



COVID-19 Literature Digest – 19/03/2021

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 The reports include both preprints, which should be treated with caution as they are NOT peer-reviewed and may be subject to change, and also research that has been subject to peer review and wider scrutiny.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Report for 19.03.2021 (please note that papers that have **NOT been peer-reviewed** are highlighted in red).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
15.03.2021	Antibody evasion by the Brazilian P.1 strain of SARS-CoV-2	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none">• Variants P.1, B.1.351 and B.1.1.7 all have mutations in the ACE2 binding site. P.1 and B.1.351 have a virtually identical triplet: E484K, K417N/T and N501Y, which confers similar increased affinity for ACE2.• P.1 is significantly less resistant to naturally acquired or vaccine induced antibody responses than B.1.351 suggesting that changes outside the RBD impact neutralisation.• Monoclonal antibody 222 neutralises all three variants despite interacting with two of the ACE2 binding site mutations.
16.03.2021	Antibody Response After SARS-CoV-2 Infection and Implications for Immunity : A Rapid Living Review	Ann Intern Med / Review	<ul style="list-style-type: none">• Rapid living review found moderate-strength evidence that: i) most adults develop detectable levels of IgM and IgG antibodies after infection with SARS-CoV-2; ii) IgG levels peak approximately 25 days after symptom onset and may remain detectable for at least 120 days; and iii) IgM levels peak at approximately 20 days and then decline.
17.03.2021	Assessment of protection against reinfection with SARS-CoV-2 among 4 million PCR-tested individuals in Denmark in 2020: a population-level observational study	The Lancet / Article	<ul style="list-style-type: none">• Authors used Danish national surveillance dataset of test results to estimate degree to which previous infection with SARS-CoV-2 results in protection against repeat infection.• Protection in population 80% or higher in those younger than 65 years; 47.1% (95% CI 24.7–62.8) in those aged 65 years and older.• No signs of waning protection against repeat infection within the year 2020.
15.03.2021	Reinfection Rates among Patients who Previously Tested Positive for COVID-19: a Retrospective Cohort Study	Clin Infect Dis / Accepted manuscript	<ul style="list-style-type: none">• Retrospective cohort study (150,325 patients; 8,845 testing positive by 30 Aug 2021): protection offered from prior infection 81.8%, and against symptomatic infection was 84.5%.• This protection increased over time, suggesting that viral shedding or ongoing immune response may persist beyond 90 days and may not represent true reinfection.

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Vaccines

Publication Date	Title/URL	Journal / Article type	Digest
09.02.2021	A preliminary report of a randomized controlled phase 2 trial of the safety and immunogenicity of mRNA-1273 SARS-CoV-2 vaccine	Vaccine / Article	<ul style="list-style-type: none"> Phase 2 randomised controlled trial with 600 participants: 300 aged ≥ 18-<55 years ("younger"), and 300 aged ≥ 55 years ("older"). mRNA-1273 (Moderna) SARS-CoV-2 vaccine at 50 and 100 μg elicits robust immune responses in healthy adults. Immunogenicity is generally similar in younger (18–55 yr) and older (≥ 55 yr) adults. • Safety profile of mRNA-1273 is acceptable; no serious adverse effects were observed. Results support 2-dose regimens of 50 or 100 μg mRNA-1273 vaccine.
12.03.2021	An observational cohort study on the incidence of SARS-CoV-2 infection and B.1.1.7 variant infection in healthcare workers by antibody and vaccination status	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Longitudinal study of 13,109 healthcare workers (HCWs) in Oxfordshire, UK, of which 8285 received the Pfizer-BioNTech vaccine (1407 two doses) and 2738 the Oxford-AstraZeneca vaccine (49 two doses). Natural infection resulting in detectable anti-spike antibodies and two vaccine doses both provided $\geq 85\%$ protection against symptomatic and asymptomatic SARS-CoV-2 infection in HCWs, including against the B.1.1.7 variant. Single dose vaccination reduced symptomatic infection by 67%.
14.03.2021	Are vaccines safe in patients with Long COVID? A prospective observational study	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> In a study of 66 participants with Long Covid, receipt of vaccination (n=44) with either Pfizer-BioNTech or Oxford-AstraZeneca vaccine was not associated with a worsening of Long Covid symptoms, quality of life, or mental wellbeing. Individuals with prolonged COVID-19 symptoms should receive vaccinations as suggested by national guidance.
15.03.2021	BNT162b2 mRNA COVID-19 vaccine induces antibodies of broader cross-reactivity than natural infection but recognition of mutant viruses is up to 10-fold reduced	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> Findings suggest that BNT162b2 (Pfizer–BioNTech) vaccine-induced antibodies improved recognition of mutant viruses compared to those induced by natural infection, however recognition may be 10-fold reduced for the variants B.1.351 and P.1.
12.03.2021	Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households	Public Health Scotland (non-peer reviewed) / Article	<ul style="list-style-type: none"> Cohort study of 194,362 household members and 144,525 healthcare workers (HCW) in Scotland; 113,253 (78.3%) of HCW received at least one dose of BNT162b2 (Pfizer–BioNTech) or ChAdOx1 (Oxford-AstraZeneca) vaccine; 36,227 (25.1%) received second dose. Household members of vaccinated HCW had lower risk of COVID-19 case compared to household members of unvaccinated HCW. Effect

			<p>size for COVID-19 hospitalisation was similar.</p> <ul style="list-style-type: none"> • Compared to the period before the first dose, the risk of documented COVID-19 case was lower at ≥ 14 days after the second dose for household members and HCW. • Associated commentary: https://www.sciencemediacentre.org/expert-reaction-to-observational-study-on-transmission-of-covid-19-in-households-of-vaccinated-healthcare-workers/
15.03.2021	Effectiveness of the Pfizer-BioNTech COVID-19 Vaccine Among Residents of Two Skilled Nursing Facilities Experiencing COVID-19 Outbreaks — Connecticut, December 2020–February 2021	MMWR Morb Mortal Wkly Rep / Early release	<ul style="list-style-type: none"> • A retrospective cohort study of residents (N=463) in two skilled nursing facilities (SNF) in Connecticut, USA found partial vaccination with Pfizer-BioNTech COVID-19 vaccine (from >14 days after dose 1 through 7 days after dose 2) to be 63% effective against SARS-CoV-2 infection.
16.03.2021	Efficacy of the ChAdOx1 nCoV-19 Covid-19 Vaccine against the B.1.351 Variant	N Engl J Med / Article	<ul style="list-style-type: none"> • A two-dose regimen of ChAdOx1 (AstraZeneca) vaccine didn't show protection against mild-to-moderate Covid-19 due to B.1.351 (501Y.V2) variant first identified in South Africa. • All 42 COVID-19 cases mild (15 vaccine recipients/17 placebo recipients) or moderate (4 vaccine recipients/6 placebo recipients); no severe disease or hospitalization in either group.
17.03.2021	Impact of COVID-19 vaccination programme on seroprevalence in blood donors in England, 2021	Public Health England (non-peer reviewed)/ Article	<ul style="list-style-type: none"> • Approximately 93% of the English population aged 70+years received at least 1 dose of either the Pfizer-BioNTech or Oxford-AstraZeneca vaccines by 7 March 2021. • Routine testing suggests 75.8% of 70-84 year old blood donors across England had COVID-19 antibodies by early March; 5.6% were from natural infection, suggesting robust immune response to a single vaccine dose. • In the population as a whole, 37.7% had antibodies; 16-29 year olds remain the group with the highest proportion of antibodies after natural infection. • Associated press release: https://www.gov.uk/government/news/phe-study-shows-three-quarters-of-over-70s-have-covid-19-antibodies
17.03.2021	Interim results of the safety and immune-efficacy of 1 versus 2 doses of COVID-19 vaccine BNT162b2 for cancer patients in the context of the UK vaccine priority guidelines	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • BNT162b.2 (Pfizer-BioNTech) vaccine was largely well tolerated in a study of 54 healthy controls and 151 mostly elderly cancer patients with solid and haematological malignancies. • Immune efficacy of a single inoculum in solid cancer patients and haematological cancer patients ($<40\%$ and $<15\%$, respectively) was very low compared to healthy controls ($>90\%$).

			<ul style="list-style-type: none"> • Efficacy in solid cancer patients was rapidly increased by boosting at 21-days (95% within 2 weeks of boost). Too few haematological cancer patients were boosted for clear conclusions to be drawn. • Associated press release: https://www.kcl.ac.uk/news/delaying-second-vaccine-dose-cancer-patients-vulnerable-virus
11.03.2021	Predictors of attitudes and adherence to COVID-19 public health guidelines in Western countries: a rapid review of the emerging literature	J Public Health (Oxf) / Article	<ul style="list-style-type: none"> • Findings of a rapid review (29 studies in the final synthesis) suggests individuals who are older, female, trust governments, perceive COVID-19 as threatening, and access information through traditional news media are more likely to adhere with COVID-19 public health guidelines. • Interventions for improving adherence have not yet been investigated thoroughly.
10.03.2021	Predictors of COVID-19 vaccine hesitancy in the UK Household Longitudinal Study	Brain Behav Immun / Article	<ul style="list-style-type: none"> • Survey of vaccine hesitancy in the UK (12,035 participants) found overall hesitancy was low (18% unlikely/very unlikely). • Vaccine hesitancy was higher in women (21.0% vs 14.7%), younger age groups (26.5% in 16-24 year olds vs 4.5% in 75+) and those with lower education levels (18.6% no qualifications vs 13.2% degree qualified). • Vaccine hesitancy was high in Black (71.8%) and Pakistani/Bangladeshi (42.3%) ethnic groups. • Previously included as a preprint

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Diagnostics and genomics

Publication Date	Title/URL	Journal / Article type	Digest
13.03.2021	A potential SARS-CoV-2 variant of interest (VOI) harboring mutation E484K in the Spike protein was identified within lineage B.1.1.33 circulating in Brazil	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Reports the identification of a new SARS-CoV-2 variant of interest (VOI) within lineage B.1.1.33 that harbors mutation S:E484K and was detected in Brazil between November 2020 and February 2021. • This VOI displayed four non-synonymous lineage-defining mutations (NSP3:A1711V, NSP6:F36L, S:E484K, and NS7b:E33A) and was designated as lineage N.9. • N.9 probably emerged in August 2020 and has spread across several Brazilian states.

12.03.2021	Age-dependent impact of the major common genetic risk factor for COVID-19 on severity and mortality	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • The major common COVID-19 risk locus on chromosome 3 (rs10490770) is associated with increased risks of morbidity and mortality, and these are more pronounced amongst individuals ≤ 60 years. • The effect on COVID-19 severity was similar to, or larger than most established risk factors, suggesting potential implications for clinical risk management.
12.03.2021	Analysis of severe outcomes associated with the SARS-CoV-2 Variant of Concern 202012/01 in England using ICNARC Case Mix Programme and QResearch databases	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Cohort study of 198,420 patients (80,494 with VOC B.1.1.7) found a 60% higher risk of 28-day mortality associated with VOC B.1.1.7 infection in patients tested in the community in comparison with the original variant, when adjusted for key confounding variables. • Risk of critical care admission for those with VOC B.1.1.7 is double the risk associated with the original variant. • For patients receiving critical care (n=3432), the infecting variant is not associated with the risk of mortality at the end of critical care.
18.03.2021	Case fatality risk of the SARS-CoV-2 variant of concern B.1.1.7 in England, 16 November to 5 February	Eurosurveillance / Rapid communication	<ul style="list-style-type: none"> • Study suggests increased risk of death for B.1.1.7 variant of concern (VOC) compared with non-VOC cases in England (HR: 1.67). • Absolute risk of death by 28-days increased with age and comorbidities. • VOC has potential to spread faster with higher mortality than the pandemic to date. • Note: preprint was included in previous Digest.
15.03.2021	Durability of SARS-CoV-2-specific IgG responses in saliva for up to 8 months after infection	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Evaluated durability of IgG responses specific to SARS-CoV-2 nucleocapsid (N), receptor binding domain (RBD), and spike (S) antigens in saliva up to 8 months after confirmed COVID-19 infection. • Estimates a half-life of 64 days for N, 100 days for RBD, and 148 days for S IgG responses in saliva, consistent with half-life estimates previously reported in blood. • Saliva can serve as an alternative to blood to monitor humoral immune responses on a large scale following natural SARS-CoV-2 infection and vaccination.
23.02.2021	Evidence of escape of SARS-CoV-2 variant B.1.351 from natural and vaccine-induced sera	Cell / Article	<ul style="list-style-type: none"> • Structure-function analysis of B.1.351 variant (first identified in South Africa) using a large cohort of convalescent and vaccinee serum samples. • B.1.351 neutralization titer reduced 8- to 9-fold for Pfizer and AstraZeneca vaccinees • In a number of cases, it would appear that convalescent and some vaccine serum offers limited protection against this variant.

15.03.2021	Increased mortality in community-tested cases of SARS-CoV-2 lineage B.1.1.7	Nature / Article	<ul style="list-style-type: none"> • Dataset linking positive community tests / COVID-19 deaths in England 1 Sept 2020 - 14 Feb 2021: for 1,146,534 tests (51%), presence or absence of B.1.1.7 can be identified • 61% (42–82%) higher hazard of death associated with B.1.1.7. Analysis suggests both more transmissible than preexisting SARS-CoV-2 variants and may cause more severe illness.
12.03.2021	Multiple SARS-CoV-2 variants escape neutralization by vaccine-induced humoral immunity	Cell / Article	<ul style="list-style-type: none"> • Study evaluated neutralisation potency of 99 individuals receiving one or two doses BNT162b2 or mRNA-1273 vaccines against pseudoviruses representing 10 SARS-CoV-2 strains • Five of the 10 pseudoviruses, harboring receptor-binding domain mutations, including K417N/T, E484K, and N501Y, were highly resistant to neutralisation. • Results suggested that a relatively small number of mutations can mediate potent escape from vaccine responses.

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Epidemiology and clinical - children and pregnancy

Publication Date	Title/URL	Journal / Article type	Digest
09.03.2021	Factors linked to severe outcomes in multisystem inflammatory syndrome in children (MIS-C) in the USA: a retrospective surveillance study	Lancet Child Adolesc Health / Article	<ul style="list-style-type: none"> • Retrospective surveillance study of 1080 patients under 21 years old who met the criteria of Multisystem Inflammatory Syndrome in Children (MIS-C). • Data suggests children older than 5 years, boys, and non-Hispanic Black children were more likely to have severe outcomes. • Two symptoms (shortness of breath and abdominal pain) and increased concentrations of several laboratory markers were significantly associated with ICU admission.
12.03.2021	Household SARS-CoV-2 transmission and children: a network prospective study	Clin Infect Dis / Accepted manuscript	<ul style="list-style-type: none"> • Spanish study of 1040 COVID-19 patients <16 years. Almost half (47.2%) were asymptomatic, 10.8% had comorbidities, 2.6% required hospitalisation. No deaths reported. • Viral transmission common among household members (62.3%). More than 70% (756/1040) of pediatric cases were secondary to an adult. 7.7% (80/1040) were index cases. • SAR significantly lower in households with COVID-19 pediatric index cases during school period relative to summer ($p=0.02$), and when compared to adults ($p=0.006$).

			<ul style="list-style-type: none"> • Children are unlikely to cause household COVID-19 clusters or be major drivers of the pandemic even if attending school.
16.03.2021	Post-COVID-19 paediatric inflammatory multisystem syndrome: association of ethnicity, key worker and socioeconomic status with risk and severity	Arch Dis Child / Original research	<ul style="list-style-type: none"> • South East England cohort study of 70 children with PIMS-TS; association of ethnicity, socioeconomic and family key worker status with incidence and severity. • Higher risk for PIMS-TS for children: living in postcodes with higher socioeconomic deprivation; from ethnic minority groups; in key worker families.
16.03.2021	SARS-CoV-2 infection and transmission in primary schools in England in June - December, 2020 (sKIDs): an active, prospective surveillance study	The Lancet Child & Adolescent Health / Article	<ul style="list-style-type: none"> • Surveillance identified very low rates of SARS-CoV-2 infection in 31 primary schools during summer half-term in England, when schools reopened only for certain year groups. • Only three of 40,501 swabs from 11,966 participants had confirmed SARS-CoV-2 infection. • Similar seropositivity rates indicate that students are as likely to get infected as staff but more likely to have asymptomatic or mild illness. • Seroconversion was associated with region ($p=0.012$) and ethnicity ($p=0.0023$). No difference was reported by sex ($p=0.33$), or between staff and students ($p=0.36$).
10.03.2021	School reopening without robust COVID-19 mitigation risks accelerating the pandemic	Lancet / Correspondence	<ul style="list-style-type: none"> • Summary of recommendations in line with US CDC and practised in many countries to reduce the risk of transmission in schools / mitigate COVID-19 impact on children and families.

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Epidemiology and clinical - long-term complications / sequelae

Publication Date	Title/URL	Journal / Article type	Digest
17.03.2021	Four-Month Clinical Status of a Cohort of Patients After Hospitalization for COVID-19	JAMA / Original Investigation	<ul style="list-style-type: none"> • Uncontrolled cohort study of 478 COVID-19 survivors: 4 months after hospitalisation, at least 1 new-onset symptom reported by 244 patients (51%), including fatigue in 134 of 431 (31%), cognitive symptoms 86/416 (21%), dyspnea 78/478 (16%). • Computed tomographic lung scan abnormalities reported in 63% of 171 patients assessed at ambulatory visit, mainly subtle ground-glass opacities; fibrotic lesions in 19%. • Associated editorial: https://jamanetwork.com/journals/jama/fullarticle/2777784

09.03.2021	Gastrointestinal sequelae 90 days after discharge for COVID-19	Lancet Gastroenterol Hepatol / Correspondence	<ul style="list-style-type: none"> • In a cohort of 117 COVID-19 patients, gastrointestinal sequelae including loss of appetite, nausea, acid reflux, and diarrhoea were common 3 months following discharge from hospital. • Severe illness during hospitalisation was not associated with post-discharge gastrointestinal sequelae. • Decreased blood oxygen saturation, a symptom closely related to severe pneumonia, was found to be associated with gastrointestinal sequelae.
16.03.2021	Living with Covid19 – Second review	NIHR / Themed review	<ul style="list-style-type: none"> • The second of two dynamic reviews of the evidence around people's experience of Long Covid concludes that the journey is not well understood. • There is a growing list of associated symptoms, but we know little about different clusters and patterns of symptoms. • There is increasing evidence of: i) organ impairment in both people who were admitted to hospital and those who stayed at home; and ii) a group of people with cognitive processing disorders and anxiety with some indication of neurological rather than social cause. • Makes recommendations for future research. Associated press release: https://www.nihr.ac.uk/news/nihr-publishes-second-themed-review-on-long-covid/27232
12.03.2021	Multicentre cohort study on symptoms and quality of life following hospitalisation for COVID-19 - preliminary results, 25 February 2021	Gov.uk / Research and analysis	<ul style="list-style-type: none"> • In a cohort of 325 previously hospitalised COVID-19 patients, 54% (177/325) reported feeling not fully recovered at follow-up (median 7 months); 77% experienced fatigue, 54% were more breathless compared to before, and 24% had a new disability in sight, walking, memory, self-care and/or communication. • Outcomes were worse in working age females than males. • Participants who had required invasive ventilation were four times more likely to report an incomplete recovery.

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Epidemiology and clinical – risk factors

Publication Date	Title/URL	Journal / Article type	Digest
12.03.2021	Clinical presentation, disease course and outcome of COVID-19 in hospitalized patients with and without pre-existing	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Analyses data from the CAPACITY-COVID registry and LEOSS study (10,481 patients with COVID-19; 30.5% with history of cardiac disease) • Mortality was higher in patients with cardiac disease, however

	cardiac disease: a cohort study across sixteen countries		<p>following multivariable adjustment this difference was not significant.</p> <ul style="list-style-type: none"> • Associations with in-hospital mortality by heart disease subtypes differed considerably, with the strongest association for NYHA III/IV heart failure and atrial fibrillation. • None of the other heart disease subtypes, including ischemic heart disease, remained significant after multivariable adjustment.
11.03.2021	UK prevalence of underlying conditions which increase the risk of severe COVID-19 disease: a point prevalence study using electronic health records	BMC Public Health / Research article	<ul style="list-style-type: none"> • Analysis of health records suggests on 5 March 2019, 24.4% of the UK population were at risk of severe COVID-19 due to a record of at least one underlying health condition, including 8.3% of school-aged children, 19.6% of working-aged adults, and 66.2% of individuals aged 70 years or more; 7.1% of the population had multimorbidity. • The size of the at-risk population was stable over time comparing 2014 to 2019. • Authors provide age- and region- stratified prevalence for each condition to support effective modelling of public health interventions and planning of vaccine allocation.

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Epidemiology and clinical – other

Publication Date	Title/URL	Journal / Article type	Digest
12.03.2021	Disulfiram associated with lower risk of Covid-19: a retrospective cohort study	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Retrospective cohort study analysed 2,233 US Veterans who took disulfiram, a drug used to treat alcohol dependency, of which 188 had a positive SARS-Cov-2 test. • Results after adjustment suggest that disulfiram use contributes to a reduced incidence of COVID-19 infection. • Given the known anti-inflammatory and anti-protease effects of disulfiram, its low cost, low side effects, and general availability, it is reasonable and urgent to initiate accelerated clinical trials to assess the effect of disulfiram on infection and the development of advanced disease.
16.03.2021	Spread of a Variant SARS-CoV-2 in Long-Term Care Facilities in England	N Engl J Med / Correspondence	<ul style="list-style-type: none"> • COVID-19 testing of staff and residents of long-term care facilities (LTCF) throughout England (143,994 samples) suggests the B.1.1.7 variant spread rapidly from the community into LTCF in the South East and East of England regions and London in November and December 2020.

Infection control / non-pharmaceutical interventions

Publication Date	Title/URL	Journal / Article type	Digest
17.03.2021	An integrated analysis of contact tracing and genomics to assess the efficacy of travel restrictions on SARS-CoV-2 introduction and transmission in England from June to September, 2020	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Study identified 4,207 travel-related COVID-19 cases in England during Summer 2020; 51.2% (2155/4207) reported travel to either Greece (21.0%; 882) Croatia (16.3%; 685) or Spain (14.0%; 589). • Travel restriction (14 day quarantine on return to England) was associated with a 40% lower rate of contacts. • Fewer genomically-linked cases were observed for index cases related to countries with travel restrictions compared to cases from non-travel restriction countries. • A large travel-related cluster dispersed across England is identified through genomics, confirmed with contact-tracing data.
11.03.2021	Audit of qualitative fit testing for FFP3 respirators	Br Dent J / Research	<ul style="list-style-type: none"> • Of 583 urgent dental care staff in Yorkshire and the Humber fit tested with a filtering facepiece (FFP3) respirator, 80.6% (470/583) passed the test and 19.4% (113/583) failed. • Of those, 479 individuals were fitted with a 3M 1873V respirator, of which 82.7% (396/479) passed the test and 17.3% (83/479) failed. • This audit enabled efficient resolution of problems associated with fit testing, informed learning needs and highlighted that a significant proportion of individuals are unable to wear certain makes/models of respirators.
12.03.2021	Engagement with daily testing instead of self-isolating in contacts of confirmed cases of SARS-CoV-2	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Cross-sectional survey of adult contacts of confirmed COVID-19 cases who were invited to participate in seven days of daily testing with a lateral flow device instead of self-isolation. • Data suggests daily testing is potentially acceptable, and may facilitate sharing contact details of close contacts among those who test positive for COVID-19, and promote adherence to self-isolation. • The impact of receiving a negative test on behaviour remains a risk that needs to be monitored and mitigated by appropriate messaging.
18.03.2021	The impact of social and physical distancing measures on COVID-19 activity in England: findings from a multi-tiered surveillance system	Eurosurveillance / Rapid communication	<ul style="list-style-type: none"> • Evidence from a multi-tiered surveillance system suggests mandatory physical distancing measures in March 2020 had a clear impact on COVID-19 activity during the first wave in England. • First detected as a reduction in self-reported relevant symptoms and

		<p>presentations to community healthcare services, followed by reduction in hospitalisations and critical care admissions and subsequently a reduction in deaths among COVID-19 confirmed cases and all-cause mortality.</p> <ul style="list-style-type: none"> • Timing of reductions was generally in line with expected intervals between infection and the respective outcome measures.
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Transmission

Publication Date	Title/URL	Journal / Article type	Digest
13.03.2021	Persistence of SARS-CoV-2 virus and viral RNA on hydrophobic and hydrophilic surfaces and investigating contamination concentration	bioRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> • Investigated viability over time of SARS-CoV-2 dried onto a range of materials (surgical mask, stainless steel, polyester shirt, cotton shirt). • SARS-CoV-2 is most stable on non-porous hydrophobic surfaces. • RNA is highly stable when dried on surfaces with only one log reduction in recovery over 21 days. • SARS-CoV-2 viability reduced more rapidly, but this loss in viability was found to be independent of starting concentration. • Expected levels of SARS-CoV-2 viable environmental surface contamination would lead to undetectable levels within two days; when RNA is detected on surfaces it does not directly indicate presence of viable virus even at high CT values.

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Treatment

Publication Date	Title/URL	Journal / Article type	Digest
18.03.2021	Interleukin-6 blocking agents for treating COVID-19: a living systematic review	Cochrane Database Syst Rev / Review	<ul style="list-style-type: none"> • Review assessing effectiveness and safety of IL-6 blocking agents for COVID-19. Ten RCTs with reported results identified; mainly patients with moderate-severe disease. • On average, tocilizumab reduces all-cause mortality at day 28 and probably results in slightly fewer serious adverse events compared to standard care alone or placebo. It is likely that tocilizumab increases time to clinical improvement and decreases time to intubation or

		death. Nevertheless, tocilizumab probably results in little or no increase in the outcome clinical improvement (defined as hospital discharge or improvement on the scale used by trialists) at day 28. The impact of tocilizumab on other outcomes is uncertain. <ul style="list-style-type: none"> • Evidence for an effect of sarilumab is uncertain and evidence for other anti-IL6 agents are not available.
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Guidance and consensus statements

Publication Date	Title/URL	Journal / Article type
15.03.2021	COVID-19: investigation and management of suspected SARS-CoV-2 reinfections	Gov.uk / Guidance

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Overviews, comments and editorials

Publication Date	Title/URL	Journal / Article type
16.03.2021	Correcting COVID-19 vaccine misinformation: Lancet Commission on COVID-19 Vaccines and Therapeutics Task Force Members	EClinicalMedicine / Commentary
16.03.2021	High COVID-19 death rates in prisons in England and Wales, and the need for early vaccination	The Lancet Respiratory Medicine / Spotlight
12.03.2021	Immunity to SARS-CoV-2 variants of concern	Science / Perspective
17.03.2021	Risk of SARS-CoV-2 reinfection after natural infection	The Lancet / Comment
10.03.2021	Surveillance of SARS-CoV-2 in Zimbabwe shows dominance of variants of concern	Lancet Microbe / Correspondence
15.03.2021	The first 12 months of COVID-19: a timeline of immunological insights	Nat Rev Immunol / Perspective

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