86% who were reluctant or intending to refuse a COVID-19 vaccine in Dec 2020 had changed their mind in Feb 2021 and planned on accepting, or had already accepted, a vaccine. • The magnitude of shift was consistent across all ethnic groups measured and all levels of social deprivation. • Associated commentary: https://www.bmj.com/content/372/bmj.n837
26.03.2021	What must be done to tackle vaccine hesitancy and barriers to COVID-19 vaccination in migrants?	J Travel Med / Article	<ul style="list-style-type: none"> • Key report recommendations: i) ensure that excluded migrant populations are meaningfully included in COVID-19 vaccination roll-out plans and supported to access health systems; ii) better consider migrants within existing vaccine priority structure; iii) research key risk factors for under-immunisation for COVID-19 in these communities; iv) actively involve communities in the design and implementation of tailored and targeted approaches; v) incentivise better recording of data.
24.03.2021	COVID-19 vaccine response in pregnant and lactating women: a cohort study	Am J Obstet Gynecol / Original research	<ul style="list-style-type: none"> • U.S cohort study of 131 reproductive-age vaccine recipients (84 pregnant, 31 lactating, and 16 non-pregnant) • COVID-19 mRNA vaccines generated robust humoral immunity in pregnant and lactating women, with immunogenicity / reactogenicity similar to non-pregnant women • Vaccine-induced immune responses were significantly greater than the response to natural infection. Immune transfer to neonates occurred via placenta and breastmilk
07.04.2021	Cross-Reactive Neutralizing Antibody Responses Elicited by SARS-CoV-2 501Y.V2 (B.1.351)	N Engl J Med / Correspondence	<ul style="list-style-type: none"> • Study of immune response to 501Y.V2 (accounted for 90% of infections in South Africa at time): ability of antibodies elicited by 501Y.V2 infection to cross-react with other variants. • 501Y.V2 elicits robust neutralizing antibody responses against both original variant and 501Y.V3 (P.1), which indicates high levels of cross-reactivity.

			<ul style="list-style-type: none"> Data indicate that vaccines built on spike protein of 501Y.V2 may be promising candidates for elicitation of cross-reactive neutralizing antibody responses to SARS-CoV-2.
15.03.2021	Immunogenicity of a Single Dose of SARS-CoV-2 Messenger RNA Vaccine in Solid Organ Transplant Recipients	JAMA / Letter	<ul style="list-style-type: none"> Among 436 solid organ transplant recipients, the majority of participants did not mount appreciable antispikes antibody responses at a median of 20 days after the first dose of either Pfizer-BioNTech or Moderna vaccine. Younger participants, those not receiving anti-metabolite maintenance immunosuppression, and those who received Pfizer-BioNTech vaccine were more likely to develop antibody responses. Limitations include convenience sample, first dose only and lack of a concurrent control group.

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Diagnostics and genomics

Publication Date	Title/URL	Journal / Article type	Digest
25.03.2021	Association between self-reported signs and symptoms and SARS-CoV-2 antibody detection in UK key workers	J Infect / Commentary	<ul style="list-style-type: none"> Cross-sectional study of key workers including Police / Fire & Rescue; healthcare workers. Of 2,579 without previous positive PCR tests, 687 (26%) reported belief they had COVID-19, having experienced compatible symptoms; only 208 (30.3%) had serological evidence of COVID-19.
30.03.2021	Determining the acceptability of testing contacts of confirmed COVID-19 cases to improve secondary case ascertainment	J Public Health (Oxf) / Article	<ul style="list-style-type: none"> UK asymptomatic contacts of confirmed COVID-19 cases are not routinely tested for SARS-CoV-2 1523 individuals contacted via Track and Trace offered a test: 602 (39.5%) accepted. 240 (39.9%) samples returned; 16.3% tested positive. Most declined (638/905; 70.5%) because already being tested. Matched laboratory records confirmed 73.1% of those who declined were tested by another route. High acceptability, with substantial test positivity, indicating public health benefit in offering tests to contacts as a routine part of the contact-tracing process.
31.03.2021	Adherence to the test, trace, and isolate system in the UK: results from 37 nationally representative surveys	BMJ / Research	<ul style="list-style-type: none"> 37 nationally representative UK surveys, over first 11 months of pandemic; 74 697 responses from 53 880 people (about 2000 participants in each wave)

			<ul style="list-style-type: none"> • Across all waves [latest wave, Jan21]: duration adjusted adherence to full self-isolation 42.5% [51.8%]; requesting covid-19 test 18.0% [22.2%], intent to share details of close contacts 79.1% [81.9%] • Non-adherence associated with: male, younger age, having dependent child, lower socioeconomic grade, greater financial hardship during pandemic, working in a key sector. • Adherence to test, trace, and isolate low, but improving. Practical support/financial reimbursement key. Target messaging/policies to men, younger people, key workers • Preprint previously included
26.03.2021	Localised community circulation of SARS-CoV-2 viruses with an increased accumulation of single nucleotide polymorphisms that adversely affect the sensitivity of real-time reverse transcription assays targeting Nucleocapsid protein	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Reports an outbreak of SARS-CoV-2 which had gained an additional mutation at position 28890 of the nucleocapsid protein, on a background of pre-existing mutations in one of the main circulating viral lineages in Wales at that time. • Mutation had statistically significant impact on Ct value reported for the N gene target designed by the Chinese CDC and used in several diagnostic products.
31.03.2021	Non-severe SARS-CoV-2 infection is characterised by very early T cell proliferation independent of type 1 interferon responses and distinct from other acute respiratory viruses	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Authors identify a type 1 interferon (IFN) response common to other acute respiratory viruses, and a cell proliferation response that discriminated SARS-CoV-2 from other viruses. Cell proliferation most evident in CD8 T cells and associated with rapid expansion of SARS-CoV-2 reactive TCRs. • Data supports a protective role for rapid induction of type 1 IFN and CD8 T cell responses to SARS-CoV-2.
05.04.2021	SARS-CoV-2 infectivity by viral load, S gene variants and demographic factors and the utility of lateral flow devices to prevent transmission	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Analyses SARS-CoV-2 testing and contact tracing data from England (1 September 2020 to 28 February 2021): 9% of contacts of 1,064,004 index cases tested PCR-positive. • B.1.1.7 infection (as suggested by S gene target failure) increased PCR-positive results by ~50%. • The most and least sensitive rapid point-of-care antigen lateral flow devices would detect 89.5% and 83.0% of cases with PCR-positive contacts, respectively.
31.03.2021	WHO-convened global study of origins of SARS-CoV-2: China Part	World Health Organization / Report	<ul style="list-style-type: none"> • Details the joint team's assessment of the likelihood of four possible pathways of SARS-CoV-2 introduction: i) direct zoonotic spillover (possible-to-likely); ii) introduction through an intermediate host (likely to very likely); iii) introduction through cold/ food chain products (possible); and iv) introduction through a laboratory incident (extremely unlikely).

			<ul style="list-style-type: none"> Associated commentary: https://www.nature.com/articles/d41586-021-00865-8
25.03.2021	Assessing transmissibility of SARS-CoV-2 lineage B.1.1.7 in England	Nature / Article	<ul style="list-style-type: none"> There was a consensus among all analyses that variant B.1.1.7 has a substantial transmission advantage with a 50% to 100% higher reproduction number.
30.03.2021	Sequence analysis of SARS-CoV-2 in nasopharyngeal samples from patients with COVID-19 illustrates population variation and diverse phenotypes, placing the in vitro growth properties of B.1.1.7 and B.1.351 lineage viruses in context	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Sequencing data indicates growth in cell culture of variant B.1.1.7 was no different from other SARS-CoV-2 variants, suggesting its apparent transmission advantage was not down to replicating more quickly. Growth of B.1.351 was towards the higher end of the variants.
26.03.2021	Sudden rise in COVID-19 case fatality among young and middle-aged adults in the south of Brazil after identification of the novel B.1.1.28.1 (P.1) SARS-CoV-2 strain: analysis of data from the state of Parana	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Preliminary findings from analysis of COVID-19 data in the state of Parana, Brazil suggests significant increases in case fatality rates in young and middle-aged adults after identification of circulating variant P.1 (B.1.1.28.1).
07.04.2021	Neutralization of SARS-CoV-2 Variants B.1.429 and B.1.351	N Engl J Med / Article	<ul style="list-style-type: none"> Study found modestly lower value in neutralisation titers against B.1.429 variant (first identified in California) similar to when B.1.1.7 variant (UK) tested with same assay using serum samples obtained from recipients of Moderna and Novavax vaccines. Suggests vaccine-elicited neutralising antibodies likely to remain effective against the B.1.429 variant.

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Epidemiology and clinical - children and pregnancy

Publication Date	Title/URL	Journal / Article type	Digest
01.04.2021	Prior infection by seasonal coronaviruses, as assessed by serology, does not prevent SARS-CoV-2 infection and disease in children, France, April to June 2020	Eurosurveillance / Research	<ul style="list-style-type: none"> Study of asymptomatic children hospitalised in Paris during the first wave for reasons other than COVID (n = 739) and children presenting with multisystem inflammatory syndrome (MIS; n = 36); authors randomly selected 69 SARS-CoV-2-seropositive patients (including 15 with MIS) and 115 matched SARS-CoV-2-seronegative controls for analysis. Findings suggest infection by seasonal coronaviruses such as common cold, as assessed by serology, does not interfere with SARS-CoV-2 infection and related MIS in children.

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Epidemiology and clinical - long-term complications / sequelae

Publication Date	Title/URL	Journal / Article type	Digest
06.04.2021	6-month neurological and psychiatric outcomes in 236,379 survivors of COVID-19: a retrospective cohort study using electronic health records	The Lancet Psychiatry / Article	<ul style="list-style-type: none"> • Among 236,379 patients diagnosed with COVID-19, estimated incidence of a neurological or psychiatric diagnosis in following 6 months was 33.62%, with 12.84% receiving their first such diagnosis. • For patients previously admitted to intensive therapy unit (ITU), estimated incidence was 46.42% and for a first diagnosis was 25.79%. • Estimates for individual diagnoses: intracranial haemorrhage 0.56%; ischaemic stroke 2.10%; parkinsonism 0.11%; dementia 0.67%; anxiety disorder 17.39%; psychotic disorder 1.40%. Estimates were higher in ITU patients. • Associated commentary: https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(21)00120-6/fulltext
30.03.2021	Multiorgan impairment in low-risk individuals with post-COVID-19 syndrome: a prospective, community-based study	BMJ Open / Original research	<ul style="list-style-type: none"> • Cohort of 201 UK individuals recovered from COVID-19, with ongoing symptoms (mean age 45, 21–71 years). Low risk of COVID-19 mortality (obesity 20%, hypertension 7%, type 2 diabetes 2%, heart disease 5%), only 19% hospitalised. • 70% have impairment in one or more organs 4 months after initial COVID-19 symptoms. Implications for assumed low risk in young people with no comorbidities. • Previously included as a preprint
26.03.2021	Physical, cognitive and mental health impacts of COVID-19 following hospitalisation: a multi-centre prospective cohort study	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Study of 1077 COVID-19 patients discharged in 2020 and followed up a median 5 months later: 29% felt fully recovered; 20% had a new disability; 19% experienced a health-related change in occupation. • Factors associated with failure to recover were female sex, middle-age, white ethnicity, two or more co-morbidities, and more severe acute illness. • Four clusters identified with different severities of mental and physical health impairment. • Persistent systemic inflammation determined by C-reactive protein was related to cluster severity, but not acute illness severity.

31.03.2021	Post-covid syndrome in individuals admitted to hospital with covid-19: retrospective cohort study	BMJ / Research	<ul style="list-style-type: none"> • Study of 47,780 hospitalised Covid-19 patients (mean age 65, 55% men) discharged alive by 31 August 2020, exactly matched to controls from a pool of about 50 million people in England. • Covid-19 survivors had increased rates of multiorgan dysfunction compared with the expected risk in the general population.
01.04.2021	Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK: 1 April 2021	Office for National Statistics / COVID-19 Infection Survey	<ul style="list-style-type: none"> • An estimated 1.1 million people in UK private households experienced long COVID in the four-week period ending 6 March 2021. Symptoms adversely affected day-to-day activities of 674,000 people. • Approximately 697,000 first had COVID-19 at least 12 weeks previously; 70,000 at least one year previously. • Prevalence rates greatest in people: 35 to 69 years; female; living in the most deprived areas; working in health or social care; living with pre-existing limiting health conditions.

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Epidemiology and clinical – risk factors

Publication Date	Title/URL	Journal / Article type	Digest
01.04.2021	Association Between Renin-Angiotensin-Aldosterone System Inhibitors and Clinical Outcomes in Patients With COVID-19: A Systematic Review and Meta-analysis	JAMA Netw Open / Original investigation	<ul style="list-style-type: none"> • Systematic review and meta-analysis (52 studies); receipt of angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs) was not associated with a higher risk of multivariable-adjusted mortality and severe adverse events among patients with COVID-19 who had either hypertension or multiple comorbidities, supporting the recommendations of medical societies. • ACEIs and ARBs may be associated with protective benefits, particularly among patients with hypertension; future randomised clinical trials are warranted.

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Epidemiology and clinical – other

Publication Date	Title/URL	Journal / Article type	Digest
8.04.2021	REACT-1 round 10 report: Level prevalence of SARS-CoV-2 swab-positivity in England during third national lockdown in March 2021	Imperial College (non-peer reviewed) / Article	<ul style="list-style-type: none"> Findings from 10th round of REACT-1 programme show sharp decline (~60%) in prevalence of COVID-19 infections in England between Feb - March 2021. Estimated R number 1. No increase in prevalence of SARS-CoV-2 was observed following re-opening of schools in England, although the decline of prevalence appears to have stopped.
05.04.2021	Increased household secondary attacks rates with Variant of Concern SARS-CoV-2 index cases	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Retrospective cohort study of 1,259 household index cases reported from 7-27 February 2021 in Ontario, Canada. Secondary attack rate for variant of concern (VOC: confirmed B.1.1.7 or N501Y mutation) index cases in this matched cohort was 1.31 times higher than non-VOC index cases, similar to the unadjusted estimate. This higher secondary attack rate was accentuated for asymptomatic index cases and presymptomatic cases.
01.04.2021	Linked transmission chains of imported SARS-CoV-2 variant B.1.351 across mainland France, January 2021	Eurosurveillance / Article	<ul style="list-style-type: none"> Investigation of two cases of confirmed infection with B.1.351 variant (first identified South Africa) reported in France in mid-January 2021 identified five imported cases, 14 transmission chains and a total 36 cases. Epidemiological characteristics seemed comparable to those described before the emergence of B.1.351. Lack of tertiary transmission outside the personal sphere suggests that distancing and barrier measures were effective.

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Infection control / non-pharmaceutical interventions

Publication Date	Title/URL	Journal / Article type	Digest
04.04.2021	Factors associated with nonessential workplace attendance during the Covid-19 pandemic in the UK in early 2021: evidence from cross-sectional surveys	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Study of 1422 respondents from ongoing CORSAIR survey who reported they could work completely from home: 26.8% attended their workplace at least once in preceding week. Non-essential workplace attendance was significantly associated with: i) male gender, ii) dependent children in the household, iii) financial hardship, iv) socio-economic grade C2DE, v) working in sectors such as health, social care, education, childcare or key public service, and vi) having been vaccinated.

29.03.2021	Survey of Home-Use UV Disinfection Products	Photochem Photobiol / Research note	<ul style="list-style-type: none"> • UK assessment of a range of ultraviolet radiation products for home disinfection found many were not effective against SARS-CoV-2 and many of those that were potentially effective presented a risk to users.
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Transmission

Publication Date	Title/URL	Journal / Article type	Digest
05.04.2021	Community Transmission of SARS-CoV-2 Associated with a Local Bar Opening Event — Illinois, February 2021	MMWR Morb Mortal Wkly Rep / Early release	<ul style="list-style-type: none"> • An indoor bar opening event in Feb 2021 in rural Illinois, USA was linked to 46 COVID-19 cases among attendees and their contacts. Inconsistent mask use and not maintaining ≥ 6 ft of physical distance was observed, despite signage. • One asymptomatic patron received a confirmed COVID-19 diagnosis the day before the event; four patrons developed symptoms on the day of the event. • Prevention measures should be emphasised in settings such as bars, for example: limiting occupancy; improving ventilation; prioritising outdoor seating; enforcing correct mask wearing and physical distancing; staying home when ill; and encouraging COVID-19 vaccination.
05.04.2021	Epidemiologic Evidence for Airborne Transmission of SARS-CoV-2 during Church Singing, Australia, 2020	Emerg Infect Dis / Article	<ul style="list-style-type: none"> • Chorister sang at four services during his infectious period (from 48 hours before onset) prior to positive COVID-19 test; from a choir loft 3.5 m above congregation • 12 secondary case-patients among 508 service attendees; overall secondary attack rate (SAR) 2.4% across 4 services. • Video recordings of services showed case-patients were seated in same section, >15 m from primary case-patient, without close physical contact, suggesting airborne transmission.
06.04.2021	High SARS-CoV-2 attack rates following exposure during singing events in the Netherlands, September-October 2020	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Investigates SARS-CoV-2 transmission in six singing events from Sept-Oct 2020, across the Netherlands, with attack rates from 25-74%. • Concludes that a combination of transmission routes probably caused five clusters; it is possible that airborne transmission of SARS-CoV-2 (>1.5 metres) due to singing partly led to the high attack rates observed in these clusters.

02.04.2021	A realistic touch-transfer method reveals low risk of transmission for SARS-CoV-2 by contaminated coins and bank notes	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Study results, including a novel touch transfer method, indicate that although prolonged virus stability of SARS-CoV-2 on coins and banknotes was observed, transmission by these payment methods is unlikely and requires high viral loads and a timely order of specific events.
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Modelling

Publication Date	Title/URL	Journal / Article type	Digest
21.03.2021	COVID-19 risk assessment at the opening ceremony of the Tokyo 2020 Olympic Games	Microb Risk Anal / Article	<ul style="list-style-type: none"> • Thought to be first modelling study of COVID-19 infection risk among spectators due to exposure pathways at a mass gathering event. Model applied to Tokyo Olympic Games opening ceremony (approx 60,000 spectators). • Without measures, one infector entry produced 1.5–1.7 newly infected individuals. Prevention measures by organisers and spectators achieved a 99% risk reduction. • Crude probability of infectors should be $< 5 \times 10^{-5}$ for the suppression of infection.

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Guidance and consensus statements

Publication Date	Title/URL	Journal / Article type
26.03.2021	Mitigation of risks of COVID-19 in occupational settings with a focus on ethnic minority groups – consensus statement from PHE, HSE and FOM	Gov.uk / Guidance
01.03.2021	Roadmap to improve and ensure good indoor ventilation in the context of COVID-19	WHO / Publications

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Overviews, comments and editorials

Publication Date	Title/URL	Journal / Article type
01.04.2021	Covid-19 vaccination during Ramadan	Bmj / Letter
26.03.2021	The emerging plasticity of SARS-CoV-2	Science / Perspective
07.04.2021	Linked electronic health records for research on a nationwide cohort of more than 54 million people in England: data resource	BMJ / Research
07.04.2021	Covid-19: Hospital admissions and deaths could rise this summer, modellers warn	BMJ / News
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