



## International EPI Cell Daily Evidence Digest – 17/07/2020

This Daily Evidence Digest is produced by the PHE COVID-19 Literature Digest Team as a resource for professionals working in public health. We do not accept responsibility for the availability, reliability or content of the items included in this resource and do not necessarily endorse the views expressed within them. The papers are organised under the following themes:

- Serology and immunology
- Diagnostics
- Genomics
- Epidemiology and clinical - children and pregnancy
- Epidemiology and clinical - risk factors
- Epidemiology and clinical - other
- Infection control
- Treatment
- Overviews, comments and editorials (no digest)

Please note that we are including preprints (**highlighted in red**), which are preliminary reports of work that have NOT been peer-reviewed. They should not be relied on to guide clinical practice or health-related behaviour and should NOT be reported in news media as established information.

### Serology and immunology

Publication Date	Title/URL	Journal/ Article type	Digest
16.07.2020	<a href="#">Convalescent plasma treatment for SARS-CoV-2 infection: analysis of the first 436 donors in England, 22 April to 12 May 2020</a>	Eurosurveillance / Rapid communication	<ul style="list-style-type: none"><li>• Serological reactivity was analysed in plasma from 436 individuals with a history of disease compatible with COVID-19, including 256 who had been laboratory-confirmed with SARS-CoV-2 infection.</li><li>• Over 99% of laboratory-confirmed cases developed a measurable antibody response (254/256) and 88% harboured neutralising antibodies (226/256).</li><li>• Antibody levels declined over 3 months following diagnosis,</li></ul>

			<p>emphasising the importance of the timing of convalescent plasma collections.</p> <ul style="list-style-type: none"> <li>• Binding antibody measurements can inform selection of convalescent plasma donors with high neutralising antibody levels.</li> </ul>
16.07.2020	<a href="#">SARS-CoV-2 IgG seroprevalence in blood donors located in three different federal states, Germany, March to June 2020</a>	Eurosurveillance / Rapid communication	<ul style="list-style-type: none"> <li>• Determined seroprevalence of IgG antibodies against SARS-CoV-2 in 3,186 regular blood donors in three German federal states between 9 Mar and 3 June 2020.</li> <li>• The IgG seroprevalence was 0.91% (95% confidence interval (CI): 0.58–1.24) overall, ranging from 0.66% (95% CI: 0.13–1.19) in Hesse to 1.22% (95% CI: 0.33–2.10) in Lower-Saxony.</li> </ul>
13.07.2020	<a href="#">Low SARS-CoV-2 sero-prevalence based on anonymized residual sero-survey before and after first wave measures in British Columbia, Canada, March-May 2020</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• Estimated sero-prevalence for two periods flanking the start (Mar) and end (May) of first-wave mitigation measures in British Columbia (BC).</li> <li>• Serial cross-sectional sampling was conducted using anonymized residual sera obtained from an outpatient laboratory network, including children and adults in the Greater Vancouver Area.</li> <li>• In Mar, 2/869 specimens were dual-assay positive, with age-standardized sero-prevalence of 0.28% (95%CI=0.03-0.95). Neither specimen had detectable neutralizing antibodies. In May, 4/885 specimens were dual-assay positive, with age-standardized sero-prevalence of 0.55% (95%CI=0.15-1.37%). All four specimens had detectable neutralizing antibodies. They estimate ~8 times more infections than reported cases.</li> <li>• Less than 1% of British Columbians had been infected with SARS-CoV-2 when first-wave mitigation measures were relaxed in May 2020, indicating successful suppression of community transmission in BC.</li> </ul>
15.07.2020	<a href="#">SARS-CoV-2-specific T cell immunity in cases of COVID-19 and SARS, and uninfected controls</a>	Nature / Article	<ul style="list-style-type: none"> <li>• Here, the authors' first studied T cell responses to structural (nucleocapsid protein, NP) and non-structural (NSP-7 and NSP13 of ORF1) regions of SARS-CoV-2 in COVID-19 convalescents (n=36).</li> <li>• In all of them they demonstrate the presence of CD4 and CD8 T cells recognizing multiple regions of the NP protein.</li> <li>• They then show that SARS-recovered patients (n=23) still possess long-lasting memory T cells reactive to SARS-NP 17 years after the 2003 outbreak, which displayed robust cross-reactivity to SARS-CoV-2 NP.</li> <li>• Frequently detected SARS-CoV-2 specific T cells in individuals</li> </ul>

			<p>with no history of SARS, COVID-19 or contact with SARS/COVID-19 patients (n=37).</p> <ul style="list-style-type: none"> <li>• Infection with betacoronaviruses induces multispecific and long-lasting T cell immunity to the structural protein NP.</li> </ul>
14.07.2020	<a href="#">SARS-CoV-2 proteome microarray for global profiling of COVID-19 specific IgG and IgM responses</a>	Nat Commun / Article	<ul style="list-style-type: none"> <li>• Constructed a SARS-CoV-2 proteome microarray containing 18 out of the 28 predicted proteins and applied it to the characterization of the IgG and IgM antibodies responses in the sera from 29 convalescent patients.</li> <li>• Found that all these patients had IgG and IgM antibodies that specifically bind SARS-CoV-2 proteins, particularly the N protein and S1 protein.</li> </ul>
16.07.2020	<a href="#">Monoclonal antibodies for the S2 subunit of spike of SARS-CoV-1 cross-react with the newly-emerged SARS-CoV-2</a>	Eurosurveillance / Article	<ul style="list-style-type: none"> <li>• The cross-reactivity with SARS-CoV-2 of monoclonal antibodies (mAbs) previously generated against the S protein of SARS-CoV-1 was assessed.</li> <li>• An immunogenic domain in the S2 subunit of SARS-CoV-1 S protein is highly conserved in SARS-CoV-2 but not in MERS and human common-cold coronaviruses.</li> <li>• Four murine mAbs raised against this immunogenic fragment could recognise SARS-CoV-2 S protein expressed in mammalian cell lines. In particular, mAb 1A9 was demonstrated to detect S protein in SARS-CoV-2-infected cells and is suitable for use in a sandwich ELISA format.</li> <li>• The cross-reactive mAbs may serve as useful tools for SARS-CoV-2 research and for the development of diagnostic assays for COVID-19.</li> </ul>
15.07.2020	<a href="#">Potently neutralizing and protective human antibodies against SARS-CoV-2</a>	Nature / Article	<ul style="list-style-type: none"> <li>• From a larger panel of human monoclonal antibodies (mAbs) targeting the spike (S) glycoprotein(5), the authors' identified several that exhibited potent neutralizing activity and fully blocked the receptor-binding domain of S (S(RBD)) from interacting with human ACE2 (hACE2).</li> <li>• In two mouse models of SARS-CoV-2 infection, passive transfer of either COV2-2196 or COV2-2130 alone or a combination of both mAbs protected mice from weight loss and reduced viral burden and inflammation in the lung.</li> <li>• These results identify protective epitopes on S(RBD) and provide a structure-based framework for rational vaccine design and the selection of robust immunotherapeutics.</li> </ul>

## Diagnostics

Publication Date	Title/URL	Journal/ Article type	Digest
16.07.2020	<a href="#">Histopathology and ultrastructural findings of fatal COVID-19 infections in Washington State: a case series</a>	The Lancet / Article	<ul style="list-style-type: none"> <li>• This study aimed to provide a clinicopathological report of severe COVID-19 cases by documenting histopathological changes and evidence of SARS-CoV-2 tissue tropism. Post-mortem examinations were done on 14 people who died with COVID-19.</li> <li>• The primary pathology observed in this study's cohort was diffuse alveolar damage, with virus located in the pneumocytes and tracheal epithelium.</li> <li>• Microthrombi, where observed, were scarce and endotheliitis was not identified.</li> <li>• Although other non-pulmonary organs showed susceptibility to infection, their contribution to the pathogenesis of SARS-CoV-2 infection requires further examination.</li> </ul>

## Genomics

Publication Date	Title/URL	Journal/ Article type	Digest
17.07.2020	<a href="#">Detection and Genetic Characterization of Community-Based SARS-CoV-2 Infections — New York City, March 2020</a>	Morbidity and Mortality Weekly Report (MMWR) / Article	<ul style="list-style-type: none"> <li>• The NYC Department of Health and Mental Hygiene conducted sentinel surveillance of influenza-like symptoms (ILS) and genetic sequencing to characterize community transmission and determine the geographic origin of SARS-CoV-2 infections.</li> <li>• Among 544 specimens tested from persons with ILS and negative influenza test results, 36 (6.6%) were positive, and genetically sequenced positive specimens most closely resembled sequences circulating in Europe.</li> </ul>
15.07.2020	<a href="#">New insights into genetic susceptibility of COVID-19: an ACE2 and TMPRSS2 polymorphism analysis</a>	BMC Med / Correspondence	<ul style="list-style-type: none"> <li>• In this study, the authors' investigated genetic susceptibility to COVID-19 by examining DNA polymorphisms in ACE2 and TMPRSS2 (two key host factors of SARS-CoV-2) from ~ 81,000 human genomes.</li> <li>• This study found unique genetic susceptibility across different populations in ACE2 and TMPRSS2.</li> <li>• Specifically, ACE2 polymorphisms were found to be associated with cardiovascular and pulmonary conditions by altering the</li> </ul>

		<p>angiotensinogen-ACE2 interactions, such as p.Arg514Gly in the African/African-American population.</p> <ul style="list-style-type: none"> <li>• This study suggested that ACE2 or TMPRSS2 DNA polymorphisms were likely associated with genetic susceptibility of COVID-19, which calls for a human genetics initiative for fighting the COVID-19 pandemic.</li> </ul>
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### Epidemiology and clinical - children and pregnancy

Publication Date	Title/URL	Journal/ Article type	Digest
14.07.2020	<a href="#">Transplacental transmission of SARS-CoV-2 infection</a>	Nat Commun / Article	<ul style="list-style-type: none"> <li>• This study demonstrates the transplacental transmission of SARS-CoV-2 in a neonate born to a mother infected in the last trimester and presenting with neurological compromise.</li> <li>• The transmission was confirmed by comprehensive virological and pathological investigations.</li> <li>• In detail, SARS-CoV-2 causes: (1) maternal viremia, (2) placental infection demonstrated by immunohistochemistry and very high viral load; placental inflammation, as shown by histological examination and immunohistochemistry, and (3) neonatal viremia following placental infection.</li> <li>• The neonate presented with neurological manifestations, similar to those described in adult patients.</li> </ul>
14.07.2020	<a href="#">COVID-19 Disease Severity Risk Factors for Pediatric Patients in Italy</a>	Pediatrics / Article	<ul style="list-style-type: none"> <li>• Describes the epidemiological and clinical characteristics of COVID-19 paediatric cases &gt; 18yo in Italy.</li> <li>• Data from the national case-based surveillance system of confirmed COVID-19 infections until May 8, 2020, were analysed.</li> <li>• Paediatric cases (3,836) accounted for 1.8% of total infections (216,305), the median age was 11 years, 51.4% were males, 13.3% were hospitalized, and 5.4% presented underlying medical conditions.</li> <li>• The disease was mild in 32.4% of cases and severe in 4.3%, particularly in children ≤6 years old (10.8%); among 511 hospitalized patients, 3.5% were admitted in ICU, and four deaths occurred.</li> <li>• Data suggest that paediatric cases of COVID-19 are less severe</li> </ul>

than adults, however, age  $\leq 1$  year and the presence of underlying conditions represent severity risk factors.

## Epidemiology and clinical - risk factors

Publication Date	Title/URL	Journal/ Article type	Digest
16.07.2020	<a href="#">All-cause excess mortality observed by age group and regions in the first wave of the COVID-19 pandemic in England</a>	Eurosurveillance / Rapid communication	<ul style="list-style-type: none"> <li>• This study describes the exceptionally high all-cause excess mortality which has been observed during the COVID-19 pandemic in England, up to calendar week 20 (week ending 17 May 2020).</li> <li>• The excess observed during the pandemic was higher than excesses noted in the past 5 years.</li> <li>• It concerned all regions and all age groups, except 0–14 year olds, but was more pronounced in the London region and in those aged <math>\geq 85</math> years.</li> </ul>
16.07.2020	<a href="#">Estimating the burden of COVID-19 on mortality, life expectancy and lifespan inequality in England and Wales: A population-level study</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• Demographic analysis of all-cause mortality was conducted to determine the impact of the COVID-19 pandemic on mortality, life expectancy and lifespan inequality in the first half of 2020 in England and Wales.</li> <li>• There have been an estimated 53,937 (95% Prediction Interval: 53,092, 54,746) excess deaths in the first half of 2020, 54% of which occurred in men.</li> <li>• Excess deaths increased sharply with age and men experienced elevated risks of death in all age groups.</li> <li>• Life expectancy at birth dropped 1.7 and 1.9 years for females and males relative to the 2019 levels, respectively. Lifespan inequality fell over the same period.</li> </ul>
14.07.2020	<a href="#">Place and causes of acute cardiovascular mortality during the COVID19 pandemic: retrospective cohort study of 580,972 deaths in England and Wales, 2014 to 2020</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• A retrospective cohort study described the place and causes of acute cardiovascular (CV) deaths (n=580,972) in adults (age <math>\geq 18</math> years) between 1st Jan 2014 and 2nd June 2020 in England and Wales.</li> <li>• The COVID-19 pandemic has resulted in an inflation in acute CV deaths above that expected for the time of year, nearly half of which occurred in the community. The most common cause of acute CV death was stroke (8,290, 36.3%) followed by acute</li> </ul>

			coronary syndrome (5,532, 24.2%) and heart failure (5,280, 23.1%).
15.07.2020	<a href="#">Risk Factors Associated With Mortality Among Patients With COVID-19 in Intensive Care Units in Lombardy, Italy</a>	JAMA Internal Medicine / Original investigation	<ul style="list-style-type: none"> <li>• Identified the risk factors associated with mortality among critically ill patients with laboratory-confirmed COVID-19 admitted to ICU in Lombardy, Italy.</li> <li>• In this cohort study that involved 3988 critically ill patients admitted from Feb 20 to Apr 22, 2020, the hospital mortality rate as of May 30 was 12/1000 patient-days after a median observation time of 70 days.</li> <li>• In the subgroup of the first 1715 patients, 865 (50.4%) had been discharged from the ICU, 836 (48.7%) had died in the ICU, and 14 (0.8%) were still in the ICU, 915 patients died in the hospital for overall hospital mortality of 53.4%.</li> </ul>
17.07.2020	<a href="#">Characteristics of Persons Who Died with COVID-19 - United States, February 12-May 18, 2020</a>	Morbidity and Mortality Weekly Report (MMWR) / Article	<ul style="list-style-type: none"> <li>• Analysis of supplementary data for 10,647 decedents in 16 public health jurisdictions found that a majority were aged ≥65 years and most had underlying medical conditions.</li> <li>• Overall, 34.9% of Hispanic and 29.5% of non-white decedents were aged &lt;65 years, compared with 13.2% of white, non-Hispanic decedents. Among decedents aged &lt;65 years, a total of 7.8% died in an emergency department or at home.</li> </ul>
15.07.2020	<a href="#">Factors Associated With Death in Critically Ill Patients With Coronavirus Disease 2019 in the US</a>	JAMA Internal Medicine / Original investigation	<ul style="list-style-type: none"> <li>• This study assessed factors associated with death to examine inter-hospital variation in treatment and outcomes for patients with COVID-19.</li> <li>• This multi-centre cohort study assessed 2215 adults with laboratory-confirmed COVID-19 who were admitted to ICUs at 65 hospitals across the US from Mar 4 to Apr 4, 2020.</li> <li>• Hospitals varied considerably in the risk-adjusted proportion of patients who died (range, 6.6%-80.8%) and in the percentage of patients who received hydroxychloroquine, tocilizumab, and other treatments and supportive therapies.</li> <li>• The study identified demographic, clinical, and hospital-level risk factors that may be associated with death in critically ill patients with COVID-19 and can facilitate the identification of medications and supportive therapies to improve outcomes.</li> </ul>
15.07.2020	<a href="#">The First Consecutive 5000 Patients with Coronavirus Disease 2019 from Qatar; a Nation-wide Cohort Study</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• A retrospective cohort study including the first consecutive 5000 patients with COVID-19 in Qatar who completed 60 days of follow up by June 17, 2020. Outcomes included all-cause mortality at 60 days after COVID-19 diagnosis, and risk factors for admission to</li> </ul>

			<p>ICU.</p> <ul style="list-style-type: none"> <li>• The majority (4436, 88.7%) were males and the median age was 35 years. By 60 days after COVID-19 diagnosis, 14 patients (0.28%) had died, 10 (0.2%) were still in hospital, and two (0.04%) were still in ICU.</li> <li>• A total of 1424 patients (28.5%) required hospitalization, out of which 108 (7.6%) were admitted to ICU. Most frequent co-morbidities in hospitalized adults were diabetes (23.2%), and hypertension (20.7%).</li> <li>• In a relatively younger national cohort with a low co-morbidity burden, COVID-19 was associated with low all-cause mortality. Independent risk factors for ICU admission included older age, male sex, higher BMI, and co-existing diabetes or chronic kidney disease.</li> </ul>
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#### Epidemiology and clinical – other

Publication Date	Title/URL	Journal/ Article type	Digest
15.07.2020	<a href="#">Presymptomatic Transmission of SARS-CoV-2 Amongst Residents and Staff at a Skilled Nursing Facility: Results of Real-Time PCR and Serologic Testing</a>	Clin Infect Dis / Article	<ul style="list-style-type: none"> <li>• High rates of asymptomatic infection suggest benefits to routine testing in congregate care settings.</li> <li>• SARS-CoV-2 screening was undertaken in a single nursing facility without a known case of COVID-19, demonstrating an 85% prevalence among residents and 37% among staff.</li> <li>• Serology was not helpful in identifying infections.</li> </ul>
14.07.2020	<a href="#">Covid-19 infection and attributable mortality in UK Long Term Care Facilities: Cohort study using active surveillance and electronic records (March-June 2020)</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• A cohort study using individual-level electronic health records from 8,713 residents and daily counts of infection for 9,339 residents and 11,604 staff across 179 UK long-term care facilities.</li> <li>• 1 in 5 residents had symptoms of infection during the pandemic, but many cases were not tested.</li> <li>• Higher occupancy and lower staffing levels increase infection risk.</li> <li>• Disease control measures should integrate active surveillance and testing with fundamental changes in staffing and care home occupancy to protect staff and residents from infection.</li> </ul>

14.07.2020	<a href="#">Oscillations in U.S. COVID-19 Incidence and Mortality Data Reflect Diagnostic and Reporting Factors</a>	mSystems / Research article	<ul style="list-style-type: none"> <li>• The incidence and mortality data for the COVID-19 data in the US show periodic oscillations, giving the curve a distinctive serrated pattern. This study shows that these periodic highs and lows in incidence and mortality data are due to daily differences in testing for the virus and death reporting, respectively.</li> <li>• These findings are important because they provide an explanation based on public health practices and shortcomings rather than biological explanations, such as infection dynamics.</li> <li>• These results suggest that when oscillations occur in epidemiological data, this may be a signal that there are shortcomings in the public health system generating that information.</li> </ul>
15.07.2020	<a href="#">The utility of established prognostic scores in COVID-19 hospital admissions: a multicentre prospective evaluation of CURB-65, NEWS2, and qSOFA</a>	medRxiv (non-peer reviewed)	<ul style="list-style-type: none"> <li>• Due to the lack of a COVID-19 specific tool, clinicians must use pre-existing illness severity scores for initial prognostication.</li> <li>• North West Collaborative Organization for Respiratory Research (NW-CORR) performed a multi-centre prospective evaluation of adult patients (n=830) admitted to hospital with confirmed COVID-19 during a two-week period in Apr 2020.</li> <li>• All existing prognostic scores underestimated mortality compared to their original validation in non-COVID-19 populations, and overall prognostic performance was generally poor.</li> <li>• Among the "low risk" categories (CURB-65&lt;2, NEWS2&lt;5, qSOFA&lt;2) 30-day mortality was 16.7%, 32.9% and 21.4%, respectively.</li> <li>• Multivariable logistic regression identified features of respiratory compromise rather than circulatory collapse as most relevant prognostic variables. New prognostic tools including a focus on features of respiratory compromise rather than circulatory collapse are needed.</li> </ul>

## Infection control

Publication Date	Title/URL	Journal/ Article type	Digest
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16.07.2020	<a href="#">Impact of delays on effectiveness of contact tracing strategies for COVID-19: a modelling study</a>	The Lancet Public Health / Article	<ul style="list-style-type: none"> <li>• Contact tracing via conventional methods or mobile app technology is central to control strategies during de-escalation of physical distancing, and this study aimed to identify key factors for a contact tracing strategy to be successful.</li> <li>• In this study's model, minimising testing delay had the largest impact on reducing onward transmissions.</li> <li>• Optimising testing and tracing coverage and minimising tracing delays, for instance with app-based technology, further enhanced contact tracing effectiveness, with the potential to prevent up to 80% of all transmissions.</li> <li>• Access to testing should therefore be optimised, and mobile app technology might reduce delays in the contact tracing process and optimise contact tracing coverage.</li> </ul>
14.07.2020	<a href="#">A stochastic agent-based model of the SARS-CoV-2 epidemic in France</a>	Nat Med / Letter	<ul style="list-style-type: none"> <li>• Here, the authors' present results of a stochastic agent-based microsimulation model of the COVID-19 epidemic in France.</li> <li>• They examined the potential impact of post-lockdown measures, including physical distancing, mask-wearing and shielding individuals who are the most vulnerable to severe COVID-19 infection, on cumulative disease incidence and mortality, and on ICU-bed occupancy.</li> <li>• While lockdown is effective in containing the viral spread, once lifted, regardless of duration, it would be unlikely to prevent a rebound.</li> <li>• Both physical distancing and mask-wearing, although effective in slowing the epidemic and in reducing mortality, would also be ineffective in ultimately preventing ICUs from becoming overwhelmed and a subsequent second lockdown.</li> <li>• These measures coupled with the shielding of vulnerable people would be associated with better outcomes, including lower mortality and maintaining an adequate ICU capacity to prevent a second lockdown.</li> </ul>
08.07.2020	<a href="#">Physical distancing interventions and incidence of coronavirus disease 2019: natural experiment in 149 countries</a>	BMJ / Research	<ul style="list-style-type: none"> <li>• Evaluated the association between physical distancing interventions and incidence of COVID-19 globally.</li> <li>• The study used 149 countries or regions, with data on daily reported cases of COVID-19 from the ECDC and data on the physical distancing policies from the Oxford covid-19 Government Response Tracker.</li> <li>• Physical distancing interventions were associated with</li> </ul>

			<p>reductions in the incidence of covid-19 globally.</p> <ul style="list-style-type: none"> <li>• No evidence was found of an additional effect of public transport closure when the other four physical distancing measures were in place.</li> <li>• Earlier implementation of lockdown was associated with a larger reduction in the incidence of covid-19.</li> </ul>
17.07.2020	<a href="#">Absence of Apparent Transmission of SARS-CoV-2 from Two Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy - Springfield, Missouri, May 2020</a>	Morbidity and Mortality Weekly Report (MMWR) / Article	<ul style="list-style-type: none"> <li>• Among 139 clients exposed to two symptomatic hair stylists with confirmed COVID-19 while both the stylists and the clients wore face masks, no symptomatic secondary cases were reported; among 67 clients tested for SARS-CoV-2, all test results were negative.</li> <li>• Adherence to the community's and company's face-covering policy likely mitigated spread of SARS-CoV-2.</li> <li>• As stay-at-home orders are lifted, professional and social interactions in the community will present more opportunities for spread of SARS-CoV-2. Broader implementation of face covering policies could mitigate the spread of infection in the general population.</li> </ul>
14.07.2020	<a href="#">Factors Associated with Cloth Face Covering Use Among Adults During the COVID-19 Pandemic — United States, April and May 2020</a>	Morbidity and Mortality Weekly Report (MMWR) / Article	<ul style="list-style-type: none"> <li>• On Apr 3, 2020, the White House Coronavirus Task Force and CDC recommended that persons wear a cloth face covering in public to slow the spread of COVID-19.</li> <li>• After the initial recommendation was released, high rates of cloth face covering use were reported in the US. An increase in the rate of cloth face covering use was observed from Apr to May and was sustained, particularly among non-Hispanic blacks and other races, Hispanics, persons aged ≤39 years, and persons living in the Northeast.</li> <li>• Public health messages should target audiences not wearing cloth face coverings and reinforce positive attitudes, perceived norms, personal agency, and physical and health benefits of obtaining and wearing cloth face coverings consistently and correctly.</li> </ul>
16.07.2020	<a href="#">SARS-CoV-2 and the Role of Orofecal Transmission: Evidence Brief</a>	Oxford COVID-19 Evidence Service / Transmission dynamics	<ul style="list-style-type: none"> <li>• Various observational and mechanistic evidence presented throughout this evidence brief, support the hypothesis that SARS-CoV-2 can infect and be shed from the human gastrointestinal tract.</li> <li>• Policy should emphasise routine surveillance of food, wastewaters and effluent. The importance of strict personal</li> </ul>

		<p>hygiene measures, chlorine-based disinfection of surfaces in locations with presumed or known SARS CoV-2 activity should form part of public policy and education campaigns.</p> <ul style="list-style-type: none"> <li>• Viability of faecal isolates and their possible pathogenicity should be tested in outbreaks, irrespective of the presence of symptoms or nasal swab positivity.</li> </ul>
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## Treatment

Publication Date	Title/URL	Journal/ Article type	Digest
15.07.2020	<a href="#">Effect of Hydroxychloroquine in Hospitalized Patients with COVID-19: Preliminary results from a multi-centre, randomized, controlled trial</a>	medRxiv (non-peer reviewed) / Article	<ul style="list-style-type: none"> <li>• Preliminary results from UK (RECOVERY) randomized, controlled, open-label, platform trial comparing treatment with hydroxychloroquine (n=1561) vs. usual care alone (n=3155) in patients hospitalized with COVID-19.</li> <li>• 418 (26.8%) patients allocated hydroxychloroquine and 788 (25.0%) patients allocated usual care died within 28 days (rate ratio 1.09; 95% confidence interval [CI] 0.96 to 1.23; P=0.18). Consistent results were seen in all pre-specified subgroups of patients.</li> <li>• In patients hospitalized with COVID-19, hydroxychloroquine was not associated with reductions in 28-day mortality but was associated with an increased length of hospital stay and increased risk of progressing to invasive mechanical ventilation or death.</li> </ul>
14.07.2020	<a href="#">Exploring the SARS-CoV-2 virus-host-drug interactome for drug repurposing</a>	Nat Commun / Article	<ul style="list-style-type: none"> <li>• The authors' developed CoVex, an interactive online platform for SARS-CoV-2 host interactome exploration and drug (target) identification.</li> <li>• CoVex integrates virus-human protein interactions, human protein-protein interactions, and drug-target interactions.</li> <li>• It allows visual exploration of the virus-host interactome and implements systems medicine algorithms for network-based prediction of drug candidates.</li> <li>• Thus, CoVex is a resource to understand molecular mechanisms of pathogenicity and to prioritize candidate therapeutics.</li> </ul>

## Overviews, comments and editorials

Publication Date	Title/URL	Journal/ Article type
15.07.2020	<a href="#">Assessing national performance in response to COVID-19</a>	The Lancet / Comment
14.07.2020	<a href="#">Covid-19: What do we know about "long covid"?</a>	Bmj / Feature
16.07.2020	<a href="#">Can digital contact tracing make up for lost time?</a>	The Lancet Public Health / Comment
15.07.2020	<a href="#">Covid-19 and Disparities in Nutrition and Obesity</a>	New England Journal of Medicine / Perspective
14.07.2020	<a href="#">Palliative care for patients with severe covid-19</a>	Bmj / Practice
14.07.2020	<a href="#">Covid-19: Experts criticise claim that remdesivir cuts death rates</a>	BMJ / News
16.07.2020	<a href="#">Direct and indirect impacts of COVID-19 on health and wellbeing</a>	Public Health Institute at Liverpool John Moores University / Rapid evidence review

Produced by the PHE COVID-19 Literature Digest Team