LISTA DE REFERÊNCIAS BIBLIOGRÁFICAS E RESUMOS– COVID -19

Atualizado em: 28 de outubro de 2022

Título	Impact of the COVID-19 pandemic on racial and ethnic minorities in Japan
Autor(es)	Hidetoshi Nomoto; Yusuke Asai; Kayoko Hayakawa ; Nobuaki Matsunaga ; Satoshi Kutsuna; Eiichi N. Kodama; Norio Ohmagari
Resumo	This study compared clinico-epidemiological characteristics between Japanese and nonJapanese Coronavirus disease 2019 (COVID-19) patients under the pandemic in Japan. We retrospectively analyzed nationwide data of hospitalized COVID-19 patients before March 31, 2021. Epidemic curves were constructed to identify the case distribution over time. A total of 28,093 patients were Japanese and 1,335 patients were non-Japanese. The major racial and ethnic minorities were East Asians (n=521), South Asians (n=260), and Latin Americans (n=270). Non-Japanese patients were younger and more likely to travel to COVID-19 endemic countries (7.7%), had meals with other people (17.8%), stayed in crowded places (17.9%), and worked mainly in restaurants (6.6%) and service facilities in nightlife businesses (5.2%). In the matched cohorts, we found no clear disparities in time to admission and clinical prognoses. The epidemic curve for nonJapanese patients showed a small peak in the first wave and no definite waves for the second or third waves. Racial and ethnic minorities were at less risk of severe disease but were at a greater risk of COVID-19 exposure; however, the healthcare system in Japan may provide them with equal opportunities to access inpatient care with Japanese. Further research on their social determinants of health in Japan is required.
Referências	NOMOTO, H. *et al.* Impact of the COVID-19 pandemic on racial and ethnic minorities in Japan. **Epidemiology and infection**, [United Kingdom], p. 1–35, Oct. 26, 2022. DOI: 10.1017/S0950268822001674. Disponível em: https://www.cambridge.org/core/product/identifier/S0950268822001674/type/journal_article. Acesso em: 28 out. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/97903D696DB40D06831E6F3634F41DE4/S0950268822001674a.pdf/impact_of_the_covid19_pandemic_on_racial_and_ethnic_minorities_in_japan.pdf

Atualizado em: 28 de outubro de 2022

Título	The legacy of the COVID-19 pandemic for childhood vaccination in the USA
Autor(es)	Douglas J Opel, Noel T Brewer, Alison M Buttenheim, Timothy Callaghan, Richard M Carpiano, Chelsea Clinton, Jad A Elharake, Lisa C Flowers, Alison P Galvani, Peter J Hotez, Jason L Schwartz, Regina M Benjamin, Arthur Caplan, Renee DiResta, Rekha Lakshmanan, Yvonne A Maldonado, Michelle M Mello, Wendy E Parmet, Daniel A Salmon, Joshua M Sharfstein, Saad B Omer
Resumo	Introduction: Before the onset of the COVID-19 pandemic, achievements in childhood vaccine coverage in the USA and globally appeared imperiled. Misinformation about vaccines was pervasive.1 Vaccine hesitancy—a motivational state of being conflicted about, or opposed to, vaccination—was a top ten global health threat.2 And vaccine-preventable diseases, such as measles, re-emerged following decades of successful control.3 Since the arrival of COVID-19, disruptions to childhood vaccine delivery have further jeopardised childhood vaccination efforts.4 However, the effects of the pandemic on childhood vaccination have the potential to extend beyond disruptions in vaccine delivery. What will be the legacy of the COVID-19 pandemic for childhood vaccination? In this Viewpoint, we discuss how the pandemic might affect trust, risk perception, mandates, and health equity in the context of childhood vaccination. We then propose several recommendations to mitigate potential negative effects and help sustain confidence in childhood vaccines...
Referências	OPEL, D. J. *et al.* The legacy of the COVID-19 pandemic for childhood vaccination in the USA. **The Lancet**, [United Kingdom], p. S0140673622016932, Oct. 26, 2022. DOI: 10.1016/S0140-6736(22)01693-2. Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S0140673622016932. Acesso em: 28 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S0140-6736%2822%2901693-2

Atualizado em: 28 de outubro de 2022

Título	Post-acute sequelae of covid-19 six to 12 months after infection: population based study
Autor(es)	Raphael S Peter, Alexandra Nieters, Hans-Georg Kräusslich, Stefan O Brockmann, Siri Göpel, Gerhard Kindle, Uta Merle, Jürgen M Steinacker, Dietrich Rothenbacher Winfried V Kern
Resumo	Objectives: To describe symptoms and symptom clusters of post-covid syndrome six to 12 months after acute infection, describe risk factors, and examine the association of symptom clusters with general health and working capacity. Design Population based, cross sectional study. Setting Adults aged 18-65 years with confirmed SARS-CoV-2 infection between October 2020 and March 2021 notified to health authorities in four geographically defined regions in southern Germany. Participants 50 457 patients were invited to participate in the study, of whom 12 053 (24%) responded and 11 710 (58.8% (n=6881) female; mean age 44.1 years; 3.6% (412/11 602) previously admitted with covid-19; mean follow-up time 8.5 months) could be included in the analyses. Main outcome measures Symptom frequencies (six to 12 months after versus before acute infection), symptom severity and clustering, risk factors, and associations with general health recovery and working capacity.Results The symptom clusters fatigue (37.2% (4213/11 312), 95% confidence interval 36.4% to 38.1%) and neurocognitive impairment (31.3% (3561/11 361), 30.5% to 32.2%) contributed most to reduced health recovery and working capacity, but chest symptoms, anxiety/depression, headache/dizziness, and pain syndromes were also prevalent and relevant for working capacity, with some differences according to sex and age. Considering new symptoms with at least moderate impairment of daily life and ≤80% recovered general health or working capacity, the overall estimate for post-covid syndrome was 28.5% (3289/11 536, 27.7% to 29.3%) among participants or at least 6.5% (3289/50 457) in the infected adult population (assuming that all non-responders had completely recovered). The true value is likely to be between these estimates. Conclusions Despite the limitation of a low response rate and possible selection and recall biases, this study suggests a considerable burden of self-reported post-acute symptom clusters and possible sequelae, notably

Resumo	fatigue and neurocognitive impairment, six to 12 months after acute SARS-CoV-2 infection, even among young and middle aged adults after mild infection, with a substantial impact on general health and working capacity. Trial registration German registry of clinical studies DRKS 00027012.
Referências	PETER, R. S. *et al.* Post-acute sequelae of covid-19 six to 12 months after infection: population based study. **BMJ**, [United Kingdom], v. 379, p. e071050, 2022. DOI: 10.1136/bmj-2022-071050. Disponível em: https://www.bmj.com/content/379/bmj-2022-071050. Acesso em: 28 out. 2022.
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LISTA DE REFERÊNCIAS BIBLIOGRÁFICAS E RESUMOS– COVID -19

Atualizado em: 28 de outubro de 2022

Título	Association of symptoms after COVID-19 Vaccination with anti–SARS-CoV-2 antibody response in the framingham heart study
Autor(es)	Emilia A. Hermann, Benjamin Lee, Pallavi P. Balte, Vanessa Xanthakis, Beth D. Kirkpatrick, Mary Cushman, Elizabeth Oelsner
Resumo	Introduction... SARS-CoV-2 messenger RNA (mRNA) vaccines (BNT162b2 [Pfizer-BioNTech] and mRNA-1273 [Moderna]) are associated with local and systemic symptoms; however, whether postvaccination symptoms are associated with vaccine-induced antibody response is unknown. Previous studies1-3 of COVID-19 vaccine reactogenicity and immunogenicity were limited to convenience samples that may not be generalizable. We studied the association of self-reported postvaccination symptoms with anti–SARS-CoV-2 antibody response among Framingham Heart Study (FHS) participants contributing to the Collaborative Cohort of Cohorts for COVID-19 Research (C4R) study.
Referências	HERMANN, E. A. *et al.* Association of symptoms after COVID-19 vaccination with anti–SARS-CoV-2 antibody response in the framingham heart study. **JAMA network open**, [United States], v. 5, n. 10, p. e2237908, Oct. 21, 2022. DOI: 10.1001/jamanetworkopen.2022.37908. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.37908. Acesso em: 28 out. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797552

Título	Versatile live-attenuated SARS-CoV-2 vaccine platform applicable to variants induces protective immunity
Autor(es)	Akiho Yoshida, Shinya Okamura, Shiho Torii, Sayuri Komatsu, Paola Miyazato, Hitomi Sasaki, Shiori Ueno, Hidehiko Suzuki, Wataru Kamitani, Chikako Ono, Yoshiharu Matsuura, Shiro Takekawa, Koichi Yamanishi, Hirotaka Ebina
Resumo	Live-attenuated vaccines are generally highly effective. Here, we aimed to develop one 25 against SARS-CoV-2, based on the identification of three types of temperature-sensitive 26 (TS) strains with mutations in nonstructural proteins (nsp), impaired proliferation at 3727 39ºC, and the capacity to induce protective immunity in Syrian hamsters. To develop a live28 attenuated vaccine, we generated a virus that combined all these TS-associated mutations 29 (rTS-all), which showed a robust TS phenotype in vitro and high attenuation in vivo. The 30 vaccine induced an effective cross-reactive immune response and protected hamsters 31 against homologous or heterologous viral challenges. Importantly, rTS-all rarely reverted to 32 the wild-type phenotype. By combining these mutations with an Omicron spike protein to 33 construct a recombinant virus, protection against the Omicron strain was obtained. We 34 show that immediate and effective live-attenuated vaccine candidates against SARS-CoV-2 35 variants may be developed using rTS-all as a backbone to incorporate the spike protein of 36 the variants.
Referências	YOSHIDA, A. *et al.* Versatile live-attenuated SARS-CoV-2 vaccine platform applicable to variants induces protective immunity. **iScience**, [Netherlands], Oct. 2022. doi: 10.1016/j.isci.2022.105412. Disponível em: https://www.cell.com/iscience/abstract/S2589-0042(22)01684-4. Acesso em: 28 out. 2022.
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Título	Susceptibility to SARS-CoV-2 Omicron following ChAdOx1 nCoV-19 and BNT162b2 versus CoronaVac vaccination
Autor(es)	Jia Xin Chua, Lindy Gillian Durrant, Yin Ling Chok, Oi Ming Lai
Resumo	The emergence of SARS-CoV-2 variants raises concerns of reduced COVID-19 vaccine efficacy. We investigated the humoral immunity in uninfected and previously infected ChAdOx1 nCoV-19, BNT162b2 and CoronaVac vaccinees, who have received complete regimes of vaccines by means of a SARS-CoV-2 surrogate virus blocking test. The ChAdOx1 nCoV-19 (P= 0.0013) and BNT162b2 (P= 0.0005) vaccines induced significant higher blocking activity with longer durability against the Spike (S) protein receptor binding domain (RBD) of wild type SARS-CoV-2 than the CoronaVac vaccine in uninfected vaccinees. Prior infection improved protection in the CoronaVac vaccinees. Subsequent investigation on the breadth of SARS-CoV-2 vaccine-induced antibody blocking responses, revealed that all vaccine platforms cross-protected uninfected vaccinees against all variant of concerns, except Omicron. Prior infection protected the ChAdOx1 nCoV-19 and BNT162b2 vaccinees against Omicron but not CoronaVac vaccinees. Our study suggests that vaccines that induce broader sterilising immunity are essential to fight against fast-emerging variants.
Referências	JIA, X. C. *et al.* Susceptibility to SARS-CoV-2 Omicron following ChAdOx1 nCoV-19 and BNT162b2 versus CoronaVac vaccination. **iScience**, [Netherlands], Oct. 2022. DOI: 10.1016/j.isci.2022.105379. Disponível em: https://www.cell.com/iscience/abstract/S2589-0042(22)01651-0. Acesso em: 28 out. 2022.
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Título	Nucleocapsid-specific antibody function is associated with therapeutic benefit from Covid-19 Convalescent plasma therapy
Autor(es)	Jonathan D. Herman, Chuangqi Wang, John Stephen Burke, Yonatan Zur, Hacheming Compere, Jaewon Kang, Ryan Macvicar, Sabian Taylor, Sally Shin, Ian Frank, Don Siegel, Pablo Tebas, Grace H. Choi, Pamela A. Shaw, Hyunah Yoon, Liise-anne Pirofski, Boris D. Julg, Katharine J. Bar, Douglas Lauffenburger, Galit Alter
Resumo	COVID-19 convalescent plasma (CCP), a passive polyclonal antibody therapeutic, has had mixed clinical results. Though, antibody neutralization is the predominant approach to benchmarking CCP's efficacy, CCP may also influence the evolution of the endogenous antibody response. Using systems serology to comprehensive profile SARS-CoV-2 functional antibodies of hospitalized COVID-19 participants enrolled in a randomized controlled trial of CCP (ClinicalTrials.gov Identifier NCT04397757), we find the clinical benefit of CCP is associated with both a shift towards reduced inflammatory Spike (S) responses and enhanced Nucleocapsid (N) humoral responses. We find CCP has the greatest clinical benefit in participants with low pre-existing anti-SARS-CoV-2 antibody function and CCP-induced immunomodulatory Fc glycan profiles and N immunodominant profiles persist for at least two months. We highlight a potential mechanism of action of CCP associated with durable immunomodulation, outline optimal patient characteristics for CCP treatment, and provide guidance for the development of a different class of COVID-19 hyperflammation-targeting antibody therapeutics.
Referências	HERMAN, J. D. *et al.* Nucleocapsid-specific antibody function is associated with therapeutic benefit from Covid-19 Convalescent plasma therapy. **Cell reports medicine**, [United States], Oct. 2022. DOI: 10.1016/j.xcrm.2022.100811. Disponível em: https://www.cell.com/cell-reports-medicine/abstract/S2666-3791(22)00370-6. Acesso em: 28 out. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2666-3791%2822%2900370-6

Título	Psychological distress, depression, anxiety, and life satisfaction following COVID-19 infection: evidence from 11 UK longitudinal population studies
Autor(es)	Ellen J Thompson, Jean Stafford, Bettina Moltrecht, Charlotte F Huggins, Alex S F Kwong, Richard J Shaw, Paola Zaninotto, Kishan Patel, Richard J Silverwood, Eoin McElroy, Matthias Pierce, Michael J Green, Ruth C E Bowyer, Jane Maddock, Kate Tilling, S Vittal Katikireddi, George B Ploubidis, David J Porteous, Nic Timpson, Nish Chaturvedi, Claire J Steves, Praveetha Patalay
Resumo	Evidence on associations between COVID-19 illness and mental health is mixed. We aimed to examine whether COVID-19 is associated with deterioration in mental health while considering pre-pandemic mental health, time since infection, subgroup differences, and confirmation of infection via self-reported test and serology data.
Referências	THOMPSON, E. J. *et al.* Psychological distress, depression, anxiety, and life satisfaction following COVID-19 infection: evidence from 11 UK longitudinal population studies. **The Lancet. Psychiatry**, [United Kingdom], v. 9, n. 11, p. 894–906, 2022. DOI: 10.1016/S2215-0366(22)00307-8. Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S2215036622003078. Acesso em: 28 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2215-0366%2822%2900307-8

Atualizado em: 28 de outubro de 2022

Título	Alternative strategies to increase the immunogenicity of COVID-19 vaccines in kidney transplant recipients not responding to two or three doses of an mRNA vaccine (RECOVAC): a randomised clinical trial
Autor(es)	Marcia M L Kho, A Lianne Messchendorp, Sophie C Frölke, Celine Imhof, Vera JCH Koomen, S Reshwan K Malahe, Priya Vart, Daryl Geers, Rory D de Vries, Corine H GeurtsvanKessel, Carla C Baan, Renate G van der Molen, Dimitri A Diavatopoulos, Ester B M Remmerswaal, Debbie van Baarle, Rob van Binnendijk, Gerco den Hartog, Aiko P J de Vries, Ron T Gansevoort, Frederike J Bemelman, Marlies E J Reinders, Jan-Stephan F Sanders, Luuk B Hilbrands, RECOVAC collaborators
Resumo	An urgent need exists to improve the suboptimal COVID-19 vaccine response in kidney transplant recipients (KTRs). We aimed to compare three alternative strategies with a control single dose mRNA-1273 vaccination: a double vaccine dose, heterologous vaccination, and temporary discontinuation of mycophenolate mofetil or mycophenolic acid.
Referências	KHO, M. M. L. *et al.* Alternative strategies to increase the immunogenicity of COVID-19 vaccines in kidney transplant recipients not responding to two or three doses of an mRNA vaccine (RECOVAC): a randomised clinical trial. **The Lancet. Infectious diseases**, [United Kingdom], Oct. 2022. DOI: 10.1016/S1473-3099(22)00650-8. Disponível em: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00650-8/fulltext. Acesso em: 28 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S1473-3099%2822%2900650-8

Título	SARS-CoV-2 seroepidemiology in pediatric population during Delta and Omicron predominance
Autor(es)	Filippos Filippatos , Elizabeth-Barbara Tatsi , Charilaos Dellis, Dimitra-Maria Koukou , Christos Papagiannopoulos , Alexandra Margeli , Tania Siahanidou , Christina Kanaka-Gantenbein , Vasiliki Syriopoulou , Athanasios Michos
Resumo	Limited prospective SARS-CoV-2 data in children regarding the impact of Omicron variant in seropositivity have been reported. We investigated SARS-CoV-2 seropositivity in children between 1 September 2021 and 30 April 2022, representing Delta and Omicron predominance periods. Serum samples from children admitted to the major tertiary Greek pediatric hospital for any cause, except for COVID-19, were randomly collected and tested for SARS-CoV-2 natural infection antibodies against nucleocapsid antigen (Elecsys® Anti-SARS-CoV-2 reagent). A total of 506/1312 (38.6%) seropositive children (0–16 years) were detected [males: 261/506(51.6%); median age (IQR): 95.2 months(24-144)]. Seropositivity rates (%) increased from Delta to Omicron period from 29.7% to 48.5% (P-value<0.0001). Seropositivity increased for all age groups, except for the age group of 0-1 year (P-value:0.914). The highest seropositivity rate was detected in April 2022 (52.6%) and reached 73.9% specifically for the age group 12-16 years. No significant differences were detected in seropositivity with respect to gender, origin, or hospitalization status. Median (IQR) antibody titers were higher in the Omicron vs Delta period in all age groups, especially in 12-16 years [32.2 COI (7-77.1) vs 11.4 COI(2.8-50.2), Pvalue:0.009]. During Omicron variant period increased SARS-CoV-2 seropositivity was detected in pediatric population, especially in adolescents, implicating either increased transmissibility or reinfection rates
Referências	FILIPPATOS, F. *et al.* SARS-CoV-2 seroepidemiology in pediatric population during Delta and Omicron predominance. **Epidemiology and infection**, [United Kingdom], p. 1–15, Oct. 19, 2022. DOI: 10.1017/S0950268822001601. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/sarscov2-seroepidemiology-in-pediatric-population-during-delta-and-omicron-predominance/E79BE927A7D659AC931280C719911277. Acesso em: 21 out. 2022.
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Título	Multisystem inflammatory syndrome associated with SARS-CoV-2 infection in children: update and new insights from the second report of an Iranian referral hospital
Autor(es)	Setareh Mamishi , Mehrnaz Olfat , Babak Pourakbari, Hamid Eshaghi , Mohammad Reza Abdolsalehi , Mohammad Ali Shahbabaie , Fatemeh Jalali , Fatemeh Safari , Shima Mahmoudi
Resumo	Methods: This retrospective study was conducted at Children's Medical Center Hospital, the hub of excellence in pediatrics in Iran, located in Tehran, Iran. We reviewed medical records of children admitted to the hospital with the diagnosis of MIS-C from July 2020 to October 2021. Results: One hundred and twenty-two patients enrolled the study. Ninety-seven (79.5%) patients had mild to moderate MIS-C (MIS-C without overlap with KD (n= 80); MIS-C overlapping with KD (n=17)) and 25 (20.5%) patients showed severe MIS-C. The mean age of all patients was 6.4 ± 4.0 years. Nausea and vomiting (53.3%), skin rash (49.6%), abdominal pain (46.7%) and conjunctivitis (41.8%) were also frequently seen Headache, chest pain, tachypnea and respiratory distress were significantly more common in patients with severe MIS-C (P value< 0.0001, P value= 0.021, P value< 0.0001 and P value< 0.0001, respectively). Positive anti-N SARS-CoV-2 IgM and IgG were detected in 14 (33.3%) and 23 (46.9%) tested patients, respectively. Albumin, and vitamin D levels in children with severe MISC were significantly lower than children with mild to moderate MIS-C (P value< 0.0001, P value= 0.05). Unfortunately, 2 (1.6%) of 122 patients died and both had severe MIS-C. Conclusion: Patients with MIS-C in our region suffer from wide range of signs and symptoms. Among laboratory parameters, hypoalbuminemia and low vitamin D levels may predict a more severe course of the disease. Coronary artery dilation is frequently seen among all patients, regardless of disease severity.
Referências	MAMISHI, S. *et al.* Multisystem inflammatory syndrome associated with SARS-CoV-2 infection in children: update and new insights from the second report of an Iranian referral hospital. **Epidemiology and infection**, [United Kingdom], p. 1–22, Oct. 18, 2022. DOI: 10.1017/S0950268822001522. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/multisystem-inflammatory-syndrome-associated-with-sarscov2-infection-in-children-update-and-new-insights-from-the-second-report-of-an-iranian-referral-hospital/1AD8D4784998C5EBE36C44BC1F2270F7. Acesso em: 21 out. 2022.
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Título	Characterizing emergency supply kit possession in the United States during the COVID-19 pandemic – 2020-2021
Autor(es)	Amy Helene Schnall , Stephanie Kieszak , Arianna Hanchey , Harry Heiman , Tesfaye Bayleyegn , Johnni Daniel, Christine Stauber
Resumo	Background: In the immediate aftermath of a disaster, household members may experience lack of support services and isolation from one another. To address this, a common recommendation is to promote preparedness through the preparation of an emergency supply kit (ESK). The goal was to characterize ESK possession on a national level to help the Centers for Disease Control and Prevention (CDC) guide next steps to better prepare for and respond to disasters and emergencies at the community level. Methods: The authors analyzed data collected through Porter Novelli's ConsumerStyles surveys in Fall 2020 (n=3,625) and Spring 2021 (n=6,455). Results: ESK ownership is lacking. Overall, while most respondents believed that an ESK would help their chance of survival, only a third have one. Age, gender, education level, and region of the country were significant predictors of kit ownership in a multivariate model. In addition, there was a significant association between level of preparedness and ESK ownership. Conclusions: These data are an essential starting point in characterizing ESK ownership and can be used to help tailor public messaging, inform work with partners to increase ESK ownership, and guide future research.
Referências	SCHNALL, A. H. *et al.* Characterizing emergency supply kit possession in the United States during the COVID-19 pandemic – 2020-2021. **Disaster medicine and public health preparedness**, [United States], p. 1–29, Oct. 18, 2022. DOI: 10.1017/dmp.2022.234. Disponível em: https://www.cambridge.org/core/product/identifier/S1935789322002348/type/journal_article. Acesso em: 21 out. 2022.
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Atualizado em: 28 de outubro de 2022

Título	Healthcare-associated infection reporting completeness and quality during the coronavirus disease 2019 (COVID-19) pandemic in California hospitals
Autor(es)	Andrea M. Parriott , N. Neely Kazerouni, Vikram Haridass, Nadia Barahmani, Lynn G. Palmer , Dirk T. Winston, Erin E. Epson
Resumo	We examined markers of completeness in healthcare-associated infection (HAI) data reported by California hospitals to the National Healthcare Safety Network for each half of 2020 compared with 2019. There were indications of decreased data completeness for both halves of 2020. California 2020 HAI data should be interpreted with caution.
Referências	PARRIOTT, A. M. *et al.* Healthcare-associated infection reporting completeness and quality during the coronavirus disease 2019 (COVID-19) pandemic in California hospitals. **Infection control and hospital epidemiology**, [United Kingdom], p. 1–3, Oct. 13, 2022. DOI: 10.1017/ice.2022.247. Disponível em: https://www.cambridge.org/core/product/identifier/S0899823X22002471/type/journal_article. Acesso em: 21 out. 2022.
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Título	Effects of the COVID-19 pandemic and previous pandemics, epidemics and economic crises on mental health: systematic review
Autor(es)	Michaela Asper, Walter Osika, Christina Dalman, Elin Pöllänen, Otto Simonsson, Pär Flodin, Anna Sidorchuk, Laura Marchetti, Fatima Awil, Rosa Castro, Maria E. Niemi
Resumo	A rise in mental illness is expected to follow the COVID-19 pandemic, which has also been projected to lead to a deep global economic recession, further adding to risk factors. Aims: The aim of this review was to assess the impact of the COVID-19 pandemic and previous pandemics, epidemics and economic crises on mental health. Method: Searches were conducted in PubMed, Web of Science, PsycINFO and Sociological Abstracts. We included studies of all populations exposed to the COVID-19 pandemic, and other similar pandemics/epidemics and economic crises, compared with non-exposed time periods or regions. The outcome was mental health. Results: The 174 included studies assessed mental health impacts of the COVID-19 pandemic (87 studies), 2008 economic crisis (84 studies) and severe acute respiratory syndrome (SARS) epidemic (three studies). Outcomes were divided into affective disorders, suicides, mental healthcare utilisation and other mental health. COVID-19 pandemic studies were of lesser quality than those for the economic crisis or SARS epidemic. Most studies for all exposures showed increases in affective disorders and other mental health problems. For economic crisis exposure, increases in mental healthcare utilisation and suicides were also found, but these findings were mixed for COVID-19 pandemic exposure. This is probably because of quarantine measures affecting help-seeking and shorter follow-ups of studies of COVID-19 pandemic exposure. Conclusions: Our findings highlight the importance of available, accessible and sustainable mental health services. Also, socioeconomically disadvantaged populations should be particular targets of policy interventions during the COVID-19 pandemic.

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Título	A community partnered approach for diversity in COVID-19 vaccine clinical trials
Autor(es)	Yelba Castellon-Lopez, Raphael Landovitz, Ejiro Ntekume, Courtney Porter, Rachelle Bross, Robin Hilder, Aziza LucasWright, Eric S. Daar, Pedro Chavez, Christopher Blades, Savanna Carson, D'Ann Morris, Stefanie Vassar, Alejandra Casillas,, Arleen Brown
Resumo	Introduction: Communities of color have faced disproportionate morbidity and mortality from COVID-19, coupled with historical underrepresentation in US clinical trials, creating challenges for equitable participation in developing and testing a safe and effective COVID-19 vaccine. Methods: To increase diversity, including racial and ethnic representation, in local Los Angeles County NIH-sponsored Phase 3 SARS-CoV-2 vaccine clinical trials, we used deliberative community engagement approaches to form a Community Consultant Panel (CCP) that partnered with trial research teams. Thirteen members were recruited, including expertise from essential workers, community-based and faith-based organizations, or leaders from racial and ethnic minority communities. Results: Working closely with local investigators for the vaccine studies, the CCP provided critical insight on best practices for community trust-building, clinical trial participation, and reliable information dissemination regarding COVID-19 vaccines. Modifying recruitment, outreach, and trial protocols led to majority-minority participants (55% - 78%) in each of the three vaccine clinical trials. CCP's input led to cultural tailoring of recruitment materials, changes in recruitment messaging, and supportive services to improve trial accessibility and acceptability (transportation, protocols for cultural competency, and support linkages to care in case of an adverse event). Barriers to clinical trial participation unable to be resolved included childcare, requests for after-hours appointment availability, and mobile locations for trial visits. Conclusion: Using deliberative community engagement can provide critical and timely insight into the community-centered barriers to COVID-19 vaccine trial participation, including addressing social determinants of health, trust, clinical trial literacy, structural barriers, and identifying trusted messenger and reliable sources of information.
Referências	CASTELLON-LOPEZ, Y. *et al.* A community partnered approach for diversity in COVID-19 vaccine clinical trials. **Journal of clinical and translational science**, [United Kingdom], p. 1–19, Oct. 6, 2022. DOI: 10.1017/cts.2022.471. Disponível em: https://www.cambridge.org/core/product/identifier/S205986612200471X/type/journal_article. Acesso em: 21 out. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/9BC609356498FEC730EFC0A623781C3D/S205986612200471Xa.pdf/community_partnered_approach_for_diversity_in_covid19_vaccine_clinical_trials.pdf

Título	A successful case of cardiac arrest due to acute myocarditis with COVID-19: 120 minutes on manual cardiopulmonary resuscitation then veno-arterial extracorporeal membrane oxygenation
Autor(es)	Bui Hai Hoang; Huyen Trang Tran; Tat Thanh Nguyen; Minh Nguyen Nguyen; Anh Dung Nguyen; Giang Phuc Do; Ngoc Tu Vu; Mai Nguyen; Lan Hieu Nguyen; Shinji Nakahara
Resumo	Acute myocarditis is one of the common complications of coronavirus disease 2019 (COVID-19) with a relatively high case fatality. Here reported is a fulminant case of a 42-year-old previously healthy woman with cardiogenic shock and refractory cardiac arrest due to COVID-19-induced myocarditis who received veno-arterial (VA) extracorporeal membrane oxygenation (ECMO) after 120 minutes of cardiopulmonary resuscitation (CPR). This is the first adult case of cardiac arrest due to COVID-19-induced myocarditis supported by ECMO that fully recovered with normal neurological functions. The success of the treatment course with full recovery emphasized the potential role of ECMO in treating these patients.
Referências	BUI HAI, H. e*t al.* A Successful Case of Cardiac Arrest due to Acute Myocarditis with COVID-19: 120 Minutes on Manual Cardiopulmonary Resuscitation then Veno-Arterial Extracorporeal Membrane Oxygenation. **Prehospital and disaster medicine**, [United States], p. 1–4, Oct. 4, 2022. DOI: 10.1017/S1049023X2200139X. Disponível em: https://www.cambridge.org/core/product/identifier/S1049023X2200139X/type/journal_article. Acesso em: 21 out. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/296A9AA98BD9471C656D88D742410AC4/S1049023X2200139Xa.pdf/successful_case_of_cardiac_arrest_due_to_acute_myocarditis_with_covid19_120_minutes_on_manual_cardiopulmonary_resuscitation_then_venoarterial_extracorporeal_membrane_oxygenation.pdf

Título	Limited cross-variant immune response from SARS-CoV-2 Omicron BA.2 in naïve but not previously infected outpatients
Autor(es)	Hye Kyung Lee , Ludwig Knab , Mary Walter , Priscilla A. Furth, Lothar Hennighausen
Resumo	Omicron is currently the dominant SARS-CoV-2 variant and several sublineages have emerged. Questions remain about the impact of previous SARS-CoV-2 exposure on cross-variant immune responses elicited by the SARS-CoV-2 Omicron sublineage BA.2 compared to BA.1. Here we show that without previous history of COVID-19, BA.2 infection induces a reduced immune response against all variants of concern (VOC) compared to BA.1 infection. The absence of ACE2 binding in sera of previously naïve BA.1 and BA.2 patients indicates a lack of meaningful neutralization. In contrast, anti-spike antibody levels and neutralizing activity greatly increased in the BA.1 and BA.2 patients with a previous history of COVID-19. Transcriptome analyses of peripheral immune cells showed significant differences in immune response and specific antibody generation between BA.1 and BA.2 patients as well as significant differences in expression of specific immune genes. In summary, prior infection status significantly impacts the innate and adaptive immune response against VOC following BA.2 infection.
Referências	HYE, K. L. *et al.* Limited cross-variant immune response from SARS-CoV-2 Omicron BA.2 in naïve but not previously infected outpatients. **iScience**, [Netherlands], p. 105369, Oct. 13, 2022. DOI: 10.1016/j.isci.2022.105369.Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S2589004222016418. Acesso em: 21 out. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2589-0042%2822%2901641-8

Título	Linking contact tracing with genomic surveillance to deconvolute SARS-CoV-2 transmission on a university campus
Autor(es)	Jacquelyn Turcinovic, B.S., Kayla Kuhfeldt, Madison Sullivan, Lena Landaverde,, Judy T. Platt, , Lynn Doucette-Stamm, , William P. Hanage, Davidson H. Hamer, Catherine Klapperich, Hannah E. Landsberg, John H. Connor
Resumo	Contact tracing and genomic data, approaches often used separately, have both been important tools in understanding the nature of SARS-CoV-2 transmission. Linked analysis of contact tracing and sequence relatedness of SARS-CoV-2 genomes from a regularly sampled university environment were used to build a multilevel transmission tracing and confirmation system to monitor and understand transmission on campus. Our investigation of an 18-person cluster stemming from an athletic team highlighted the importance of linking contact tracing and genomic analysis. Through these findings, it is suggestive that certain safety protocols in the athletic practice setting reduced transmission. The linking of traditional contact tracing with rapid-return genomic information is an effective approach for differentiating between multiple plausible transmission scenarios and informing subsequent public health protocols to limit disease spread in a university environment.
Referências	TURCINOVIC, J. *et al.* Linking contact tracing with genomic surveillance to deconvolute SARS-CoV-2 transmission on a university campus. **iScience**, [Netherlands], Oct. 11, 2022. DOI: 10.1016/j.isci.2022.105337. Disponível em: https://www.cell.com/iscience/abstract/S2589-0042(22)01609-1. Acesso em: 21 out. 2022.
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Título	Evaluating and mitigating the potential indirect effect of COVID-19 on control programmes for seven neglected tropical diseases: a modelling study
Autor(es)	Anna Borlase, Epke A Le Rutte, Soledad Castaño, David J Blok, Jaspreet Toor, Federica Giardina, Emma L Davis
Resumo	In line with movement restrictions and physical distancing essential for the control of the COVID-19 pandemic, WHO recommended postponement of all neglected tropical disease (NTD) control activities that involve community-based surveys, active case finding, and mass drug administration in April, 2020. Following revised guidance later in 2020, and after interruptions to NTD programmes of varying lengths, NTD programmes gradually restarted in the context of an ongoing pandemic. However, ongoing challenges and service gaps have been reported. This study aimed to evaluate the potential effect of the programmatic interruptions and strategies to mitigate this effect.
Referências	BORLASE, A. *et al.* Evaluating and mitigating the potential indirect effect of COVID-19 on control programmes for seven neglected tropical diseases: a modelling study. **The Lancet. Global health**, [Netherlands], v. 10, n. 11, p. e1600–e1611, 2022. DOI: 10.1016/S2214-109X(22)00360-6. Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S2214109X22003606. Acesso em: 14 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900360-6

Título	Prediction of upcoming global infection burden of influenza seasons after relaxation of public health and social measures during the COVID-19 pandemic: a modelling study
Autor(es)	Sheikh Taslim Ali, Yiu Chung Lau, Songwei Shan, Sukhyun Ryu, Zhanwei Du, Lin Wang, Xiao-Ke Xu, Dongxuan Chen, Jiaming Xiong, Jungyeon Tae, Tim K Tsang, Peng Wu, Eric H Y Lau, Benjamin J Cowling
Resumo	The transmission dynamics of influenza were affected by public health and social measures (PHSMs) implemented globally since early 2020 to mitigate the COVID-19 pandemic. We aimed to assess the effect of COVID-19 PHSMs on the transmissibility of influenza viruses and to predict upcoming influenza epidemics.
Referências	ALI, S. T. *et al.* Prediction of upcoming global infection burden of influenza seasons after relaxation of public health and social measures during the COVID-19 pandemic: a modelling study. **The Lancet. Global health**, [Netherlands], v. 10, n. 11, p. e1612–e1622, 2022. DOI: 10.1016/S2214-109X(22)00358-8. Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S2214109X22003588. Acesso em: 14 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900358-8

Título	Daily use of lateral flow devices by contacts of confirmed COVID-19 cases to enable exemption from isolation compared with standard self-isolation to reduce onward transmission of SARS-CoV-2 in England: a randomised, controlled, non-inferiority trial
Autor(es)	Nicola K Love, Derren R Ready, Charlie Turner, Neville Q Verlander, Clare E French, Alex F Martin, Tina B Sorensen, Soeren Metelmann, Sarah Denford, G James Rubin, Lucy Yardley, Richard Amlôt, Susan Hopkins, Isabel Oliver
Resumo	In the UK, during the study period (April to July, 2021), all contacts of people with COVID-19 were required to self-isolate for 10 days, which had adverse impacts on individuals and society. Avoiding the need to selfisolate for those who remain uninfected would be beneficial. We investigated whether daily use of lateral flow devices (LFDs) to test for SARS-CoV-2, with removal of self-isolation for 24 h if negative, could be a safe alternative to selfisolation as a means to minimise onward transmission of the virus.
Referências	LOVE, N. K. *et al.* Daily use of lateral flow devices by contacts of confirmed COVID-19 cases to enable exemption from isolation compared with standard self-isolation to reduce onward transmission of SARS-CoV-2 in England: a randomised, controlled, non-inferiority trial. **The Lancet. Respiratory medicine**, [Netherlands], Oct. 10, 2022. DOI: 10.1016/S2213-2600(22)00267-3. Disponível em: https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(22)00267-3/fulltext. Acesso em: 14 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2213-2600%2822%2900267-3

Título	An evaluation of prospective COVID-19 modelling studies in the USA: from data to science translation
Autor(es)	Kristen Nixon, Sonia Jindal, Felix Parker, Nicholas G Reich, Kimia Ghobadi, Elizabeth C Lee, Shaun Truelove, Lauren Gardner
Resumo	Infectious disease modelling can serve as a powerful tool for situational awareness and decision support for policy makers. However, COVID-19 modelling efforts faced many challenges, from poor data quality to changing policy and human behaviour. To extract practical insight from the large body of COVID-19 modelling literature available, we provide a narrative review with a systematic approach that quantitatively assessed prospective, data-driven modelling studies of COVID-19 in the USA. We analysed 136 papers, and focused on the aspects of models that are essential for decision makers. We have documented the forecasting window, methodology, prediction target, datasets used, and geographical resolution for each study. We also found that a large fraction of papers did not evaluate performance (25%), express uncertainty (50%), or state limitations (36%). To remedy some of these identified gaps, we recommend the adoption of the EPIFORGE 2020 model reporting guidelines and creating an information-sharing system that is suitable for fast-paced infectious disease outbreak science.
Referências	NIXON, K. *et al.* An evaluation of prospective COVID-19 modelling studies in the USA: from data to science translation. **The Lancet. Digital health**, [United Kingdom], v. 4, n. 10, p. e738–e747, 2022. DOI: 10.1016/S2589-7500(22)00148-0. Disponível em: https://www.thelancet.com/journals/landig/article/PIIS2589-7500(22)00148-0/fulltext. Acesso em: 14 out. 2022.
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Título	Virological characteristics of the SARS-CoV-2 Omicron BA.2.75 variant: Cell Host & Microbe
Autor(es)	Akatsuki Saito, Tomokazu Tamura, Jiri Zahradnik, Sayaka Deguchi, Koshiro Tabata, Yuki Anraku, Izumi Kimura, Jumpei Ito, Daichi Yamasoba, Hesham Nasser, Mako Toyoda, Kayoko Nagata, Keiya Uriu, Yusuke Kosugi, Shigeru Fujita, Maya Shofa, M.S.T. Monira Begum, Ryo Shimizu, Yoshitaka Oda, Rigel Suzuki, Hayato Ito, Naganori Nao, Lei Wang, Masumi Tsuda, Kumiko Yoshimatsu, Jin Kuramochi, Shunsuke Kita, Kaori Sasaki-Tabata, Hideo Fukuhara, Katsumi Maenaka, Yuki Yamamoto, Tetsuharu Nagamoto, Hiroyuki Asakura, Mami Nagashima, Kenji Sadamasu, Kazuhisa Yoshimura, Takamasa Ueno, Gideon Schreiber, Akifumi Takaori-Kondo, The Genotype to Phenotype Japan (G2P-Japan) Consortium, Kotaro Shirakawa, Hirofumi Sawa, Takashi Irie, Takao Hashiguchi, Kazuo Takayama, Keita Matsuno, Shinya Tanaka, Terumasa Ikeda, Takasuke Fukuhara, Kei Sato
Resumo	The SARS-CoV-2 Omicron BA.2.75 variant emerged in May 2022. BA.2.75 is a BA.2 descendant but is phylogenetically distinct from BA.5, the currently predominant BA.2 descendant. Here, we show that BA.2.75 has a greater effective reproduction number and different immunogenicity profile than BA.5. We determined the sensitivity of BA.2.75 to vaccinee and convalescent sera as well as a panel of clinically available antiviral drugs and antibodies. Antiviral drugs largely retained potency but antibody sensitivity varied depending on several key BA.2.75-specific substitutions. The BA.2.75 spike exhibited a profoundly higher affinity for its human receptor, ACE2. Additionally, the fusogenicity, growth efficiency in human alveolar epithelial cells, and intrinsic pathogenicity in hamsters of BA.2.75 were greater than those of BA.2. Our multilevel investigations suggest that BA.2.75 acquired virological properties independent of BA.5, and the potential risk of BA.2.75 to global health is greater than that of BA.5.
Referências	SAITO, A. *et al*. Virological characteristics of the SARS-CoV-2 Omicron BA.2.75 variant. **Cell host & microbe** [United States], Oct. 9, p. 69, 2022. DOI: DOI:https://doi.org/10.1016/j.chom.2022.10.003. Disponível em: https://www.cell.com/cell-host-microbe/pdf/S1931-3128(22)00516-9.pdf. Acesso em: 14 out. 2022.
Fonte	https://www.cell.com/cell-host-microbe/pdf/S1931-3128(22)00516-9.pdf

Título	A third dose of the unmodified COVID-19 mRNA vaccine CVnCoV enhances quality and quantity of immune responses
Autor(es)	Klara Lenart, Fredrika Hellgren, Sebastian Ols, Xianglei Yan, Alberto Cagigi, Rodrigo Arcoverde Cerveira, Inga Winge, Jakub Hanczak, Stefan O. Mueller, Edith Jasny, Kim Schwendt, Susanne Rauch, Benjamin Petsch, Karin Loré
Resumo	A third vaccine dose is often required to achieve potent, long-lasting immune responses. We investigated the impact of three 8 µg doses of CVnCoV, CureVac's SARS-CoV-2 vaccine candidate containing sequence-optimized unmodified mRNA encoding spike (S) glycoprotein, administered at 0, 4 and 28 weeks on immune responses in rhesus macaques. Following the third dose S-specific binding and neutralizing antibodies increased 50-fold compared with post-dose 2 levels, with increased responses also evident in the lower airways and against the SARS-CoV-2 B.1.1.7 (Alpha), B.1.351 (Beta), P.1 (Gamma) and B.1.617.2 (Delta) variants. Enhanced binding affinity of serum antibodies after the third dose correlated with higher somatic hypermutation in S-specific B cells, corresponding with improved binding properties of monoclonal antibodies expressed from isolated B cells. Administration of low dose mRNA led to fewer cells expressing antigen in vivo at the injection site and in the draining lymph nodes compared with a tenfold higher dose, possibly reducing the engagement of precursor cells with the antigen and resulting in the suboptimal response observed following two-dose vaccination schedules in phase IIb/III clinical trials of CVnCoV. However, when immune memory is established, a third dose efficiently boosts the immunological responses as well as improves antibody affinity and breadth.
Referências	LENART, K. *et al.* A third dose of the unmodified COVID-19 mRNA vaccine CVnCoV enhances quality and quantity of immune responses. **Molecular therapy. Methods & clinical development**, [United States],Oct. 6, 2022. DOI: 10.1016/j.omtm.2022.10.001, Disponível em: https://www.cell.com/molecular-therapy-family/methods/abstract/S2329-0501(22)00143-7. Acesso em: 14 out. 2022.
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Título	A boost with SARS-CoV-2 BNT162b2 mRNA vaccine elicits strong humoral responses independently of the interval between the first two doses
Autor(es)	Alexandra Tauzin, Shang Yu Gong, Debashree Chatterjee, Shilei Ding, Mark M. Painter, Rishi R. Goel, Guillaume Beaudoin-Bussières, Lorie Marchitto, Marianne Boutin, Annemarie Laumaea, James Okeny, Gabrielle Gendron-Lepage, Catherine Bourassa, Halima Medjahed, Guillaume Goyette, Justine C. Williams, Yuxia Bo, Laurie Gokool, Chantal Morrisseau, Pascale Arlotto, Renée Bazin, Judith Fafard, Cécile Tremblay, Daniel E. Kaufmann, Gaston De Serres, Jonathan Richard, Marceline Côté, Ralf Duerr, Valérie Martel-Laferrière, Allison R. Greenplate, E. John Wherry, Andrés Finzi
Resumo	Due to the recrudescence of SARS-CoV-2 infections worldwide, mainly caused by Omicron variant of concern (VOC) and its sub-lineages, several jurisdictions are administering a mRNA vaccine boost. Here, we analyze humoral responses induced after the second and third doses of mRNA vaccine in naïve and previously-infected donors who received their second dose with an extended 16-week interval. We observe that the extended interval elicits robust humoral responses against VOCs, but this response is significantly diminished 4 months after the second dose. Administering a boost to these individuals brings back the humoral responses to the same levels obtained after the extended second dose. Interestingly, we observe that administering a boost to individuals that initially received a short 3-4 weeks regimen elicits humoral responses similar to those observed in the long interval regimen. Nevertheless, humoral responses elicited by the boost in naïve individuals do not reach those present in previously-infected vaccinated individuals.
Referências	TAUZIN, A. *et al.* A boost with SARS-CoV-2 BNT162b2 mRNA vaccine elicits strong humoral responses independently of the interval between the first two doses. **Cell Reports**, [Netherlands], Oct. 3, 2022. Disponível em: https://www.cell.com/cell-reports/abstract/S2211-1247(22)01410-3. Acesso em: 14 out. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2211-1247%2822%2901410-3

Título	Characterization of the enhanced infectivity and antibody evasion of Omicron BA.2.75
Autor(es)	Yunlong Cao, Weiliang Song, Lei Wang, Pan Liu, Can Yue, Fanchong Jian, Yuanling Yu, Ayijiang Yisimayi, Peng Wang, Yao Wang, Qianhui Zhu, Jie Deng, Wangjun Fu, Lingling Yu, Na Zhang, Jing Wang, Tianhe Xiao, Ran An, Jing Wang, Lu Liu, Sijie Yang, Xiao Niu, Qingqing Gu, Fei Shao, Xiaohua Hao, Bo Meng, Ravindra Kumar Gupta, Ronghua Jin, Youchun Wang, Xiaoliang Sunney Xie, Xiangxi Wang
Resumo	Recently emerged SARS-CoV-2 Omicron subvariant, BA.2.75, displayed a growth advantage over circulating BA.2.38, BA.2.76 and BA.5 in India. However, the underlying mechanisms for enhanced infectivity, especially compared to BA.5, remain unclear. Here we show BA.2.75 exhibits substantially higher affinity for host receptor ACE2 than BA.5 and other variants. Structural analyses of BA.2.75 Spike shows its decreased thermostability and increased frequency of the receptor binding domain (RBD) in the “up” conformation under acidic conditions, suggesting enhanced low-pH-endosomal cell entry. Relative to BA.4/BA.5, BA.2.75 exhibits reduced evasion of humoral immunity from BA.1/BA.2 breakthrough-infection convalescent plasma, but greater evasion of Delta breakthrough-infection convalescent plasma. BA.5 breakthrough infection plasma also exhibits weaker neutralization against BA.2.75 than BA.5, mainly due to BA.2.75’s distinct neutralizing antibody escape pattern. Antibody therapeutics Evusheld and Bebtelovimab remain effective against BA.2.75. These results suggest BA.2.75 may prevail after BA.4/BA.5, and its increased receptor-binding capability could support further immune-evasive mutations.
Referências	YUNLONG, C. *et al.* Characterization of the enhanced infectivity and antibody evasion of Omicron BA.2.75. **Cell Host & microbe**, [United States], 2022. DOI: 10.1016/j.chom.2022.09.018. Disponível em: https://www.cell.com/cell-host-microbe/abstract/S1931-3128(22)00511-X. Acesso em: 14 out. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S1931-3128%2822%2900511-X

Título	Host transcriptional responses in nasal swabs identifies potential SARS-CoV-2 infection in PCR negative patients
Autor(es)	Amanda M. Saravia-Butler, Jonathan C. Schisler , Deanne Taylor, Afshin Beheshti , Dan Butler , Cem Meydan9 , Jonathon Foox , Kyle Hernandez , Chris Mozsary , Christopher E. Mason, Robert Meller
Resumo	We analyzed RNA sequencing data from nasal swabs used for SARS-CoV-2 testing. 13% of 317 PCR negative samples contained over 100 reads aligned to multiple regions of the SARS-CoV-2 genome. Differential gene expression analysis compares the host gene expression in potential false-negative (FN: PCR negative, sequencing positive) samples to subjects with multiple SARS-CoV-2 viral loads. The host transcriptional response in FN samples was distinct from true negative samples (PCR & sequencing negative) and similar to low viral load samples. Gene Ontology analysis shows viral load-dependent changes in gene expression are functionally distinct; 23 common pathways include responses to viral infections and associated immune responses. GO ontology analysis reveals FN samples had a high overlap with high viral load samples. Deconvolution of RNA-seq data show similar cell content across viral loads. Hence, transcriptome analysis of nasal swabs provides an additional level of identifying SARS-CoV-2 infection.
Referências	SARAVIA-BUTLER, A. M. *et al.* Host transcriptional responses in nasal swabs identifies potential SARS-CoV-2 infection in PCR negative patients. **iScience**, [Netherlands], Oct. 7, 2022. DOI: 10.1016/j.isci.2022.105310. Disponível em: https://www.cell.com/iscience/abstract/S2589-0042(22)01582-6. Acesso em: 14 out. 2022.
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Título	Association between vaccination status and mortality among intubated patients with COVID-19–related acute respiratory distress syndrome
Autor(es)	Eirini Grapsa, Georgios Adamos, Ioannis Andrianopoulos, Vasiliki Tsolaki, Vassilis G. Giannakoulis, Nikitas Karavidas, Vassiliki Giannopoulou, ; Katerina Sarri, Eleftheria Mizi, Evdokia Gavrielatou, Georgios Papathanakos, Konstantinos D. Mantzarlis, Zafeiria Mastora, Eleni Magira, Vasilios Koulouras, Anastasia Kotanidou, Ilias I. Siempos
Resumo	Although vaccination substantially reduces the risk of severe COVID-19, it is yet unknown whether vaccinated patients who develop COVID-19 and require invasive mechanical ventilation have lower mortality than controls.To examine the association between COVID-19 vaccination status and mortality among critically ill patients who require invasive mechanical ventilation owing to acute respiratory distress syndrome (ARDS) related to COVID-19.This multicenter cohort study was performed between June 7, 2021, and February 1, 2022, among 265 consecutive adult patients with COVID-19 in academic intensive care units who underwent invasive mechanical ventilation owing to ARDS.Patients in the full vaccination group had completed the primary COVID-19 vaccination series more than 14 days but less than 5 months prior to intubation. This time threshold was chosen because guidelines from the US Centers for Disease Control and Prevention recommend a booster dose beyond that time. The remaining patients (ie, those who were unvaccinated, partially vaccinated, or fully vaccinated <14 days or >5 months before intubation) comprised the control group.The primary outcome was time from intubation to all-cause intensive care unit mortality. A Cox proportional hazards regression model including vaccination status, age, comorbid conditions, and baseline Sequential Organ Failure Assessment score on the day of intubation was used.A total of 265 intubated patients (170 men [64.2%]; median age, 66.0 years [IQR, 58.0-76.0 years]; 26 [9.8%] in the full vaccination group) were included in the study. A total of 20 patients (76.9%) in the full vaccination group received the BNT162b2 vaccine, and the remaining 6 (23.1%) received the ChAdOx1 nCoV-19 vaccine. Patients in the full vaccination group were older (median age, 72.5 years [IQR, 62.8-80.0 years] vs 66.0 years [IQR, 57.0-75.0 years]) and more likely to have comorbid conditions (24 of 26 [92.3%] vs 160 of 239 [66.9%]), including malignant neoplasm (6 of 26 [23.1%] vs 18 of 239 [7.5%]), than those in the control group. Full vaccination status was significantly associated with lower mortality compared with controls (16 of 26 patients [61.5%] died in the full vaccination group vs 163 of 239 [68.2%] in the control group; hazard ratio, 0.55

Resumo	[95% CI, 0.32-0.94]; P = .03).In this cohort study, full vaccination status was associated with lower mortality compared with controls, which suggests that vaccination might be beneficial even among patients who were intubated owing to COVID-19–related ARDS. These results may inform discussions with families about prognosis.
Referências	GRAPSA, E. *et al.* Association between vaccination status and mortality among intubated patients with COVID-19–related acute respiratory distress syndrome. **JAMA network open**, [United States], v. 5, n. 10, p. e2235219, Oct. 7, 2022. DOI: 10.1001/jamanetworkopen.2022.35219. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.35219. Acesso em: 14 out. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797179

Título	Household transmission of the Delta Covid-19 variant in Queensland, Australia: a case series
Autor(es)	Eryn Wright, Gayle Pollard, Hannah Robertson, Satyamurthy Anuradha
Resumo	Household transmission plays a key role in the spread of Covid-19 through populations. In this paper, we report on the transmission of Covid-19 within households in a metropolitan area in Australia, examine the impact of various factors and highlight priority areas for future public health responses. We collected and reviewed retrospective case report data and follow-up interview responses from households with a positive case of the Delta Covid-19 variant in Queensland in 2021. The overall secondary attack rate (SAR) among household contacts was 29.6% and the mean incubation period for secondary cases was 4.3 days. SAR was higher where the index case was male (57.9% vs. 14.3%) or aged ≤12 years (38.7% vs. 17.4%) but similar for adult contacts that were double vaccinated (35.7%) and unvaccinated (33.3%). Most interview participants emphasized the importance of clear, consistent and compassionate health advice as a key priority for managing outbreaks in the home. The overall rate of household transmission was slightly higher than that reported in previous studies on the wild Covid-19 variant and secondary infections developed more rapidly. While vaccination did not appear to affect the risk of transmission to adult subjects, uptake in the sample was ultimately high.
Referências	WRIGHT, E. *et al.* Household transmission of the Delta Covid-19 variant in Queensland, Australia: a case series. **Epidemiol. infect.**, [United Kingdom], Oct. 4, p. 1–25, 2022. DOI: 10.1017/S0950268822001546. Disponível em: https://www.cambridge.org/core/product/identifier/S0950268822001546/type/journal_article. Acesso em: 7 out. 2022.
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Título	Immunogenicity, durability, and safety of an mRNA and three platform-based COVID-19 vaccines as a third dose following two doses of CoronaVac in China: A randomised, double-blinded, placebo-controlled, phase 2 trial
Autor(es)	Yuemiao Zhang, Xupu Ma, Guanghong Yan, Ying Wu, Yanli Chen, Zumi Zhou, Na Wan, Wei Su, Feng-Wei Liu, Mu-Xian Dai, Mei Yang, Chunmei Li, Xuanjing Yu, Liang Zhang, Zhongfang Wang, Tai-Cheng Zhou, Dingyun You, Jia Wei, Zijie Zhang
Resumo	More effective vaccine candidates against variants of concern as a booster dose are needed in people primed with two-dose inactivated COVID-19 vaccines.
Referências	YUEMIAO, Z. *et al.* Immunogenicity, durability, and safety of an mRNA and three platform-based COVID-19 vaccines as a third dose following two doses of CoronaVac in China: A randomised, double-blinded, placebo-controlled, phase 2 trial. **eClinicalMedicine**, [Netherlands], v. 54, Sept. 28, 2022. DOI: 10.1016/j.eclinm.2022.101680. Disponível em: https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00410-2/fulltext. Acesso em: 7 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2589-5370%2822%2900410-2

Atualizado em: 28 de outubro de 2022

Título	Impact of the COVID-19 pandemic on long-term trends in the prevalence of diabetic ketoacidosis at diagnosis of paediatric type 1 diabetes: an international multicentre study based on data from 13 national diabetes registries
Autor(es)	Niels H Birkebaek, Clemens Kamrath, Julia M Grimsmann, Karin Aakesson, Valentino Cherubini, Klemen Dovc, Carine de Beaufort, Guy T Alonso, John W Gregory, Mary White, Torild Skrivarhaug, Zdenek Sumnik, Craig Jefferies, Thomas Hörtenhuber, Aveni Haynes, Martin De Bock, Jannet Svensson, Justin T Warner, Osman Gani, Rosaria Gesuita, Riccardo Schiaffini, Ragnar Hanas, Arleta Rewers, Alexander J Eckert, Reinhard W Holl, Ondrej Cinek
Resumo	An increased prevalence of diabetic ketoacidosis at diagnosis of type 1 diabetes in children was observed in various diabetes centres worldwide during the COVID-19 pandemic. We aimed to evaluate trends in the prevalence of diabetic ketoacidosis at diagnosis of paediatric type 1 diabetes before and during the COVID-19 pandemic, and to identify potential predictors of changes in diabetic ketoacidosis prevalence during the pandemic.
Referências	BIRKEBAEK, N. H. *et al.* Impact of the COVID-19 pandemic on long-term trends in the prevalence of diabetic ketoacidosis at diagnosis of paediatric type 1 diabetes: an international multicentre study based on data from 13 national diabetes registries. **The Lancet . Diabetes & endocrinology**, [Netherlands], Oct. 3, 2022. DOI: 10.1016/S2213-8587(22)00246-7. Disponível em: https://www.thelancet.com/journals/landia/article/PIIS2213-8587(22)00246-7/fulltext. Acesso em: 7 out. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2213-8587%2822%2900246-7

Título	Vaccines and variants: an update on cardiopulmonary assessment prior to return to high-hazard occupations following COVID-19
Autor(es)	Oliver O'Sullivan, Rienk Rienks , David Holdsworth, Constantinos H Davos, Martin Halle , Alexander Bennett, Gianfranco Parati , Norbert Guettler, Edward Nicol
Resumo	The Aviation and Occupational Cardiology Task Force of the European Association of Preventative Cardiology (EAPC) produced a position statement providing the recommendations for the return of individuals to high-hazard occupations (including flying, diving, and remote workplaces) following symptomatic coronavirus disease 2019 (COVID-19) in early 2022 [1]. This position statement was based on the initial variants of COVID-19, in a predominantly unvaccinated population, and recommended the use of a systematic combined clinical and occupational assessment, for those deemed at high risk following clinical risk triage, using specialist cardiopulmonary evaluation (including peak exercise capacity and imaging, where appropriate). Cardiopulmonary exercise testing (CPET) was central to this assessment, as the gold-standard exercise test modality, and has now been shown to have utility in identification of exercise limitation, ventilatory inefficiency and other abnormal physiology in hospitalised and non-hospitalised individuals who have been infected with COVID-19 [2,3] Since the release of the original position statement, COVID-19 has evolved, through the Delta and Omicron variant waves, with large-scale vaccination programmes introduced to mitigate the worse impact of the disease. This update of the initial position statement aims to update the recommendations for the safe return of individuals to high-hazard activities following COVID-19, considering these changes.
Referências	O'SULLIVAN, O. *et al.* Vaccines and Variants: An update on cardiopulmonary assessment prior to return to high-hazard occupations following COVID-19. **European journal of preventive cardiology**, [United Kingdom], p. zwac228, Oct. 6, 2022. DOI: 10.1093/eurjpc/zwac228. Disponível em: https://doi.org/10.1093/eurjpc/zwac228. Acesso em: 7 out. 2022.
Fonte	https://academic.oup.com/eurjpc/advance-article/doi/10.1093/eurjpc/zwac228/6749020

Título	Limited humoral and specific T-cell responses after SARS-CoV-2 vaccination in PLWH with poor immune reconstitution
Autor(es)	Susana Benet, Oscar Blanch-Lombarte, Erola Ainsua-Enrich, Núria Pedreño-Lopez, Jordana Muñoz-Basagoiti, Dàlia Raïch-Regué, Daniel Perez-Zsolt, Ruth Peña, Esther Jiménez, María Luisa Rodríguez de la Concepción, Carlos Ávila, Samandhy Cedeño, Tuixent Escribà, Luis Romero-Martín, Yovaninna Alarcón-Soto, Gabriel Felipe Rodriguez-Lozano, Cristina Miranda, Sandra González, Lucía Bailón, Julià Blanco, Marta Massanella, Christian Brander, Bonaventura Clotet, Roger Paredes, María Esteve, Nuria Izquierdo- Useros, Jorge Carrillo, Julia G Prado, José Moltó, Beatriz Mothe
Resumo	We analyzed humoral and cellular immune responses induced by SARS-CoV-2 mRNA vaccines in people living with HIV-1 (PLWH) with < 200 CD4+ T-cells.Prospective cohort study including 58 PLWH with CD4+ T-cell counts <200 cells/mm3, 36 with CD4+ T-cell counts >500, and 33 HIV-1-negative controls. Antibodies against the SARS-CoV-2 Spike protein (anti-S IgG) and the receptor-binding domain (anti-RBD IgG) were quantified before and four weeks after the first and the second dose of BNT162b2 or mRNA-1273 (w8). Viral neutralization activity and T-cell responses were also determined.At w8, anti-S/anti-RBD IgG responses increased in all groups (P < 0.0001). Median (IQR) S-IgG and RBD-IgG at w8 were 153.6 (26.4; 654.9) and 171.9 (61.8; 425.8) in the HIV < 200 group compared to 245.6 (145; 824) and 555.8 (166.4; 1751) in the HIV > 500 group, and 274.7 (193.7; 680.4) and 281.6 (181; 831.8) BAU/mL in controls (P < 0.05). Neutralizing capacity and specific T-cell immune responses were absent or reduced in 33% of the HIV < 200 group, compared with 3.7% in the HIV > 500 (P = 0.0003).One third of PLWH with CD4+ T-cell counts <200 cells/mm3 show low anti-S/anti-RBD IgG levels, reduced in vitro neutralization activity against SARS-CoV-2 and no vaccine-induced T-cells after receiving COVID-19 mRNA vaccines.
Referências	BENET, S. *et al.* Limited humoral and specific T-cell responses after SARS-CoV-2 vaccination in PLWH with poor immune reconstitution. **The journal of infectious diseases**, [United Kingdom], p. jiac406, Oct. 6, 2022. DOI: 10.1093/infdis/jiac406. Disponível em: https://doi.org/10.1093/infdis/jiac406. Acesso em: 7 out. 2022.
Fonte	https://academic.oup.com/jid/advance-article/doi/10.1093/infdis/jiac406/6749018?searchresult=1

Título	Clinical, Virologic, and Immunologic Evaluation of Symptomatic Coronavirus Disease 2019 Rebound Following Nirmatrelvir/Ritonavir Treatment
Autor(es)	Brian P Epling, Joseph M Rocco, Kristin L Boswell, Elizabeth Laidlaw, Frances Galindo, Anela Kellogg, Sanchita Das, Allison Roder, Elodie Ghedin, Allie Kreitman, Robin L Dewar, Sophie E M Kelly, Heather Kalish, Tauseef Rehman, Jeroen Highbarger, Adam Rupert, Gregory Kocher, Michael R Holbrook, Andrea Lisco, Maura Manion, Richard A Koup, Irini Sereti
Resumo	Nirmatrelvir/ritonavir, the first severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) protease inhibitor, reduces the risk of hospitalization and death by coronavirus disease 2019 (COVID-19) but has been associated with symptomatic rebound after therapy completion.Six individuals with relapse of COVID-19 symptoms after treatment with nirmatrelvir/ritonavir, 2 individuals with rebound symptoms without prior antiviral therapy and 7 patients with acute Omicron infection (controls) were studied. Soluble biomarkers and serum SARS-CoV-2 nucleocapsid protein were measured. Nasal swabs positive for SARS-CoV-2 underwent viral isolation and targeted viral sequencing. SARS-CoV-2 anti-spike, anti–receptor-binding domain, and anti-nucleocapsid antibodies were measured. Surrogate viral neutralization tests against wild-type and Omicron spike protein, as well as T-cell stimulation assays, were performed.High levels of SARS-CoV-2 anti-spike immunoglobulin G (IgG) antibodies were found in all participants. Anti-nucleocapsid IgG and Omicron-specific neutralizing antibodies increased in patients with rebound. Robust SARS-CoV-2–specific T-cell responses were observed, higher in rebound compared with early acute COVID-19 patients. Inflammatory markers mostly decreased during rebound. Two patients sampled longitudinally demonstrated an increase in activated cytokine-producing CD4+ T cells against viral proteins. No characteristic resistance mutations were identified. SARS-CoV-2 was isolated by culture from 1 of 8 rebound patients; Polybrene addition increased this to 5 of 8.Nirmatrelvir/ritonavir treatment does not impede adaptive immune responses to SARS-CoV-2. Clinical rebound corresponds to development of a robust antibody and T-cell immune response, arguing against a high risk of disease progression. The presence of infectious virus supports the need for isolation and assessment of longer treatment courses.Clinical trials registration. NCT04401436.
Referências	EPLING, B. P. *et al.* Clinical, Virologic, and Immunologic Evaluation of Symptomatic Coronavirus Disease 2019 Rebound Following Nirmatrelvir/Ritonavir Treatment. **Clinical infectious diseases**, [United States], p. ciac663, Oct. 6, 2022. DOI: 10.1093/cid/ciac663. Disponível em: https://doi.org/10.1093/cid/ciac663. Acesso em: 7 out. 2022.
Fonte	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac663/6749408?searchresult=1

Título	Early outpatient treatment with remdesivir in patients at high risk for severe COVID-19: a prospective cohort study
Autor(es)	Sandra Rajme-López, Bernardo A Martinez-Guerra, Jessica Zalapa-Soto, Carla M Román-Montes, Karla M Tamez-Torres, María F González-Lara, Hernández Gilsoul Thierry, David Kershenobich-Stalnikowitz, José Sifuentes-Osornio, Alfredo Ponce-de-León, Guillermo M Ruíz-Palacios
Resumo	Early treatment of COVID-19 with remdesivir in high-risk patients, including those with immunosuppression of different causes has not been evaluated.To assess the clinical effectiveness of early remdesivir treatment among patients with mild to moderate COVID-19 at high risk of progression.This prospective cohort comparative study was conducted in a tertiary referral center in Mexico City. Patients with mild to moderate COVID-19 at high risk for progression were treated with an ambulatory 3-day course of remdesivir. The primary efficacy composite outcome was hospitalization or death at 28 days after symptom onset. Cox proportional hazards regression model was used to identify associations with the primary outcome.From December 1st, 2021, to April 30th, 2022, a total of 196 high-risk patients were diagnosed with COVID-19, of which 126 were included in this study (43%, 54/126 received remdesivir, 57%, 72/126 did not receive remdesivir). Baseline clinical characteristics were similar between groups; autoimmune diseases (39/126), solid organ transplant (31/126) and malignant neoplasms (24/126) were the most common immunocompromising conditions. Diabetes mellitus was strongly associated with the primary outcome in both groups. Prior SARS-CoV-2 infection or vaccination were not independently associated with COVID-19 progression. Treatment with remdesivir significantly reduced the odds of hospitalization or death (adjusted HR 0.16 95% CI 0.06 to 0.44, p < 0.01).Early outpatient treatment with remdesivir significantly reduces hospitalization or death by 84% in high-risk, majority immunosuppressed patients with COVID-19 Omicron variant.
Referências	RAJME-LÓPEZ, S. *et al.* Early outpatient treatment with remdesivir in patients at high risk for severe COVID-19: a prospective cohort study. **Open forum infectious diseases**, [United Kingdom], p. ofac502, Oct. 6, 2022. DOI: 10.1093/ofid/ofac502. Disponível em: https://doi.org/10.1093/ofid/ofac502. Acesso em: 7 out. 2022.
Fonte	https://academic.oup.com/ofid/advance-article/doi/10.1093/ofid/ofac502/6750022?searchresult=1

Título	Association of Influenza vaccination with SARS-CoV-2 infection and associated hospitalization and mortality among patients aged 66 years or older
Autor(es)	Seyed M. Hosseini-Moghaddam, Siyi He, Andrew Calzavara, Michael A. Campitelli, Jeffrey C. Kwong
Resumo	Vaccine effectiveness studies have rarely implemented strategies to reduce the healthy vaccinee bias arising from differences in health care–seeking behavior between vaccinated and unvaccinated individuals. Although previous observational studies suggest that influenza vaccination is associated with a reduced risk of SARS-CoV-2–associated outcomes, the healthy vaccinee bias may have led to overestimating the vaccination effect.To estimate the association between influenza vaccination and SARS-CoV-2–associated outcomes.This cohort study was conducted over 2 consecutive influenza vaccination campaigns (2019-2020 and 2020-2021), owing to the substantial COVID-19 burden and the greater validity of influenza vaccination data in the studied age group. The study population included community-dwelling adults aged 66 years or older in Ontario, Canada.Influenza vaccination for a given season.The outcomes of interest included SARS-CoV-2 infection, SARS-CoV-2–associated hospitalization, SARS-CoV-2–associated death, and a composite of SARS-CoV-2–associated hospitalization or death. Cox proportional hazards models were used to measure the association between influenza vaccination and SARS-CoV-2–associated outcomes, censoring individuals who moved into long-term care, received COVID-19 vaccines, or died before the observation period end date. Primary care periodic health examinations (PHEs) were explored as a negative tracer exposure (ie, no association expected with SARS-CoV-2 outcomes) and as an effect modifier of the association between influenza vaccination and SARS-CoV-2 outcomes.Of 2 922 449 individuals aged 66 years or older (54.2% female) living in Ontario, 2 279 805 were included in the study. Among these, 1 234 647 (54.2%) were female and 1 045 158 (45.8%) were male; their mean (SD) age was 75.08 (7.21) years. Those who had received influenza vaccination exhibited a lower incidence of SARS-CoV-2 infection than unvaccinated individuals for the 2019-2020 cohort (adjusted hazards ratio

Resumo	[aHR], 0.78; 95% CI, 0.73-0.84) and the 2020-2021 cohort (aHR, 0.76; 95% CI, 0.74-0.78). This association was also observed for SARS-CoV-2–associated hospitalization or death (2019-2020: aHR, 0.83; 95% CI, 0.74-0.92; 2020-2021: aHR, 0.66; 95% CI, 0.63-0.70). Similarly, undergoing a PHE was also associated with a lower incidence of SARS-CoV-2 infection (aHR, 0.85; 95% CI, 0.78-0.91) and SARS-CoV-2–associated hospitalization or death (aHR, 0.80; 95% CI, 0.70-0.90), and modified the association between influenza vaccination and SARS-CoV-2 infection for vaccinated individuals who underwent PHE (aHR, 0.62; 95% CI, 0.52-0.74) and for vaccinated individuals who did not undergo PHE (aHR, 0.81; 95% CI, 0.76-0.87), and also SARS-CoV-2–associated hospitalization or death in vaccinated individuals who underwent PHE (aHR, 0.66; 95% CI, 0.49-0.88) and vaccinated individuals who did not undergo PHE (aHR, 0.85, 95% CI, 0.76-0.95).The findings of this cohort study suggest that undergoing a PHE may at least partially modify the association between influenza vaccination and SARS-CoV-2–associated outcomes in individuals aged 66 years or older, providing evidence of the healthy vaccinee bias that may affect vaccine effectiveness studies.
Referências	HOSSEINI-MOGHADDAM, S. M. *et al.* Association of Influenza vaccination with SARS-CoV-2 infection and associated hospitalization and mortality among patients aged 66 years or older. **JAMA network open**, [United States], v. 5, n. 9, p. e2233730, Sept. 28, 2022. DOI: 10.1001/jamanetworkopen.2022.33730. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.33730. Acesso em: 7 out. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2796809

Título	Incidence of severe COVID-19 illness following vaccination and booster With BNT162b2, mRNA-1273, and Ad26.COV2.S vaccines
Autor(es)	J. Daniel Kelly, Samuel Leonard, Katherine J. Hoggatt, W. John Boscardin, Emily N. Lum, Tristan A. Moss-Vazquez, Raul Andino, Joseph K. Wong, Amy Byers, Dawn M. Bravata, Phyllis C. Tien, Salomeh Keyhani
Resumo	Evidence describing the incidence of severe COVID-19 illness following vaccination and booster with BNT162b2, mRNA-1273, and Ad26.COV2.S vaccines is needed, particularly for high-risk populations.To describe the incidence of severe COVID-19 illness among a cohort that received vaccination plus a booster vaccine dose.Retrospective cohort study of adults receiving care at Veterans Health Administration facilities across the US who received a vaccination series plus 1 booster against SARS-CoV-2, conducted from July 1, 2021, to May 30, 2022. Patients were eligible if they had received a primary care visit in the prior 2 years and had documented receipt of all US Food and Drug Administration–authorized doses of the initial mRNA vaccine or viral vector vaccination series after December 11, 2020, and a subsequent documented booster dose between July 1, 2021, and April 29, 2022. The analytic cohort consisted of 1 610 719 participants.Receipt of any combination of mRNA-1273 (Moderna), BNT162b2 (Pfizer-BioNTech), and Ad26.COV2.S (Janssen/Johnson & Johnson) primary vaccination series and a booster dose.Outcomes were breakthrough COVID-19 (symptomatic infection), hospitalization with COVID-19 pneumonia and/or death, and hospitalization with severe COVID-19 pneumonia and/or death. A subgroup analysis of nonoverlapping populations included those aged 65 years or older, those with high-risk comorbid conditions, and those with immunocompromising conditions.Of 1 610 719 participants, 1 100 280 (68.4%) were aged 65 years or older and 132 243 (8.2%) were female; 1 133 785 (70.4%) had high-risk comorbid conditions, 155 995 (9.6%) had immunocompromising conditions, and 1 467 879 (91.1%) received the same type of mRNA vaccine (initial series and booster). Over 24 weeks, 125.0 (95% CI, 123.3-126.8) per 10 000 persons had breakthrough COVID-19, 8.9 (95% CI, 8.5-9.4) per 10 000 persons were hospitalized with COVID-19 pneumonia or died, and 3.4 (95% CI, 3.1-3.7) per 10 000 persons

Resumo	were hospitalized with severe pneumonia or died. For high-risk populations, incidence of hospitalization with COVID-19 pneumonia or death was as follows: aged 65 years or older, 1.9 (95% CI, 1.4-2.6) per 10 000 persons; high-risk comorbid conditions, 6.7 (95% CI, 6.2-7.2) per 10 000 persons; and immunocompromising conditions, 39.6 (95% CI, 36.6-42.9) per 10 000 persons. Subgroup analyses of patients hospitalized with COVID-19 pneumonia or death by time after booster demonstrated similar incidence estimates among those aged 65 years or older and with high-risk comorbid conditions but not among those with immunocompromising conditions.In a US cohort of patients receiving care at Veterans Health Administration facilities during a period of Delta and Omicron variant predominance, there was a low incidence of hospitalization with COVID-19 pneumonia or death following vaccination and booster with any of BNT162b2, mRNA-1273, or Ad26.COV2.S vaccines.
Referências	KELLY, J. D. *et al.* Incidence of severe COVID-19 illness following vaccination and booster with BNT162b2, mRNA-1273, and Ad26.COV2.S vaccines. **JAMA**, [United States.], Sept. 26, 2022. DOI: 10.1001/jama.2022.17985. Disponível em: https://doi.org/10.1001/jama.2022.17985. Acesso em: 7 out. 2022.
Fonte	https://jamanetwork.com/journals/jama/fullarticle/2796892

Título	Transmission roles of symptomatic and asymptomatic COVID-19 cases: a modeling study
Autor(es)	Jianbin Tan, Yang Ge , Leonardo Martinez , Jimin Sun , Changwei Li , Adrianna Westbrook , Enfu Chen , Jinren Pan , Yang Li , Wei Cheng , Feng Ling , Zhiping Chen, Ye Shen, Hui Huan
Resumo	COVID-19 asymptomatic cases are hard to identify, impeding transmissibility estimation. The value of COVID-19 transmissibility is worth further elucidation for key assumptions in further modeling studies. Through a population-based surveillance network, we collected data on 1342 confirmed cases with a 90-days follow-up for all asymptomatic cases. An age-stratified compartmental model containing contact information was built to estimate the transmissibility of symptomatic and asymptomatic COVID-19 cases. The difference in transmissibility of a symptomatic and asymptomatic case depended on age and was most distinct for the middle-age groups. The asymptomatic cases had a 66.7% lower transmissibility rate than symptomatic cases, and 74.1% (95%CI: 65.9% - 80.7%) of all asymptomatic cases were missed in detection. The average proportion of asymptomatic cases was 28.2% (95%CI: 23.0% - 34.6%). Simulation demonstrated that the burden of asymptomatic transmission increased as the epidemic continued and could potentially dominate total transmission. The transmissibility of asymptomatic COVID19 cases is high and asymptomatic COVID-19 cases play a significant role in outbreaks.
Referências	JIANBIN, T. *et al.* Transmission roles of symptomatic and asymptomatic COVID-19 cases: a modeling study. **Epidemiol. infect** [United Kingdom], p. 1–25, Sept. 27, 2022. DOI: 10.1017/S0950268822001467.Disponível em: https://www.cambridge.org/core/product/identifier/S0950268822001467/type/journal_article. Acesso em: 30 set. 2022.
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Título	Renal, cardiac, neurological, cutaneous and coagulopathic long-term manifestations of COVID-19 after recovery; a review
Autor(es)	Reza Afrisham, Yasaman Jadidi, Maryam Davoudi, Kiana Moayedi, Sania Karami, Sahar Sadegh-Nejadi, Damoon Ashtary-Larky, ShadiSadat Seyyedebrahimi, Shaban Alizadeh
Resumo	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) caused the novel global coronavirus (COVID-19) disease outbreak. Its pathogenesis is mostly located in the respiratory tract. However, other organs are also affected. Hence, realizing how such a complex disturbance affects patients after recovery is crucial. Regarding the significance of control of COVID-19-related complications after recovery, the current study was designed to review the cellular and molecular mechanisms linking COVID-19 to significant long-term signs including renal and cardiac complications, cutaneous and neurological manifestations, as well as blood coagulation disorders. This virus can directly influence on the cells through Angiotensin converting enzyme 2 (ACE-2) to induce cytokine storm. Acute release of Interleukin-1 (IL1), IL6 and plasminogen activator inhibitor (PAI-1) have been related to elevating risk of heart failure. Also, inflammatory cytokines like IL-8 and Tumor necrosis factor-α (TNF- α) cause the secretion of von Willebrand factor (VWF) from human endothelial cells and then VWF binds to Neutrophil extracellular traps (NETs) to induce thrombosis. On the other hand, the virus can damage the blood–brain barrier by increasing its permeability and subsequently enters into the central nervous system (CNS) and the systemic circulation. Furthermore, SARS-induced ACE2-deficiency decreases [des-Arg9]- bradykinin (desArg9-BK) degradation in kidneys to induce inflammation, thrombotic problems, fibrosis and necrosis. Notably, the angiotensin II-angiotensin II type 1 receptor (ANGII-AT1R) binding causes an increase in aldosterone and mineralocorticoid receptors on the surface of dendritic cells (DC) cells, leading to recalling macrophage and monocyte into inflammatory sites of skin. In conclusions, all the pathways play a key role in the pathogenesis of these disturbances. Nevertheless, more investigations are necessary to determine more pathogenetic mechanisms of the virus.

Referências	AFRISHAM, R. *et al.* Renal, Cardiac, Neurological, Cutaneous and Coagulopathic Long-term Manifestations of COVID-19 after Recovery; A review. **Epidemiol. infect** [United Kingdom], p. 1–29, Sept. 21, 2022. DOI: 10.1017/S0950268822001480. Disponível em: https://www.cambridge.org/core/product/identifier/S0950268822001480/type/journal_article. Acesso em: 30 set. 2022.
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Título	A machine learning algorithm to analyze the effects of vaccination on COVID-19 mortality
Autor(es)	Cosimo Magazzino , Marco Mele , Mario Coccia
Resumo	The Coronavirus Disease 2019 (COVID-19), with new variants, continues to be a constant pandemic threat that is generating socio-economic and health issues in manifold countries. The principal goal of this study is to develop a Machine Learning experiment to assess the effects of vaccination on the fatality rate of the COVID-19 pandemic. Data from 192 countries are analyzed to explain the phenomena under study. This new algorithm selected two targets: the number of deaths and the fatality rate. Results suggest that, based on the respective vaccination plan, the turnout in the participation in the vaccination campaign, and the doses administered, countries under study suddenly have a reduction in the fatality rate of COVID-19 precisely at the point where the cut effect is generated in the Neural Network. This result is significant for the international scientific community. It would demonstrate the effective impact of the vaccination campaign on the fatality rate of COVID-19, whatever the country considered. In fact, once the vaccination has started (for vaccines that require a booster, we refer to at least the first dose), the antibody response of people seems to prevent the probability of death related to COVID-19. In short, at a certain point, the fatality rate collapses with increasing doses administered. All these results here can help decisions of policymakers to prepare optimal strategies, based on effective vaccination plans, to lessen the negative effects of the COVID-19 pandemic crisis in socioeconomic and health systems.
Referências	MAGAZZINO, C.; MELE, M.; COCCIA, M. A machine learning algorithm to analyze the effects of vaccination on COVID-19 mortality. **Epidemiol. infect** [United Kingdom], p. 1–24, Sept. 12, 2022. DOI: 10.1017/S0950268822001418. Disponível em: https://www.cambridge.org/core/product/identifier/S0950268822001418/type/journal_article. Acesso em: 30 set. 2022.
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Título	Predictors of mental health deterioration from pre- to post-COVID-19 outbreak
Autor(es)	Nathaly Rius Ottenheim , Kuan-Yu Pan , Almar AL Kok , Frederike Jörg , Merijn Eikelenboom , Melany Horsfall , Rob A. Luteijn , Patricia van Oppen , Didi Rhebergen , Robert A. Schoevers , Brenda WJH Penninx , Erik J. Giltay
Resumo	Mental health was only modestly affected in adults during the early months of the COVID-19 pandemic on the group level, but interpersonal variation was large. Aims: We aim to investigate potential predictors of the differences in changes in mental health.
Referências	RIUS OTTENHEIM, N. *et al.* Predictors of mental health deterioration from pre- to post-COVID-19 outbreak. **BJPsych open**, [United Kingdom], v. 8, n. 5, p. e162, 2022. DOI: 10.1192/bjo.2022.555. Disponível em: https://www.cambridge.org/core/product/identifier/S2056472422005555/type/journal_article. Acesso em: 30 set. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/35B4D2E2729DB92FD37AAED039CCDDA3/S2056472422005555a.pdf/predictors_of_mental_health_deterioration_from_pre_to_postcovid19_outbreak.pdf

Título	Cuban Abdala vaccine: Effectiveness in preventing severe disease and death from COVID-19 in Havana, Cuba; A cohort study
Autor(es)	Pedro I. Más-Bermejo, Félix O. Dickinson-Meneses, Kenia Almenares-Rodríguez, Lizet Sánchez-Valdés, Raúl Guinovart-Díaz, María Vidal-Ledo, Enrique Galbán-García, Yadira Olivera-Nodarse, Isabel Morgado-Veja, Santiago Dueñas-Carrera, Merardo Pujol, Francisco Hernández-Bernal, Miladys Limonta-Fernández, Gerardo Guillén-Nieto, Verena L. Muzio-González, Marta Ayala-Ávila
Resumo	COVID-19 vaccines have proven safe and efficacious in reducing severe illness and death. Cuban protein subunit vaccine Abdala has shown safety, tolerability and efficacy (92·3% [95% CI: 85·7–95·8]) against SARS-CoV-2 in clinical trials. This study aimed to estimate Abdala's real-world vaccine effectiveness (VE). Methods: This retrospective cohort study in Havana analyzed Cuban Ministry of Public Health databases (May 12-August 31, 2021) to assess VE in preventing severe illness and death from COVID-19 (primary outcomes). Cox models accounting for time-varying vaccination status and adjusting by demographics were used to estimate hazard ratios. A subgroup analysis by age group and a sensitivity analysis including a subgroup of tested persons (qRT-PCR) were conducted. Daily cases and deaths were modelled accounting for different VE. Findings: The study included 1 355 638 persons (Mean age: 49·5 years [SD: 18·2]; 704 932 female [52·0%]; ethnicity data unavailable): 1 324 vaccinated (partially/fully) and 31 433 unvaccinated. Estimated VE against severe illness was 93·3% (95% CI: 92·1-94·3) in partially- vaccinated and 98·2% (95% CI: 97·9-98·5) in fully-vaccinated and against death was 94·1% (95% CI: 92·5-95·4) in partially-vaccinated and 98·7% (95% CI: 98·3-99·0) in fully-vaccinated. VE exceeded 92·0% in all age groups. Daily cases and deaths during the study period corresponded to a VE above 90%, as predicted by models. Interpretation: he Cuban Abdala protein subunit vaccine was highly effective in preventing severe illness and death from COVID-19 under real-life conditions.
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Fonte	https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(22)00183-1/fulltext

Título	Long COVID symptoms in exposed and infected children, adolescents and their parents one year after SARS-CoV-2 infection: a prospective observational cohort study
Autor(es)	Anneke Haddad , Aleš Janda, Hanna Renk, Maximilian Stich, Pauline Frieh, Klaus Kaier, Florens Lohrmann, Alexandra Nieters, Anna Willems, Daniela Huzly, Alex Dulovic, Nicole Schneiderhan-Marra, Eva-Maria Jacobsen, Dorit Fabricius, Maria Zernickel, Thomas Stamminger, Sebastian F.N. Bode, Theda Himpel, Jonathan Remppis, Corinna Engel, Andreas Peter, Tina Ganzenmueller, Georg Friedrich Hoffmann, Bettina Haase, Hans-Georg Kräusslich, Barbara Müller, Axel R. Franz, Klaus-Michael Debatin, Burkhard Tönshoff, Philipp Henneke, Roland Elling,
Resumo	Long COVID in children and adolescents remains poorly understood due to a lack of well-controlled studies with long-term follow-up. In particular, the impact of the family context on persistent symptoms following SARS-CoV-2 infection remains unknown. We examined long COVID symptoms in a cohort of infected children, adolescents, and adults and their exposed but non-infected household members approximately 1 year after infection and investigated clustering of persistent symptoms within households.Methods: 267 members of 341 households (404 children aged <14 years, 140 adolescents aged 14-18 years and 723 adults) were categorized as having had either a SARS-CoV-2 infection or household exposure to SARS-CoV-2 without infection, based on three serological assays and history of laboratory-confirmed infection. Participants completed questionnaires assessing the presence of long COVID symptoms 11-12 months after infection in the household using online questionnaires.Findings: The prevalence of moderate or severe persistent symptoms was statistically significantly higher in infected than in exposed women (36.4% [95% CI: 30.7–42.4%] vs 14.2% [95% CI: 8.7–21.5%]), infected men (22.9% [95% CI: 17.9–28.5%] vs 10.3% [95% CI: 5.8–16.9%]) and infected adolescent girls (32.1% 95% CI: 17.2–50.5%] vs 8.9% [95%CI: 3.1–19.8%]). However, moderate or severe persistent symptoms were not statistically more common in infected adolescent boys aged 14–18 (9.7% [95% CI: 2.8–23.6%] or in infected children <14 years (girls: 4.3% [95% CI: 1.2–11.0%]; boys: 3.7% [95% CI: 1.1–9.6%]) than in their exposed counterparts (adolescent boys: 0.0% [95% CI: 0.0–6.7%]; girls < 14 years: 2.3% [95% CI: 0·7–6·1%]; boys < 14 years: 0.0% [95% CI: 0.0–2.0%]). The

Resumo	number of persistent symptoms reported by individuals was associated with the number of persistent symptoms reported by their household members (IRR=1·11, *p*=·005, 95% CI [1.03–1.20]). Interpretation: In this controlled, multi-centre study, infected men, women and adolescent girls were at increased risk of negative outcomes 11-12 months after SARS-CoV-2 infection. Amongst non-infected adults, prevalence of negative outcomes was also high. Prolonged symptoms tended to cluster within families, suggesting family-level interventions for long COVID could prove useful.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S2352-3964%2822%2900427-3

Título	Risk factors for SARS-CoV-2 infection after primary vaccination with ChAdOx1 nCoV-19 or BNT162b2 and after booster vaccination with BNT162b2 or mRNA-1273: A population-based cohort study (COVIDENCE UK)
Autor(es)	Giulia Vivaldi, David A. Jolliffe, Hayley Holt, Florence Tydeman, Mohammad Talaei, Gwyneth A. Davies, Ronan A. Lyons, Christopher J. Griffiths, Frank Kee, Aziz Sheikh, Seif O. Shaheen, Adrian R. Martineau
Resumo	Little is known about how demographic, behavioural, and vaccine-related factors affect risk of post-vaccination SARS-CoV-2 infection. We aimed to identify risk factors for SARS-CoV-2 infection after primary and booster vaccinations. Methods This prospective, population-based, UK study in adults (≥16 years) vaccinated against SARS-CoV-2 assessed risk of breakthrough SARS-CoV-2 infection up to February, 2022, for participants who completed a primary vaccination course (ChAdOx1 nCoV-19 or BNT162b2) and those who received a booster dose (BNT162b2 or mRNA-1273). Cox regression models explored associations between sociodemographic, behavioural, clinical, pharmacological, and nutritional factors and test-positive breakthrough infection, adjusted for local weekly SARS-CoV-2 incidence. Findings 1051 (7¢1%) of 14 713 post-primary participants and 1009 (9¢5%) of 10 665 post-booster participants reported breakthrough infection, over a median follow-up of 203 days (IQR 195−216) and 85 days (66−103), respectively. Primary vaccination with ChAdOx1 (vs BNT162b2) was associated with higher risk of infection in both postprimary analysis (adjusted hazard ratio 1¢63, 95% CI 1¢41−1¢88) and after an mRNA-1273 booster (1¢26 [1¢00−1¢57] vs BNT162b2 primary and booster). Lower risk of infection was associated with older age (post-primary: 0¢97 [0¢96 −0¢97] per year; post-booster: 0¢97 [0¢97−0¢98]), whereas higher risk of infection was associated with lower educational attainment (post-primary: 1¢78 [1¢44−2¢20] for primary/secondary vs postgraduate; post-booster: 1¢46 [1¢16−1¢83]) and at least three weekly visits to indoor public places (post-primary: 1¢36 [1¢13−1¢63] vs none; postbooster: 1¢29 [1¢07−1¢56]). Interpretation Vaccine type, socioeconomic status, age, and behaviours affect risk of breakthrough infection after primary and booster vaccinations.v

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Fonte	https://www.thelancet.com/action/showPdf?pii=S2666-7762%2822%2900197-1

Título	Comparison of maternal and neonatal outcomes of COVID-19 before and after SARS-CoV-2 omicron emergence in maternity facilities in Malawi (MATSurvey): data from a national maternal surveillance platform
Autor(es)	Leonard Mndala, Edward J M Monk, Deborah Phiri, Jennifer Riches, Regina Makuluni, Luis Gadama, Fannie Kachale, Rosemary Bilesi, Malangizo Mbewe, Andrew Likaka, Chikondi Chapuma, Moses Kumwenda, Bertha Maseko, Chifundo Ndamala, Annie Kuyere, Laura Munthali, Marc Y R Henrion, Clemens Masesa, David Lissauer
Resumo	Outcomes of omicron-associated COVID-19 in pregnancy have not been reported from low-resource settings, and data from sub-Saharan Africa before the emergence of omicron are scarce. Using a national maternal surveillance platform (MATSurvey), we aimed to compare maternal and neonatal outcomes of COVID-19 in Malawi during the omicron wave to the preceding waves of beta and delta. Methods: All pregnant and recently pregnant patients, up to 42 days following delivery, admitted to 33 health-care facilities throughout Malawi with symptomatic, test-proven COVID-19 during the second (beta [B.1.351]: January to April, 2021), third (delta [B.1.617.2]: June to October, 2021), and fourth (omicron [B.1.1.529]: December 2021 to March, 2022) waves were included, with no age restrictions. Demographic and clinical features, maternal outcomes of interest (severe maternal outcome [a composite of maternal near-miss events and maternal deaths] and maternal death), and neonatal outcomes of interest (stillbirth and death during maternal stay in the health-care facility of enrolment) were compared between the fourth wave and the second and third waves using Fisher's exact test. Adjusted odds ratios (ORs) for maternal outcomes were estimated using mixed-effects logistic regression.Findings: Between Jan 1, 2021, and March 31, 2022, 437 patients admitted to 28 health-care facilities conducting MATSurvey had symptoms of COVID-19. SARS-CoV-2 infection was confirmed in 261 patients; of whom 76 (29%) had a severe maternal outcome and 45 (17%) died. These two outcomes were less common during the fourth wave (omicron dominance) than the second wave (adjusted OR of severe maternal outcome: 3·96 [95% CI 1·22–12·83], p=0·022; adjusted OR of maternal death: 5·65 [1·54–20·69], p=0·0090) and the third wave (adjusted OR: 3·18 [1·03–9·80], p=0·044; adjusted OR: 3·52 [0·98–12·60], p=0·053). Shortness of breath was the only symptom associated with poor maternal outcomes of interest (p<0·0001), and was less frequently

Resumo	reported in the fourth wave (23%) than in the second wave (51%; p=0·0007) or third wave (50%; p=0·0004). The demographic characteristics and medical histories of patients were similar across the three waves. During the second and third waves, 12 (13%) of 92 singleton neonates were stillborn or died during maternal stay in the health-care facility of enrolment, compared with 0 of the 25 born in the fourth wave (p=0·067 *vs* preceding waves combined). Interpretation: Maternal and neonatal outcomes from COVID-19 were less severe during the fourth wave of the SARS-CoV-2 pandemic in Malawi, during omicron dominance, than during the preceding beta and delta waves.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900359-X

Título	Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study
Autor(es)	Ian Kracalik, Matthew E Oster, Karen R Broder, Margaret M Cortese, Maleeka Glover, Karen Shields, C Buddy Creech, Brittney Romanson, Shannon Novosad, Jonathan Soslow, Emmanuel B Walter, Paige Marquez, Jeffrey M Dendy, Jared Woo, Amy L Valderrama, Alejandra Ramirez-Cardenas, Agape Assefa, M Jay Campbell, John R Su, Shelley S Magill, David K Shay, Tom T Shimabukuro, Sridhar V Basavaraju, for the Myocarditis Outcomes After mRNA COVID-19 Vaccination Investigators and the CDC COVID-19 Response Team
Resumo	Data on medium-term outcomes in indivduals with myocarditis after mRNA COVID-19 vaccination are scarce. We aimed to assess clinical outcomes and quality of life at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults.Methods: In this follow-up surveillance study, we conducted surveys in US individuals aged 12–29 years with myocarditis after mRNA COVID-19 vaccination, for whom a report had been filed to the Vaccine Adverse Event Reporting System between Jan 12 and Nov 5, 2021. A two-component survey was administered, one component to patients (or parents or guardians) and one component to health-care providers, to assess patient outcomes at least 90 days since myocarditis onset. Data collected were recovery status, cardiac testing, and functional status, and EuroQol health-related quality-of-life measures (dichotomised as no problems or any problems), and a weighted quality-of-life measure, ranging from 0 to 1 (full health). The EuroQol results were compared with published results in US populations (aged 18–24 years) from before and early on in the COVID-19 pandemic.Findings: Between Aug 24, 2021, and Jan 12, 2022, we collected data for 519 (62%) of 836 eligible patients who were at least 90 days post-myocarditis onset: 126 patients via patient survey only, 162 patients via health-care provider survey only, and 231 patients via both surveys. Median patient age was 17 years (IQR 15–22); 457 (88%) patients were male and 61 (12%) were female. 320 (81%) of 393 patients with a health-care provider assessment were considered recovered from myocarditis by their health-care provider, although at the last health-care provider follow-up, 104 (26%) of 393 patients were prescribed daily medication related to myocarditis. Of 249 individuals who completed the quality-of-life portion of the patient survey, four (2%)

Resumo	reported problems with self-care, 13 (5%) with mobility, 49 (20%) with performing usual activities, 74 (30%) with pain, and 114 (46%) with depression. Mean weighted quality-of-life measure (0·91 [SD 0·13]) was similar to a pre-pandemic US population value (0·92 [0·13]) and significantly higher than an early pandemic US population value (0·75 [0·28]; p<0·0001). Most patients had improvements in cardiac diagnostic marker and testing data at follow-up, including normal or back-to-baseline troponin concentrations (181 [91%] of 200 patients with available data), echocardiograms (262 [94%] of 279 patients), electrocardiograms (240 [77%] of 311 patients), exercise stress testing (94 [90%] of 104 patients), and ambulatory rhythm monitoring (86 [90%] of 96 patients). An abnormality was noted among 81 (54%) of 151 patients with follow-up cardiac MRI; however, evidence of myocarditis suggested by the presence of both late gadolinium enhancement and oedema on cardiac MRI was uncommon (20 [13%] of 151 patients). At follow-up, most patients were cleared for all physical activity (268 [68%] of 393 patients). Interpretation: After at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination, most individuals in our cohort were considered recovered by health-care providers, and quality of life measures were comparable to those in pre-pandemic and early pandemic populations of a similar age. These findings might not be generalisable given the small sample size and further follow-up is needed for the subset of patients with atypical test results or not considered recovered.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S2352-4642%2822%2900244-9

Título	BNT162b2 COVID-19 vaccination uptake, safety, effectiveness and waning in children and young people aged 12–17 years in Scotland
Autor(es)	Igor Rudan, Tristan Millington, Karen Antal, Zoe Grange, Lynda Fenton, Christopher Sullivan, Audrey Buelo, Rachael Wood, Lana Woolford, Olivia V. Swann, Josephine L.K. Murray, Lucy A. Cullen, Emily Moore, Fasih Haider, Fatima Almaghrabi, Jim McMenamin Utkarsh Agrawal, Syed Ahmar Shah, Steven Kerr, Colin R. Simpson, Srinivasa Vittal Katikireddi, Sir Lewis D. Ritchie, Chris Robertson, Sir Aziz Sheikh
Resumo	The two-dose BNT162b2 (Pfizer-BioNTech) vaccine has demonstrated high efficacy against COVID-19 disease in clinical trials of children and young people (CYP). Consequently, we investigated the uptake, safety, effectiveness and waning of the protective effect of the BNT162b2 against symptomatic COVID-19 in CYP aged 12–17 years in Scotland.Methods: The analysis of the vaccine uptake was based on information from the Turas Vaccination Management Tool, inclusive of Mar 1, 2022. Vaccine safety was evaluated using national data on hospital admissions and General Practice (GP) consultations, through a self-controlled case series (SCCS) design, investigating 17 health outcomes of interest. Vaccine effectiveness (VE) against symptomatic COVID-19 disease for Delta and Omicron variants was estimated using a test-negative design (TND) and S-gene status in a prospective cohort study using the Scotland-wide Early Pandemic Evaluation and Enhanced Surveillance of COVID-19 (EAVE II) surveillance platform. The waning of the VE following each dose of BNT162b2 was assessed using a matching process followed by conditional logistic regression.Findings: Between Aug 6, 2021 and Mar 1, 2022, 75.9% of the 112,609 CYP aged 16–17 years received the first and 49.0% the second COVID-19 vaccine dose. Among 237,681 CYP aged 12–15 years, the uptake was 64.5% and 37.2%, respectively. For 12–17-year-olds, BNT162b2 showed an excellent safety record, with no increase in hospital stays following vaccination for any of the 17 investigated health outcomes. In the 16–17-year-old group, VE against symptomatic COVID-19 during the Delta period was 64.2% (95% confidence interval [CI] 59.2–68.5) at 2–5 weeks after the first dose and 95.6% (77.0–99.1) at 2–5 weeks after the second dose. The respective VEs against symptomatic COVID-19 in the Omicron period were 22.8% (95% CI -6.4–44.0) and 65.5% (95% CI 56.0–73.0). In children aged 12–15 years, VE against symptomatic COVID-19 during the Delta period was 65.4% (95% CI

Resumo	61.5–68.8) at 2–5 weeks after the first dose, with no observed cases at 2–5 weeks after the second dose. The corresponding VE against symptomatic COVID-19 during the Omicron period were 30.2% (95% CI 18.4–40.3) and 81.2% (95% CI 77.7–84.2). The waning of the protective effect against the symptomatic disease began after five weeks post-first and post-second dose.Interpretation: During the study period, uptake of BNT162b2 in Scotland has covered more than two-thirds of CYP aged 12–17 years with the first dose and about 40% with the second dose. We found no increased likelihood of admission to hospital with a range of health outcomes in the period after vaccination. Vaccination with both doses was associated with a substantial reduction in the risk of COVID-19 symptomatic disease during both the Delta and Omicron periods, but this protection began to wane after five weeks.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S2666-7762%2822%2900209-5

Título	Impact of SARS-CoV-2 lockdown on expansion of HIV transmission clusters among key populations: A retrospective phylogenetic analysis
Autor(es)	Rachel L. Miller, Angela McLaughlin, Vincent Montoy Junine Toy, Sarah Stone, John Harding, Richard H. Liang, Jason Wong, Rolando Barrios, Julio S.G. Montaner,Jeffrey B. Joy
Resumo	Public health measures designed to reduce SARS-CoV-2 transmission led to reduced access to care and prevention services for people living with or at risk of acquiring HIV, particularly during the initial introduction of extensive restrictions. This reduction in access may have contributed to increases in HIV transmission not outweighed by decreases in transmission occurring as a result of reduced contact rates promoted by the same public health measures.Methods: We synthesize available province-wide HIV data in British Columbia, Canada, together with public mobility data to phylogenetically investigate the early impacts of SARS-CoV-2 on HIV transmission. Cluster growth, coalescent branching events and lineage-level diversification rates were assessed in “pre-lockdown” (January 22–March 21, 2020), “lockdown” (March 22–May 20, 2020) and “post-lockdown” (May 21–July 19, 2020) to facilitate comparison of transmission trends across key populations. Findings: Results reveal increased HIV transmission in a limited number of clusters in association with reduced access to health services during the initial introduction of SARS-CoV-2-related restrictions. In particular, clusters associated with people who inject drugs (PWID) show rapid growth, extensive branching events in phylogenetic trees during and following the lockdown period, and elevated median change in individuals’ viral diversification rates during lockdown compared to clusters associated with men who have sex with men (MSM), consistent with increased transmission rates between PWID. Interpretation: Increased vigilance and innovative targeted solutions are critical to offset potential negative impacts of SARS-CoV-2 or future pandemic-related restrictions on HIV epidemic dynamics.

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Fonte	https://www.thelancet.com/action/showPdf?pii=S2667-193X%2822%2900186-7

Título	Effectiveness of primary series and booster vaccination against SARS-CoV-2 infection and hospitalisation among adolescents aged 12–17 years in Singapore: a national cohort study
Autor(es)	Calvin J Chiew, M Premikha, Chia Yin Chong, Wycliffe E Wei, Benjamin Ong, David Chien Lye, Derrick Heng, Vernon J Lee, Kelvin Bryan Tan
Resumo	Singapore offered the BNT162b2 vaccine (tozinameran; Pfizer-BioNTech) to adolescents aged 12–17 years in May 18, 2021, and extended booster vaccines to this group in Jan 21, 2022. Literature on the effectiveness of primary series and booster vaccination among adolescents is scarce outside of Europe and North America. We aimed to determine primary series and booster vaccine effectiveness against SARS-CoV-2 infection and hospitalisation among adolescents in Singapore. Methods: For this national cohort study, we assessed the incidence of confirmed SARS-CoV-2 infection and hospitalisation among adolescents aged 12–17 years vaccinated with BNT162b2 in Singapore from Sept 1 to Dec 15, 2021, during the delta (B.1.617.2) variant wave, and from Jan 21 to April 28, 2022, during the omicron (B.1.1.529) variant wave. Data were collected from official databases maintained by the Ministry of Health of Singapore. Individuals were classified as partly vaccinated (those who had received one dose and those who had received the second dose no more than 7 days previously), fully vaccinated (8 days after receiving a second dose), or boosted (8 days after receiving a third dose) and compared with unvaccinated individuals.Findings: 249 763 individuals aged 12–17 years were included in the study, contributing over 56·2 million person-days of observation. Compared with unvaccinated individuals, two vaccine doses achieved vaccine effectiveness of 66% (95% CI 63–69) against infection with the delta variant and 25% (21–29) against infection with the omicron variant, and 83% (74–89) against delta variant-associated hospitalisation and 75% (56–86) against omicron variant-associated hospitalisation. Booster vaccination with a third dose achieved vaccine effectiveness of 56% (53–58) against infection with the omicron variant and 94% (86–97) against omicron-associated hospitalisation, compared with unvaccinated adolescents. Vaccine effectiveness against infection for both variants after two doses waned over time, whereas

Resumo	vaccine effectiveness against hospitalisation for both variants remained stable; both were increased after three doses.Interpretation: Among adolescents aged 12–17 years, vaccine effectiveness against confirmed SARS-CoV-2 infection after two doses of BNT162b2 decreased over time and increased after a third dose. Boosted adolescents were also the most protected from hospitalisation compared with fully vaccinated, partly vaccinated, and unvaccinated adolescents. Therefore, the booster dose of BNT162b2 can help to reduce the burden on the health-care system and individual morbidity during an omicron wave.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S1473-3099%2822%2900573-4

Título	Protection against omicron (B.1.1.529) BA.2 reinfection conferred by primary omicron BA.1 or pre-omicron SARS-CoV-2 infection among health-care workers with and without mRNA vaccination: a test-negative case-control study
Autor(es)	Sara Carazo, Danuta M Skowronski, Marc Brisson, Sapha Barkati, Chantal Sauvageau, Nicholas Brousseau, Rodica Gilca, Judith Fafard, Denis Talbot, Manale Ouakki, Vladimir Gilca, Alex Carignan, Geneviève Deceuninck, Philippe De Wals, Gaston De Serres
Resumo	There is a paucity of data on vaccine-induced or infection-induced (hybrid or natural) immunity against omicron (B.1.1.529) subvariant BA.2, particularly in comparing the effects of previous SARS-CoV-2 infection with the same or different genetic lineage. We aimed to estimate the protection against omicron BA.2 associated with previous primary infection with omicron BA.1 or pre-omicron SARS-CoV-2, among health-care workers with and without mRNA vaccination. Methods: We conducted a test-negative case-control study among health-care workers aged 18 years or older who were tested for SARS-CoV-2 in Quebec, Canada, between March 27 and June 4, 2022, when BA.2 was the predominant variant and was presumptively diagnosed with a positive test result. We identified cases (positive test during study period) and controls (negative test during study period) using the provincial laboratory database that records all nucleic acid amplification testing for SARS-CoV-2 in Quebec, and used the provincial immunisation registry to determine vaccination status. Logistic regression models compared the likelihood of BA.2 infection or reinfection (second positive test ≥30 days after primary infection) among health-care workers who had previous primary infection and none to three mRNA vaccine doses versus unvaccinated health-care workers with no primary infection. Findings: 258 007 SARS-CoV-2 tests were done during the study period. Among those with a valid result and that met the inclusion criteria, there were 37 732 presumed BA.2 cases (2521 [6·7%] reinfections following pre-omicron primary infection and 659 [1·7%] reinfections following BA.1 primary infection) and 73 507 controls (7360 [10·0%] had pre-omicron primary infection and 12 315 [16·8%] had BA.1 primary infection). Pre-omicron primary infection was associated with a 38% (95% CI 19–53) reduction in BA.2 infection risk,

Resumo	with higher BA.2 protection among those who had also received one (56%, 95% CI 47–63), two (69%, 64–73), or three (70%, 66–74) mRNA vaccine doses. Omicron BA.1 primary infection was associated with greater protection against BA.2 infection (risk reduction of 72%, 95% CI 65–78), and protection was increased further among those who had received two doses of mRNA vaccine (96%, 95–96), but was not improved with a third dose (96%, 95–97). Interpretation: Health-care workers who had received two doses of mRNA vaccine and had previous BA.1 infection were subsequently well protected for a prolonged period against BA.2 reinfection, with a third vaccine dose conferring no improvement to that hybrid protection. If this protection also pertains to future variants, there might be limited benefit from additional vaccine doses for people with hybrid immunity, depending on timing and variant. Funding: Ministère de la Santé et des Services Sociaux du Québec.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S1473-3099%2822%2900578-3

Título	Durability of immune response after COVID-19 booster vaccination and association with COVID-19 omicron infection
Autor(es)	Mayan Gilboa, Gili Regev-Yochay, Michal Mandelboim, Victoria Indenbaum, Keren Asraf, Ronen Fluss, Sharon Amit, Ella Mendelson, Ram Doolman, Arnon Afek, Laurence S. Freedman, Yitshak Kreiss, Yaniv Lustig
Resumo	The BNT162b2 two-dose vaccine (BioNTech/Pfizer) has high effectiveness that wanes within several months. The third dose is effective in mounting a significant immune response, but its durability is unknown. Objective: To compare antibody waning after second and third doses and estimate the association of antibody kinetics with susceptibility to infection with the Omicron variant of SARS-CoV-2. Design, Setting, and Participants: In a prospective longitudinal cohort study in a tertiary medical center in Israel, health care workers who received the BNT162b2 vaccine were followed up monthly for IgG and neutralizing antibody levels. Linear mixed models were used to compare antibody titer waning of second and third doses and to assess whether antibody dynamics were associated with Omicron transmission. Avidity, T cell activation, and microneutralization of sera against different variants of concern were assessed for a subgroup. Exposure: Vaccination with a booster dose of the BNT162b2 vaccine. Main Outcomes and Measures: The primary outcome was the rate of antibody titer change over time, and the secondary outcome was SARS-CoV-2 Omicron variant infection, as confirmed by reverse transcriptase–polymerase chain reaction. Results: Overall, 4868 health care workers (mean [SD] age, 46.9 [13.7] years; 3558 [73.1%] women) and 3972 health care workers (mean [SD] age, 48.5 [14.1] years; 996 [74.9%] women) were followed up for 5 months after their second and third vaccine doses, respectively. Waning of IgG levels was slower after the third compared with the second dose (1.32%/d [95% CI, 1,29%/d to 1.36%/d] vs 2.26% [95% CI, 2.13%/d 2.38%/d]), as was waning of neutralizing antibody levels (1.32%/d [95% CI, 1.21%/d to 1.43%/d] vs 3.34%/d [95% CI, 3.11%/d to 3.58%/d]). Among 2865 health care workers assessed for Omicron incidence during an additional 2 months of follow-up, lower IgG

Resumo	peak (ratio of means 0.86 [95% CI, 0.80-0.91]) was associated with Omicron infection, and among participants aged 65 years and older, faster waning of IgG and neutralizing antibodies (ratio of mean rates, 1.40; [95% CI, 1.13-1.68] and 3.58 [95% CI, 1.92-6.67], respectively) were associated with Omicron infection. No waning in IgG avidity was observed 112 days after the third dose. Live neutralization of Omicron was lower compared with previous strains, with a geometric mean titer at the peak of 111 (95% CI, 75-166), compared with 942 (95% CI, 585-1518) for WT, 410 (95% CI, 266-634) for Delta; it demonstrated similar waning to 26 (95% CI, 16-42) within 4 months. Among 77 participants tested for T cell activity, mean (SD) T cell activity decreased from 98 (5.4) T cells/106 peripheral blood mononuclear cells to 59 (9.3) T cells/106 peripheral blood mononuclear cells. Conclusions and Relevance: This study found that the third vaccine dose was associated with greater durability than the second dose; however, Omicron was associated with greater resistance to neutralization than wild type and Delta variants of concern. Humoral response dynamics were associated with susceptibility to Omicron infection.
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Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2796277

Título	Two-year health outcomes in hospitalized COVID-19 survivors in China
Autor(es)	Xinyue Yang, Chao Hou, Ye Shen, Mingyang Zhang, Kejun Zhang, Fang Wang, Yuhui Liu, Xiangyu Ma, Lixia Cheng, Jun Kang, Baoman Hu, Man Wang, Ling Zeng, Yanjiang Wang, Yong He, Guoqiang Cao, Jianxin Jiang, Paul Jones, Bin Cao, Li Li
Resumo	Relatively little is known about the persistence of symptoms in patients with COVID-19 for more than 1 year after their acute illness. Objective: To assess the health outcomes among hospitalized COVID-19 survivors over 2 years and to identify factors associated with increased risk of persistent symptoms. Design, Setting, and Participants: This was a longitudinal cohort study of patients who survived COVID-19 at 2 COVID-19–designated hospitals in Wuhan, China, from February 12 to April 10, 2020. All patients were interviewed via telephone at 1 year and 2 years after discharge. The 2-year follow-up study was conducted from March 1 to April 6, 2022. Statistical analysis was conducted from April 20 to May 5, 2022. The severity of disease was defined by World Health Organization guideline for COVID-19. Exposures: COVID-19. Main Outcomes and Measures: The main outcome was symptom changes over 2 years after hospital discharge. All patients completed a symptom questionnaire for evaluation of symptoms, along with a chronic obstructive pulmonary disease assessment test (CAT) at 1-year and 2-year follow-up visits. Results: Of 3988 COVID-19 survivors, a total of 1864 patients (median [IQR] age, 58.5 [49.0-68.0] years; 926 male patients [49.7%]) were available for both 1-year and 2-year follow-up visits. The median (IQR) time from discharge to follow-up at 2 years was 730 (719-743) days. At 2 years after hospital discharge, 370 patients (19.8%) still had symptoms, including 224 (12.0%) with persisting symptoms and 146 (7.8%) with new-onset or worsening of symptoms. The most common symptoms were fatigue, chest tightness, anxiety, dyspnea, and myalgia. Most symptoms resolved over time, but the incidence of dyspnea showed no significant change (1-year vs 2-year, 2.6% [49 patients] vs 2.0% [37 patients]). A total of 116 patients (6.2%) had CAT total scores of at least 10 at 2 years

Resumo	after discharge. Patients who had been admitted to the intensive care unit had higher risks of persistent symptoms (odds ratio, 2.69; 95% CI, 1.02-7.06; P = .04) and CAT scores of 10 or higher (odds ratio, 2.83; 95% CI, 1.21-6.66; P = .02). Conclusions and Relevance: In this cohort study, 2 years after hospital discharge, COVID-19 survivors had a progressive decrease in their symptom burden, but those with severe disease during hospitalization, especially those who required intensive care unit admission, had higher risks of persistent symptoms. These results are related to the original strain of the virus, and their relevance to infections with the Omicron variant is not known.
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Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2796276

Título	Has vaccination alleviated the strain on hospitals due to COVID-19? A combined difference-in-difference and simulation approach
Autor(es)	Mari Grøsland, Vilde Bergstad Larsen, Kjetil Telle, Hege Marie Gjefsen
Resumo	Serious measures, including mass vaccination, have been taken to ensure sufcient hospital capacity during the COVID-19 pandemic. Due to high hospitalization risk in the oldest age groups, most countries prioritized elderly for vaccines. The aim of this study is to broaden the understanding of how vaccination in younger age groups relieved the strain on hospitals during the pandemic. Methods: To determine the impact of vaccination on hospitalization, we relied on individual level data on health care use and vaccination from the Norwegian Emergency Preparedness Register Beredt C19. Using a pre-post design, we estimated the increase in hospitalization days from before to after confrmed COVID-19 for individuals aged 18-64 who were fully vaccinated (N=2 419) or unvaccinated (N=55 168) with comparison groups of vaccinated (N=4 818) and unvaccinated (N= 97 126) individuals without COVID-19. To evaluate whether vaccination itself contributed to a strain in hospitals, we use a similar design to study hospitalization rates before and after vaccination by comparing individuals vaccinated with the frst dose (N=67 687) to unvaccinated individuals (N=130 769). These estimates were incorporated into a simulation of hospitalization days with diferent vaccine scenarios to show how the estimated results might have mattered for the hospitals and their capacity. Results: Hospitalization days increased by 0.96 percentage point each day during the frst week and 1.57 percentage points during the second week after testing positive for COVID-19 for unvaccinated individuals. The corresponding increase was 0.46 and 0.32 for vaccinated individuals, i.e., a substantial diference. The increase was signifcantly higher for those aged 45-64 than for those aged 18-25. We fnd no increase in hospitalization days due to vaccination. Simulation results show that vaccination reduced

Resumo	hospitalization days by 25 percent, mainly driven by age 45-64. Conclusion: Our fndings indicate that vaccination of individuals aged 18-64 did alleviate pressure on hospitals. Whereas there was a substantial relieve from vaccinating the 45-64 age group, there was no such contribution from vaccinating the 18-25 age group. Our study highlights how simulation models can be useful when evaluating alternative vaccine strategies.
Referências	GRØSLAND, M. *et al.* Has vaccination alleviated the strain on hospitals due to COVID-19? A combined difference-in-difference and simulation approach. **BMC health services research**, [United Kimgdom], v. 22, n. 1, p. 1183, Sept. 21, 2022. DOI: https://doi.org/10.1186/s12913-022-08541-x. Disponível em: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-08541-x. Acesso em: 23 set. 2022.
Fonte	https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-08541-x

Título	Modeling the potential economic benefits of an oral SARS-CoV-2 vaccine during an outbreak of COVID-19
Autor(es)	Bryan Patenaude, Jeromie Ballreich
Resumo	Given patient preferences, the choice of delivery modality for vaccines against SARS-CoV-2 has the potential to significantly impact both health and economic consequences of an outbreak of COVID-19. This study models the projected health and economic impact of an oral COVID-19 vaccine in the United States during an outbreak occurring between December 1, 2021 and February 16, 2022. Methods: A cost-of-illness economic decision analysis model is utilized to assess both the health and economic impact of an oral vaccine delivery platform compared with the status quo deployment of existing intramuscular vaccines against COVID-19. Health impact is assessed in terms of predicted cases, deaths, hospitalization days, intensive care unit admission days, and mechanical ventilation days averted. Health system economic impact is assessed based on the cost-of-illness averted derived from the average daily costs of medical care, stratified by severity. Productivity loss due to premature death is estimated based on regulatory analysis guidelines proposed by the U.S. Department of Health and Human Services. Results: Based upon preference data, we estimate that the availability of an oral COVID-19 vaccine would increase vaccine uptake from 214 million people to 232 million people. This higher vaccination rate was estimated to result in 2,497,087 fewer infections, 25,709 fewer deaths, 1,365,497 fewer hospitalization days, 186,714 fewer Intensive Care Unit (ICU) days, and 80,814 fewer patient days requiring mechanical ventilation (MV) compared with the status quo. From a health systems perspective, this translates into $3.3 billion in health sector costs averted. An additional $139-$450 billion could have been averted in productivity loss due to a reduction in premature deaths. Conclusions: Vaccine delivery modalities that are aligned with patient preferences have the ability to increase vaccination uptake and reduce both the health and economic impact of an outbreak of COVID-19. We estimate that the total economic impact of productivity loss and health systems cost-of-illness averted from an oral vaccine could range from 0.6%-2.9% of 2021 U.S, Gross Domestic Product (GDP).
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Fonte	https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-022-14148-y

Título	COVID-19 vaccine survey among healthcare workers: a community experience.
Autor(es)	Nikita Theophilus, Carlos Rios-Bedoya, Ghassan Bachuwa
Resumo	In December 2019, the coronavirus (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) made its first appearance in Wuhan, China with a pandemic declared by March 2020. As the death toll continued to rise, the Centers for Diseases Control and Prevention (CDC) recommended healthcare workers to strongly encourage the general population to receive COVID-19 vaccinations. For this to be effective, it is important to understand the general perceptions of the health care workers and persons associated with the healthcare industry towards their acceptance of the vaccine. METHODS: The authors of this 2021 cross-sectional study administered a 28-item survey to a convenience sample of 1,257 (43.1%) healthcare system workers out of a total of 2,915. The survey assessed respondents' demographic information, COVID-19 vaccine status, work-related exposures to COVID-19, reasons for receiving or refusing the vaccine, and primary sources of vaccine related information. Respondents were classified as vaccine status/intention positive or negative. RESULTS: Those in the youngest 18 - 35 years age group were significantly less likely to receive the vaccine ($p < 0.01$) and male healthcare workers were significantly more likely to receive the vaccine ($p = 0.01$). White respondents, 759 (77.9%) were also more likely to receive the vaccine than African-American, 127 (13%). It was more likely for persons to be vaccinated when encouraged/provided ($p = 0.01$) information by their respective employers. A subgroup of 277 (22.0%) respondents reported their employer as the primary source of vaccine information, causing the authors to conclude that employer information was the most influential informational factor impacting COVID-19 vaccination. CONCLUSION: Vaccine hesitancy continues to be a major obstacle hampering the success of COVID-19 vaccination promotion programs. Results indicate that a combination of a prior COVID-19 diagnosis, information dispensed by a person's employer, persons' home living situations, and contact with persons who had an uneventful post vaccination experience increased the likelihood of vaccination.
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Fonte	https://smrj.scholasticahq.com/article/35628-covid-19-vaccine-survey-among-healthcare-workers-a-community-experience

Título	Pediatric COVID-19 health disparities and vaccine equity
Autor(es)	Carlos R. Oliveira, Kristen A. Feemster, Erlinda R. Ulloa
Resumo	While most children with COVID-19 experience mild illness, some are vulnerable to severe disease and develop long-term complications. Children with disabilities, those from lower-income homes, and those from racial and ethnic minority groups are more likely to be hospitalized and to have poor outcomes following an infection. For many of these same children, a wide range of social, economic, and environmental disadvantages have made it more difficult for them to access COVID-19 vaccines. Ensuring vaccine equity in children and decreasing health disparities promotes the common good and serves society as a whole. In this article, we discuss how the pandemic has exposed long-standing injustices in historically marginalized groups and provide a summary of the research describing the disparities associated with COVID-19 infection, severity, and vaccine uptake. Last, we outline several strategies for addressing some of the issues that can give rise to vaccine inequity in the pediatric population.
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Fonte	https://academic.oup.com/jpids/advance-article-pdf/doi/10.1093/jpids/piac091/45891206/piac091.pdf

Título	COVID-19 cross-sectional study in Maricá, Brazil: the impact of vaccination coverage on viral incidence
Autor(es)	Thiago Silva Frauches, Carlos Alberto de Senna Costa, Claudia dos Santos Rodrigues, Marcelo Costa Velho Mendes de Azevedo, Michelle de Moraes Ferreira, Hanna Beatriz Vieira da Silva Ramos, Wilson Rodrigues de Souza Junior, Andréa Ribeiro Costa, Adriana Cardoso Camargo, Adriana Halfeld Alonso, Fábio Álvaro dos Santos, Hércules da Silva Oliveira, Janaína Guimarães Coelho, Joyce Florentina da Silva Sobral, Luciane Cardoso dos Santos Rodrigues, Marcio Martins Casaes Ferreira, Patricia Laureano, Raquel Adalgiza da Paz Fernandes, Renata da Silva Santos, Rose Mary Carvalho dos Santos, Sanderson Milagres, Vanessa Cristina Conceição dos Santos, Jussara Teixeira Silva, Tatiana Martins da Silva, Malu Gabriela Costa da Rocha, Andreia Edwirges de São Carlos, Amorim Mourão de Araújo Ramos, Fernanda Martins de Almeida Bastos, Daina Raylle Francisco, Sabrina dos Santos Rosa, Layla Corrêa Linhares, Raissa Rodrigues Organista, Leandro Bastos, Maria Magdalena Kelly Pinto, Jean Pablo Lima do Nascimento, João Pedro Moura da Silveira, Mateus Quintanilha dos Santos, Nathaly Santos da Silva, Nayra Cristina dos Santos Ferreira, Rafael Brito Ramirez Reis, Ruan Fonseca de Oliveira, Valdinei de Oliveira Sá, Thyago Ramos de Siqueira Hammes, Juliano de Oliveira Monteiro, Pedro Henrique Cardoso, Mônica Barcellos Arruda, Patricia Alvarez, Richard Araujo Maia, Liane de Jesus Ribeiro, Orlando Costa Ferreira, Jr, Aline Santos, Alberto Carlos Melo de Almeida, Lauro Garcia, Celso Pansera, Amilcar Tanuri
Resumo	Population surveillance in COVID-19 Pandemic is crucial to follow up the pace of disease and its related immunological status. Here we present a cross-sectional study done in Maricá, a seaside town close to the city of Rio de Janeiro, Brazil. Three rounds of study sampling, enrolling a total of 1134 subjects, were performed during May to August 2021. Here we show that the number of individuals carrying detectable IgG antibodies and the neutralizing antibody (NAb) levels were greater in vaccinated groups compared to unvaccinated ones, highlighting the importance of vaccination to attain noticeable levels of populational immunity against SARS-CoV-2. Moreover, we found a decreased incidence of COVID-19 throughout the study, clearly correlated with the level of vaccinated individuals as well as the proportion of individuals with detectable levels of IgG anti-SARS-CoV-2 and NAb. The observed drop occurred even during the introduction of the Delta variant in Maricá, what suggests that the vaccination slowed down the widespread transmission of this variant. Overall, our data clearly support the use of vaccines to drop the incidence associated to SARS-CoV-2.
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Fonte	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0269011

Título	Characterization of SARS-CoV-2 Omicron variant shedding and predictors of viral culture positivity on vaccinated healthcare workers with mild COVID-19
Autor(es)	Alessandra Luna-Muschi, Saidy Vásconez Noguera, Igor C Borges, Anderson V. De Paula, Marina Farrel Côrtes, Carolina Larocca, Julia Ferreira Mari, Lara Silva Pereira Guimarães, Pablo Munoz Torres, Nazareno Scaccia, Lucy S. Villas-Boas, Almir Ribeiro da Silva Jr., Pâmela S. Andrade, Juliana C. Teixeira, Camille Escadafal, Victor Falcão de Oliveira, Tania R. Tozetto-Mendoza, Maria Cássia Mendes-Correa, Anna S. Levin, Ester C. Sabino, Silvia F. Costa
Resumo	In this prospective cohort of 30 vaccinated healthcare-workers with mild Omicron variant infection, we evaluated viral culture, rapid antigen test(RAT), and RT-PCR of respiratory samples at days 5,7,10, and 14. Viral culture was positive in 46%(11/24) and 20%(6/30) of samples at days 5 and 7, respectively. RAT and RT-PCR(Ct≤35) showed 100% negative predictive value(NPV), with 32% and 17% of positive predictive values(PPV), respectively, for predicting viral culture positivity. A lower RT-PCR threshold(Ct≤24) improved culture prediction(PPV = 39%; NPV = 100%). Vaccinated persons with mild Omicron infection are potentially transmissible up to day 7. RAT and RT-PCR might be useful tools for shortening the isolation period.
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Título	Long-term outcomes in COVID-19 patients recovered from the first wave of the pandemic
Autor(es)	Dan Cui, Simiao Chen, Luzhao Feng, Mengmeng Jia, Yeming Wang, Weijun Xiao, Yanxia Sun, Qiangru Huang, Libing Ma, Zhiwei Leng, Hao Wang, Bin Cao, Weizhong Yang, Juntao Yang, Chen Wang
Resumo	This cross-sectional study evaluated the long-term health effects of coronavirus disease 2019 (COVID-19) in Jianghan District (Wuhan, China). The results showed that 61.4% of COVID-19 patients reported at least one symptom, and 8.8% had depressive symptoms at the 17-month follow-up. The proportion of patients with chest radiographic abnormalities in Fangcang shelter hospitals and designated COVID-19 hospitals was 31.6% and 41.1%, respectively, and the proportion of patients with impaired pulmonary diffusion capacity in these hospitals was 52.8% and 60.9%, respectively. Female sex (odds ratio [OR]=1.48, 95% confidence interval [CI]: 1.16–1.88), severe disease (OR = 1.46, 95% CI: 1.01–2.10), and a higher number of initial symptoms (OR = 1.31, 95% CI: 1.23–1.40) were associated with the development of sequelae symptoms at 17 months. This study involving community-dwelling COVID-19 adults may help determine the long-term effects of COVID-19 during the first pandemic wave. Nonetheless, larger follow-up studies are needed to characterise post-COVID-19 condition.
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Título	Clinical protocol for early treatment of COVID-19 in a real-world scenario: results of a series of patients
Autor(es)	Silvestre Sobrinho, Fabiana Perrone, Guilherme Montal, AroldoBacellar
Resumo	Despite the advance in vaccination, the SARS-CoV-2 infection remains a challenge for the medical community. Outpatient and hospital therapy for COVID-19 are still improving. Our study aimed to report the results of a series of patients with COVID-19 who participated in an outpatient treatment protocol since the first clinical manifestation. Methods: A case series report of individuals aged ≥ 18 years with clinical symptoms and a confirmed test for COVID-19 submitted to a treatment protocol. Patients were enrolled between May and September 2020 and followed for at least 15 days. The assessed clinical outcomes were the need for hospitalization, admission to the intensive care unit, orotracheal intubation, and death. Results: We studied a hundred and sixteen patients. The mean age was 48 ± 14 years. Females formed 53%. The main comorbidities were type II diabetes (6%), systemic arterial hypertension (10.3%), obesity (15.5%), and lung diseases (6.0%). Temperature > 37.7°C (51.7%), cough (55.2%), myalgia (37.1%), headache (37.9%) and fatigue (34.5%) were the most frequent signs and symptoms. According to different disease staging, the most administered drugs were: azithromycin, ivermectin, corticosteroid, antibiotics, and anticoagulants. There was no death, and hospitalization accounted for only 8.6% of the patients (one in ICU); none required orotracheal intubation. The mean length of hospital stay was 5.8 days.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2603924922000283/pdf

Título	Pandemic fatigue or enduring precautionary behaviours? Canadians' long-term response to COVID-19 public health measures
Autor(es)	Gabrielle Brankston, Eric Merkley, Peter J. Loewen, Brent P. Avery, Carolee A. Carson, Brendan P. Dougherty, David N. Fisman, Ashleigh R. Tuite, Zvonimir Poljak, Amy L. Greer
Resumo	The long-term dynamics of COVID-19 disease incidence and public health measures may impact individuals' precautionary behaviours as well as support for measures. The objectives of this study were to assess longitudinal changes in precautionary behaviours and support for public health measures. Survey data were collected online from 1030 Canadians in each of 5 cycles in 2020: June 15-July 13; July 22-Aug 8; Sept 7–15; Oct 14–21; and Nov 12–17. Precautionary behaviour increased over the study period in the context of increasing disease incidence. When controlling for the stringency of public health measures and disease incidence, mixed effects logistic regression models showed these behaviours did not significantly change over time. Odds ratios for avoiding contact with family and friends ranged from 0.84 (95% CI 0.59–1.20) in September to 1.25 (95% CI 0.66–2.37) in November compared with July 2020. Odds ratios for attending an indoor gathering ranged from 0.86 (95% CI 0.62–1.20) in August to 1.71 (95% CI 0.95–3.09) in October compared with July 2020. Support for non-essential business closures increased over time with 2.33 (95% CI 1.14–4.75) times higher odds of support in November compared to July 2020. Support for school closures declined over time with lower odds of support in September (OR 0.66 [95% CI 0.45–0.96]), October (OR 0.48 [95% CI 0.26–0.87]), and November (OR 0.39 [95% CI 0.19–0.81]) compared with July 2020. In summary, respondents' behaviour mirrored government guidance between July and November 2020 and supported individual precautionary behaviour and limitations on non-essential businesses over school closures.

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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S221133552200300X/pdf

Título	School-based COVID-19 vaccination programmes: an equitable strategy to reduce the impact of COVID-19 on children and their families
Autor(es)	Alexandra Peebles, Shannon E. MacDonald, Nicole E. Basta
Resumo	The COVID-19 pandemic has been detrimental to the physical, mental, social, and economic well-being of children and their families. While evidence suggests that children are less vulnerable to SARS-CoV-2 than adults, rates of infection, illness, hospitalisation, and death among children have increased since the emergence of Omicron. In the United States to date, estimates suggest over 75% of children have been infected with SARS-CoV-2,1 and reinfections are becoming increasingly common with the emergence of new variants and subvariants. High incidence has translated into significant increases in hospitalisations, with rates among children of all ages four times higher during the Omicron peak compared to the Delta peak.2 Currently, estimates suggest that 25% of children infected develop persistent symptoms, which can occur even among those experiencing mild acute infection.3 Globally, 1.6 billion children have suffered extensive and ongoing disruptions in their education since the onset of the pandemic, and over ten million have experienced the death of a caregiver.4,5 At this stage in the pandemic, communities need to consider how best to protect children against the ongoing impacts of the pandemic. COVID-19 vaccination, approved for use among children in most countries of the Americas, is the safest and most expeditious approach to preventing severe disease and reducing the risk of transmission. Multiple studies have demonstrated the effectiveness of COVID-19 vaccination on reducing the risk of hospitalisation among vaccinated compared to unvaccinated children.2 While pandemic mitigation measures vary widely, most pandemic control measures, such as masks, effective ventilation, and routine testing have been applied inconsistently, removed altogether, or were never implemented at all. Thus, vaccination is one of the most important tools currently available to reduce the burden of COVID-19 among eligible children. […]

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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2667193X2200182X/pdf

Título	**PREPRINT:** Safety, immunogenicity and efficacy of NVX-CoV2373 in adolescents in PREVENT-19: a randomized, phase 3 trial
Autor(es)	Germán Áñez, Lisa M. Dunkle, Cynthia L. Gay, Karen L. Kotloff, Jeffrey M. Adelglass, Brandon Essink, James D. Campbell, Shane Cloney-Clark, Mingzhu Zhu, Joyce S. Plested, Pavitra Roychoudhury, Alexander L. Greninger, Nita Patel, Alice McGarry, Wayne Woo, Iksung Cho, Gregory M. Glenn, Filip Dubovsky
Resumo	Over 20% of cases and 0.4% of deaths from Covid-19 occur in children. Following demonstration of safety and efficacy of the adjuvanted, recombinant spike protein vaccine NVX-CoV2373 in adults, the PREVENT-19 trial enrolled adolescents. METHODS Safety, immunogenicity, and efficacy of NVX-CoV2373 were evaluated in adolescents aged 12 to <18 years in an expansion of PREVENT-19, a phase 3, randomized, observer-blinded, placebo-controlled trial in the United States. Participants were randomized 2:1 to two doses of NVX-CoV2373 or placebo 21 days apart, and followed for a median of 2 months after second vaccination. Primary end points were serologic non-inferiority of neutralizing antibody (NA) responses compared with young adults (18 to <26 years) in PREVENT-19, protective efficacy against laboratory-confirmed Covid-19, and assessment of reactogenicity/safety. RESULTS Among 2,247 participants randomized between April-June 2021, 1,491 were allocated to NVX-CoV2373 and 756 to placebo. Post-vaccination, the ratio of NA geometric mean titers in adolescents compared to young adults was 1.5 (95% confidence interval [CI] 1.3 to 1.7). Twenty Covid-19 cases (all mild) occurred: 6 among NVX-CoV2373 and 14 among placebo recipients (vaccine efficacy [VE]: 79.5%, 95% CI, 46.8 to 92.1). All sequenced viral genomes (11/20) were identified as Delta variant (Delta variant VE: 82.0% [95% CI: 32.4 to 95.2]). Reactogenicity was largely mild-to-moderate, transient, and more frequent in NVX-CoV2373 recipients and after the second dose. Serious adverse events were rare and evenly distributed between treatments. CONCLUSIONS NVX-CoV2373 was safe, immunogenic, and efficacious in the prevention of Covid-19 and those cases caused by the Delta variant in adolescents. (Funded by the Office of the Assistant Secretary for Preparedness and Response, Biomedical Advanced Research and Development Authority and the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health; PREVENT-19 ClinicalTrials.gov number, NCT04611802).

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Título	**PREPRINT:** Comparative epidemic expansion of SARS-CoV-2 variants Delta and Omicron in Amazonas, a Brazilian setting with high levels of hybrid immunity
Autor(es)	Ighor Arantes, Gonzalo Bello , Valdinete Nascimento, Victor Souza, Arlesson da Silva, Dejanane Silva, Fernanda Nascimento, Matilde Mejía, Maria Júlia Brandão, Luciana Gonçalves, George Silva, Cristiano Fernandes da Costa, Ligia Abdalla, João Hugo Santos, Tatyana Costa Amorim Ramos, Chayada Piantham, Kimihito Ito, Marilda Mendonça Siqueira, Paola Cristina Resende, Gabriel Luz Wallau, Edson Delatorre, Tiago Gräf, Felipe Naveca
Resumo	The SARS-CoV-2 variants of concern (VOCs) Delta and Omicron spread globally during mid and late 2021, respectively, with variable impact according to the immune population landscape. In this study, we compare the dissemination dynamics of these VOCs in the Amazonas state, one of Brazil's most heavily affected regions. We sequenced the virus genome from 4,128 patients collected in Amazonas between July 1st, 2021 and January 31st, 2022 and investigated the lineage replacement dynamics using a phylodynamic approach. The VOCs Delta and Omicron displayed similar patterns of phylogeographic spread but significantly different epidemic dynamics. The Delta and Omicron epidemics were fueled by multiple introduction events, followed by the successful establishment of a few local transmission lineages of considerable size that mainly arose in the Capital, Manaus. The VOC Omicron spread and became dominant much faster than the VOC Delta. We estimate that under the same epidemiological conditions, the average Re of Omicron was ~3.3 times higher than that of Delta and the average Re of the Delta was ~1.3 times higher than that of Gamma. Furthermore, the gradual replacement of Gamma by Delta occurred without an upsurge of COVID-19 cases, while the rise of Omicron fueled a sharp increase in SARS-CoV-2 infection. The Omicron wave displayed a shorter duration and a clear decoupling between the number of SARS-CoV-2 cases and deaths compared with previous (B.1.* and Gamma) waves in the Amazonas state. These findings suggest that the high level of hybrid immunity (infection plus vaccination) acquired by the Amazonian population by mid-2021 was able to limit the spread of the VOC Delta and was also probably crucial to curb the number of severe cases, although not the number of VOC Omicron new infections.
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Fonte	https://www.medrxiv.org/content/10.1101/2022.09.21.22280193v1.full.pdf

Título	SARS-CoV-2 screening testing in schools: a comparison of school- vs home-based collection methods
Autor(es)	Erin Chung, Ariana Magedson, Anne Emanuels, Kyle Luiten, Brian Pfau, Melissa Truong, Eric J. Chow, James P. Hughes, Timothy M. Uyeki, Janet A. Englund, Deborah A. Nickerson, Christina M. Lockwood, Jay Shendure, Lea M. Starita, Helen Y. Chu
Resumo	We implemented a voluntary SARS-CoV-2 screening testing study for kindergarten-2nd grade students in a Washington School district. Weekly SARS-CoV-2 testing participation was higher for students with staff-collected nasal swabs at school than for students with parent-collected swabs at home.
Referências	CHUNG, E. *et al.* SARS-CoV-2 screening testing in schools: a comparison of school- vs home-based collection methods. **Journal of the Pediatric Infectious Diseases Society**, [United Kingdom], p. piac097, Sept. 9, 2022. DOI: 10.1093/jpids/piac097. Disponível em: https://academic.oup.com/jpids/advance-article/doi/10.1093/jpids/piac097/6694752. Acesso em: 16 set. 2022.
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Título	Assessing the effectiveness of quarantine measures during the COVID-19 pandemic in Chile using Bayesian structural time series models
Autor(es)	Claudia Barría-Sandoval, Guillermo Ferreira, Bernardo Lagos, Carola Montecino Bacigalupo
Resumo	With the emergence of the COVID-19 pandemic, all existing health protocols were tested under the worst health crisis humanity has experienced since the Black Death in the 14th century. Countries in Latin America have been the epicenter of the COVID-19 pandemic, with more than 1.5 million people killed. Worldwide health measures have included quarantines, border closures, social distancing, and mask use, among others. In particular, Chile implemented total or partial quarantine measures depending on the number of infections in each region of the country. Therefore, it is necessary to study the effectiveness of these quarantines in relation to the public health measures implemented by government entities at the national level. Objective: The main objective of this study is to analyze the effectiveness of national- and region-level quarantines in Chile during the pandemic based on information published by the Chilean Ministry of Health, and answers to the following question are sought: Were quarantine measures in Chile effective during the COVID-19 pandemic? Methods: The causal effect between the rates of COVID-19 infections and the population rates in Phase 1 and Phase 2 quarantines in the period from March 2020 to March 2021 in different regions of Chile were evaluated using intervention analyses obtained through Bayesian structural time series models. In addition, the Kendall correlation coefficient obtained through the copula approach was used to evaluate the comovement between these rates. Results: In 75% of the Chilean regions under study (12 regions out of a total of 16), an effective Phase 1 quarantine, which was implemented to control and reduce the number of cases of COVID-19 infection, was observed. The main regions that experienced a decrease in cases were those located in the north and center of Chile. Regarding Phase 2, the COVID-19 pandemic was effectively managed in 31% (5 out of 16) of the regions. In the south-central and extreme southern regions of Chile, the effectiveness of these phases was null. Conclusion: The findings indicate that in the northern and central regions of Chile, the Phase 1 quarantine application period was an effective strategy to prevent an increase in COVID-19 infections. The same observation was made with respect to Phase 2, which was effective in five regions of northern Chile; in the rest of the regions, the effectiveness of these phases was weak or null.
Referências	BARRÍA-SANDOVAL, C. *et al.* Assessing the effectiveness of quarantine measures during the COVID-19 pandemic in Chile using Bayesian structural time series models. **Infectious disease modelling**, [China], Sept. 14, 2022. DOI: 10.1016/j.idm.2022.08.007 . Disponível em: https://www.sciencedirect.com/science/article/pii/S2468042722000677. Acesso em: 16 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2468042722000677/pdf

Título	COVID-19 post-vaccination in healthcare workers and vaccine effectiveness, Brazil, 2021
Autor(es)	Caio Medeiros Fernandes, Shirley L. Dias, Maira C. Ferreira, Expedito J. A. Luna
Resumo	This study aimed to describe COVID-19 cases in healthcare workers at a large tertiary hospital, after a vaccination campaign, to understand the individual characteristics, timeliness, symptomatology, and severity of the conditions. Methods: The COVID-19 reporting files from the hospital's healthcare workers and their records in the vaccine registry were analyzed, regarding vaccination status, symptoms, sociodemographic characteristics, comorbidities, and outcomes. Vaccination descriptive analysis was carried out and the impact and effectiveness of vaccination in relation to symptomatic infection and hospitalization were estimated. Results: In a total of 696 PCR-confirmed COVID-19 patients, vaccination coverage for the 1st and 2nd dose was 92.8% and 85.5%. Patients with complete doses had a mean interval of 96.8 days between vaccination and the onset of symptoms. Of the 664 participants with available clinical data, 165 had at least 1 comorbidity. During the study, 12 patients were hospitalized, 58.3% with a complete vaccination schedule. Three of this group died. The effectiveness of vaccination for symptomatic cases and hospitalization was 22.1% and 69.0%, respectively. The impact of vaccination on symptomatic cases and hospitalization was 81.4% and 89.7%, respectively. Discussion: The majority of COVID-19 cases in the study were classified as mild. The impact of vaccination for confirmed cases was significant, both in reducing the incidence of symptomatic cases and hospitalizations. The presence of comorbidities in approximately ¼ of the patients increased the risk of these individuals. The mean time interval between diagnosis and the 2nd dose of vaccine was longer in the hospitalized group, reinforcing the protective decline over longer periods.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1807593222033105/pdf

Título	Risk factors for COVID-19 severe complications comparing three major epidemiological waves: an approach from primary health care in Mexico
Autor(es)	Felipe Vadillo-Ortega, Rafael Bojalil-Parra, Juan Pablo Martínez-Kobeh, Juan Ramón Pérez –Perez, José Luis Pérez-Avalos, Pablo Francisco Oliva-Sánchez
Resumo	To describe the association between Chronic Noncommunicable Diseases and age with hospitalization, death and severe clinical outcomes for COVID-19 in confirmed cases within the mexican population, comparing the first three epidemiological waves of the pandemic in Mexico. Design: We performed an analysis using Mexico's Government Epidemiological Surveillance System database for COVID-19. Emplacement: Mexico's Epidemiological Surveillance System for Respiratory Diseases. Participants: Mexican population confirmed with SARS-CoV-2 registered on Mexico's Epidemiological Surveillance System for Respiratory Diseases. Primary Measurements: The analysed severe outcomes were hospitalization, pneumonia, use of mechanical ventilation, intensive care unit admission and death. The association (odds ratio) between the outcomes and clinical variables was evaluated, comparing the three epidemiological waves in Mexico. Results: Age over 65 is associated with a higher ratio of hospitalization and pneumonia, independent of the effect of chronic comorbidities. There is an interaction between age and obesity, which is associated with hospitalization, pneumonia and highly associated with death. These findings were consistent throughout the three epidemiological waves. Conclusion: Obesity, COPD and diabetes in interaction with age, are associated with worse clinical outcomes and, more importantly, death in patients with COVID-19.
Referências	VADILLO-ORTEGA, F. *et al.* Risk factors for COVID-19 severe complications comparing three major epidemiological waves: an approach from primary health care in Mexico. **Atención primaria**, [Spain], Sept. 13, 2022. DOI: 10.1016/j.aprim.2022.102469. Disponível em: https://www.sciencedirect.com/science/article/pii/S0212656722001895. Acesso em: 16 set. 2022.
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Título	Effectiveness of COVID-19 vaccine booster in the general population and in subjects with comorbidities: a population-based study in Spain
Autor(es)	Narmeen Mallah, Jacobo Pardo-Seco, Luis-Ricardo López-Pérez, Juan-Manuel González-Pérez, Benigno Roson, María-Teresa Otero-Barrós, Carmen Durán-Parrondo, Victoria Nartallo-Penas, Susana Mirás-Carballal, Carmen Rodríguez-Tenreiro, Irene Rivero-Calle, Alberto Gómez-Carballa, Antonio Salas, Federico Martinón-Torres
Resumo	Research on the effectiveness of COVID-19 booster-based vaccine schedule is ongoing and real-world data on vaccine effectiveness (VE) in comorbid patients are limited. We aimed to estimate booster dose VE against SARS-CoV-2 infection and COVID-19 severity in the general population and in comorbid patients. Method: A retrospective test-negative control study was undertaken in Galicia-Spain (December 2020–November 2021). VE and 95% confidence interval (CI) were estimated using multivariate logistic regression models. Results: 1,512,415 (94.13%) negative and 94,334 (5.87%) positive SARS-CoV-2 test results were included. A booster dose of COVID-19 vaccine is associated with substantially higher protection against SARS-CoV-2 infection than vaccination without a booster [VEboosted = 87% (95%CI: 83%; 89%); VEnon-boosted = 66% (95%CI: 65%; 67%)]. The high VE was observed in all ages, but was more pronounced in subjects older than 65 years. VE against COVID-19 severity was analyzed in a mixed population of boosted and non-boosted individuals and considerable protection was obtained [VE: hospitalization = 72% (95%CI: 68%; 75%); intensive care unit administration = 83% (95%CI: 78%; 88%), in-hospital mortality = 66% (95%CI: 53%; 75%)]. Boosted comorbid patients are more protected against SARS-CoV-2 infection than those who were non-boosted. This was observed in a wide range of major diseases including cancer (81% versus 54%), chronic obstructive pulmonary disease (84% versus 61%), diabetes (84% versus 65%), hypertension (82% versus 65%) and obesity (91% versus 67%), among others. Conclusions: A booster dose of COVID-19 vaccine increases the protection against SARS-CoV-2 infection and COVID-19 severity in the general population and in comorbid patients.
Referências	MALLAH, N. *et al.* Effectiveness of COVID-19 vaccine booster in the general population and in subjects with comorbidities: a population-based study in Spain. **Environmental research**, [United States], v. 215, p. 114252, Dec. 2022. DOI: 10.1016/j.envres.2022.114252. Disponível em: https://www.sciencedirect.com/science/article/pii/S0013935122015791. Acesso em: 16 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0013935122015791/pdf

Título	Dynamics diagnosis of the COVID-19 deaths using the Pearson diagram
Autor(es)	Alan D. S. Gonçalves, Leonardo H. S. Fernandes, AbraãoD. C. Nascimento
Resumo	The pandemic COVID-19 brings with it the need for studies and tools to help those in charge make decisions. Working with classical time series methods such as ARIMA and SARIMA has shown promising results in the first studies of COVID-19. We advance in this branch by proposing a risk factor map induced by the well-known Pearson diagram based on multivariate kurtosis and skewness measures to analyze the dynamics of deaths from COVID-19. In particular, we combine bootstrap for time series with SARIMA modeling in a new paradigm to construct a map on which one can analyze the dynamics of a set of time series. The proposed map allows a risk analysis of multiple countries in the four different periods of the pandemic COVID-19 in 55 countries. Our empirical evidence suggests a direct relationship between the multivariate skewness and kurtosis. We observe that the multivariate kurtosis increase leads to the rise of the multivariate skewness. Our findings reveal that the countries with high risk from the behavior of the number of deaths tend to have pronounced skewness and kurtosis values.
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Atualizado em: 28 de outubro de 2022

Título	Perceptions of COVID-19 symptoms, prevention, and treatment strategies among people in seven Arab countries: a cross-sectional study
Autor(es)	Feras Jirjees, Muna Barakat, Qamar Shubbar, Bayan Othman, Hamzah Alzuabi, Hala J Al-Obaidi
Resumo	The widespread COVID-19 infection worldwide has resulted in the inability of healthcare facilities to receive all infected patients; therefore, most are treated at home. In addition, factors such as high mortality, types and severity of symptoms, and the prevalence of unreliable information have prompted patients to resort to self-treatment. Objectives: To assess prevention, treatment, degree of symptoms, and sources of information among patients with COVID-19 in Arab countries. Method: A cross-sectional study was conducted in seven Arab countries: Algeria, Egypt, Iraq, Lebanon, Libya, Tunisia, and the United Arab of Emirates. People who have recovered from COVID-19 completed the study questionnaire. Score of symptoms during and after COVID-19 infection has been calculated by giving the participants a list of 13 symptoms. Results: A total of 3519 participants completed the survey. Mostly females (68.3%), and aged between 18-40 years old (59.4%). Prophylaxis treatments, including vaccines and antibiotics, have been used in around 40% of the participants. The total average score of symptoms during the infection period was found 7.31±3.66 out of 13. However, the symptoms score upon recovery was low (0.48±1.11 score). The significant associations with increased incidence of symptoms during infection were reported with older people, married, divorced or widowed, people with chronic diseases, and obese. Moreover, significant associations with decreased symptoms were reported with those who worked in the health sector, non- or ex-smokers, and vaccinated people. Conclusion: The use of medication and other treatments to prevent infection with COVID-19 was common among the participants in the seven countries. Taking the vaccine was the only effect on the number of symptoms experienced by patients. Although nearly two years have passed since the onset of the disease, there is still a need to raise treatment awareness among patients at home.
Referências	JIRJEES, F. *et al.* Perceptions of COVID-19 symptoms, prevention, and treatment strategies among people in seven Arab countries: a cross-sectional study. **Journal of infection and public health**, [Netherlands], Sept. 10, 2022. DOI: 10.1016/j.jiph.2022.08.019. Disponível em: https://www.sciencedirect.com/science/article/pii/S1876034122002349. Acesso em: 16 set. 2022.
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Título	Comparison of clinical characteristics of COVID-19 in pregnant women between the Delta and Omicron variants of concern predominant periods
Autor(es)	Kensuke Shoji, Shinya Tsuzuki, Takayuki Akiyama, Nobuaki Matsunaga, Yusuke Asai, Setsuko Suzuki, Noriko Iwamoto, Takanori Funaki, Masaki Yamada, Nobuaki Ozawa, Koushi Yamaguchi, Isao Miyairi, Norio Ohmagari
Resumo	Information regarding effects of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variant strains on clinical manifestations and outcomes of coronavirus disease 2019 (COVID-19) in pregnant women is limited. Methods: A retrospective observational study was conducted using the data from the nationwide COVID-19 registry in Japan. We identified pregnant patients with symptomatic COVID-19 hospitalized during the study period. The Delta and Omicron variants of concern (VOC) predominant periods were defined as August 1 to December 31, 2021 and January 1 to May 31, 2022, respectively. Clinical characteristics were compared between the patients in the Delta and Omicron VOC periods. In addition, logistic regression analysis was performed to identify risk factors for developing moderate-to-severe COVID-19. Results: During the study period, 310 symptomatic COVID-19 cases of pregnant women were identified; 111 and 199 patients were hospitalized during the Delta and Omicron VOC periods, respectively. Runny nose and sore throat were more common, and fever, fatigue, dysgeusia, and olfactory dysfunction were less common manifestations observed in the Omicron VOC period. In the multivariable logistic regression analysis, onset during the later stage of pregnancy (OR: 2.08 [1.24–3.71]) and onset during the Delta VOC period (OR: 2.25 [1.08–4.90]) were independently associated with moderate-to-severe COVID-19, whereas two doses of SARS-CoV-2 vaccine were protective against developing moderate-to-severe COVID-19 (OR: 0.34 [0.13–0.84]). Conclusions: Clinical manifestations of COVID-19 in pregnant women differed between the Delta and Omicron VOC periods. SARS-CoV-2 vaccination was still effective in preventing severe COVID-19 throughout the Delta and Omicron VOC periods.
Referências	KENSUKE, S. *et al.* Comparison of clinical characteristics of COVID-19 in pregnant women between the Delta and Omicron variants of concern predominant periods. **Journal of infection and chemotherapy**, [Japan], Sept. 11, 2022. DOI: 10.1016/j.jiac.2022.09.005. Disponível em: https://www.sciencedirect.com/science/article/pii/S1341321X22002641. Acesso em: 16 set. 2022.
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Título	Full seroconversion in initial non-responders with higher antibody levels after heterologous COVID-19 vaccination schedule
Autor(es)	Wagner Angelika, Anna Ohradanova-Repic, Laura Gebetsberger, Gabor Tajti, Kundi Michael, Stockinger Hannes, Ursula Wiedermann, Grabmeier-Pfistershammer Katharina
Resumo	Antibody testing after COVID-19 vaccination is generally not recommended. Here, we present the results of a retrospective study, in which we analyzed antibody levels before and after the first dose of the ChAdOx1 vector vaccine. We identified 5% non-responders (43.6±10.6 years; females: 41%) and 3.4% low-responders (44.2±10.1 years; females: 64%) after the first dose. Of these, 61 individuals received a timely second dose either with a homologous (ChAdOx1/ChAdOx1) or heterologous (ChAdOx1/mRNA-1273) schedule. All vaccinees achieved positive S1-specific IgG titers to the ancestral SARS-CoV-2 strain after the second dose, but antibody levels as well as neutralization titers against the ancestral SARS-CoV-2 strain were higher after the heterologous schedule. However, Omicron-specific neutralizing antibodies were not detectable after two doses in either group, indicating that a third vaccine dose is needed to enhance cross-reactive antibodies against currently circulating and emerging variants of concern.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0165247822001183/pdf

Título	Efficacy, safety, and immunogenicity of a booster regimen of Ad26.COV2.S vaccine against COVID-19 (ENSEMBLE2): results of a randomised, double-blind, placebo-controlled, phase 3 trial
Autor(es)	Karin Hardt, An Vandebosch, Jerald Sadoff, Mathieu Le Gars, Carla Truyers, David Lowson, Ilse Van Dromme, Johan Vingerhoets, Tobias Kamphuis, Gert Scheper, Javier Ruiz-Guiñazú, Saul N Faust, Christoph D Spinner, Hanneke Schuitemaker, Johan Van Hoof , Macaya Douoguih, Frank Struyf
Resumo	Despite the availability of effective vaccines against COVID-19, booster vaccinations are needed to maintain vaccine-induced protection against variant strains and breakthrough infections. This study aimed to investigate the efficacy, safety, and immunogenicity of the Ad26.COV2.S vaccine (Janssen) as primary vaccination plus a booster dose. Methods: ENSEMBLE2 is a randomised, double-blind, placebo-controlled, phase 3 trial including crossover vaccination after emergency authorisation of COVID-19 vaccines. Adults aged at least 18 years without previous COVID-19 vaccination at public and private medical practices and hospitals in Belgium, Brazil, Colombia, France, Germany, the Philippines, South Africa, Spain, the UK, and the USA were randomly assigned 1:1 via a computer algorithm to receive intramuscularly administered Ad26.COV2.S as a primary dose plus a booster dose at 2 months or two placebo injections 2 months apart. The primary endpoint was vaccine efficacy against the first occurrence of molecularly confirmed moderate to severe–critical COVID-19 with onset at least 14 days after booster vaccination, which was assessed in participants who received two doses of vaccine or placebo, were negative for SARS-CoV-2 by PCR at baseline and on serology at baseline and day 71, had no major protocol deviations, and were at risk of COVID-19 (ie, had no PCR-positive result or discontinued the study before day 71). Safety was assessed in all participants; reactogenicity, in terms of solicited local and systemic adverse events, was assessed as a secondary endpoint in a safety subset (approximately 6000 randomly selected participants). The trial is registered with ClinicalTrials.gov, NCT04614948, and is ongoing. Findings: Enrolment began on Nov 16, 2020, and the primary analysis data cutoff was June 25, 2021. From 34 571 participants screened, the double-blind phase enrolled 31 300 participants, 14 492 of whom received two doses (7484 in the Ad26.COV2.S group and 7008 in the placebo group) and

Resumo	11 639 of whom were eligible for inclusion in the assessment of the primary endpoint (6024 in the Ad26.COV2.S group and 5615 in the placebo group). The median (IQR) follow-up post-booster vaccination was 36·0 (15·0–62·0) days. Vaccine efficacy was 75·2% (adjusted 95% CI 54·6–87·3) against moderate to severe–critical COVID-19 (14 cases in the Ad26.COV2.S group and 52 cases in the placebo group). Most cases were due to the variants alpha (B.1.1.7) and mu (B.1.621); endpoints for the primary analysis accrued from Nov 16, 2020, to June 25, 2021, before the global dominance of delta (B.1.617.2) or omicron (B.1.1.529). The booster vaccine exhibited an acceptable safety profile. The overall frequencies of solicited local and systemic adverse events (evaluated in the safety subset, n=6067) were higher among vaccine recipients than placebo recipients after the primary and booster doses. The frequency of solicited adverse events in the Ad26.COV2.S group were similar following the primary and booster vaccinations (local adverse events, 1676 [55·6%] of 3015 vs 896 [57·5%] of 1559, respectively; systemic adverse events, 1764 [58·5%] of 3015 vs 821 [52·7%] of 1559, respectively). Solicited adverse events were transient and mostly grade 1–2 in severity. Interpretation: A homologous Ad26.COV2.S booster administered 2 months after primary single-dose vaccination in adults had an acceptable safety profile and was efficacious against moderate to severe–critical COVID-19. Studies assessing efficacy against newer variants and with longer follow-up are needed.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1473309922005060/pdf

Título	Severity of COVID-19 attributable to obesity according to BMI and CUN-BAE
Autor(es)	Silvia Fernández Crespo, Patricia Pérez-Matute, María Íñiguez Martínez, Tania Fernández-Villa, Elena Domínguez-Garrido, José A. Oteo, Alba Marcos-Delgado, Carlos Flores, José A. Riancho, Augusto Rojas-Martínez, Pablo Lapunzina, Ángel Carracedo
Resumo	Obesity is considered a risk factor in severe cases of COVID-19, which has been analysed using body mass index (BMI), an estimator that does not correlate adequately with body fat (BF) percentage. The aim of this study was to analyse the population attributable fraction to BF in severe forms of COVID-19 based on BMI and CUN-BAE. Material and methods: Multicentre observational prevalence study. Sociodemographic information, personal history, BMI and CUN-BAE were collected in SARS-CoV-2 positive cases from the provinces of León and La Rioja. Logistic regression models were used to calculate odds ratios with their respective 95% confidence intervals adjusting for age and personal history, as well as the population attributable fraction to BF. Results: 785 patients participated, 123 (15.7%) were severe. Age, obesity (both by BMI and CUN-BAE) and personal history were detected as risk factors. 51.6% of severe cases could be attributed to excess BMI and 61.4% to excess BF estimated according to CUN-BAE, with a higher underestimation of risk in women. Conclusions: Excess BF is a risk factor for severe forms of COVID-19 together with advanced age and the presence of cardiovascular, chronic respiratory or oncohematological diseases. BMI underestimates the risk especially in women, being CUN-BAE the predictor selected for its better estimation of the percentage of BF.
Referências	FERNÁNDEZ CRESPO, S. *et al.* Gravedad de COVID-19 atribuible a obesidad según IMC y CUN-BAE. **Medicina de Familia. SEMERGEN**, [Spain], p. 101840, Sept. 13, 2022. DOI: 10.1016/j.semerg.2022.101840. Disponível em: https://www.sciencedirect.com/science/article/pii/S1138359322002143. Acesso em: 16 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1138359322002143/pdf

Título	Clinical phenotypes of immediate first dose reactions to mRNA COVID-19: a multi-center latent class analysis
Autor(es)	Cosby A. Stone, Lacey B. Robinson, Lily Li, Matthew S. Krantz, Jason H. Kwah, Gilbert Ortega, Christian Mancini, Anna R. Wolfson, Rebecca R. Saff, Upeka Samarakoon, David I. Hong, Grace Koo, Timothy G. Chow, Rebecca Gruchalla, Jane X. Liao, John K. Kuster, Christina Price, Catherine Ahola, David A. Khan, Elizabeth J. Phillips, Aleena Banerji, Kimberly G.Blumenthal
Resumo	Although immediate potentially allergic reactions have been reported after dose one of mRNA COVID-19 vaccines, comprehensively defined subtypes have not been clearly distinguished. Objective: To define distinct clinical phenotypes of immediate reactions after dose one of mRNA COVID-19 vaccination, and to assess the relation of clinical phenotype to mRNA COVID-19 vaccine second dose tolerance. Methods: This retrospective study included patients with ≥1 potentially allergic symptom or sign within 4 hours of receiving dose one of a mRNA COVID-19 vaccine and assessed by Allergy/Immunology specialists from 5 US academic medical centers (January-June 2021). We used latent class analysis – an unbiased, machine-learning modeling method – to define novel clinical phenotypes. We assessed demographic, clinical, and reaction characteristics associated with phenotype membership. Using log-binomial regression, we assessed the relation between phenotype membership and second dose tolerance, defined as either no symptoms or mild, self-limited symptoms resolving with antihistamines alone. A sensitivity analysis considered second dose tolerance as 'objective signs only.' Results: We identified 265 patients with dose one immediate reactions with 3 phenotype clusters: 1) Limited/Predominantly Cutaneous, 2) Sensory and 3) Systemic. A total of 223 patients (84%) received a second dose and 200 (90%) tolerated their second dose. Sensory cluster (all patients had the symptom of numbness or tingling) was associated with a higher likelihood of second dose intolerance, but this finding did not persist when accounting for objective signs. Conclusions: Three novel clinical phenotypes of immediate-onset reactions after dose one of mRNA COVID-19 vaccines were identified using latent class analysis: 1) Limited/Predominantly Cutaneous, 2) Sensory and 3) Systemic. While these clinical phenotypes may indicate differential mechanistic etiologies or associations with subsequent dose tolerance, most individuals proceeding to their second dose tolerated it.
Referências	STONE, C. A. *et al.* Clinical phenotypes of immediate first dose reactions to mRNA COVID-19: a multi-center latent class analysis. **Journal of allergy and clinical immunology. In practice**, [United States], Sept. 13, 2022. DOI: 10.1016/j.jaip.2022.08.048. Disponível em: https://www.sciencedirect.com/science/article/pii/S2213219822009345. Acesso em: 16 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2213219822009345/pdf

Título	Portal vein thrombosis after second Pfizer/BioNTech COVID-19 vaccine
Autor(es)	Jameson M. Petrochko, Shaun M. Pateman Aciu, Sharvil U. Sheth
Resumo	We aim to review a case of portomesenteric venous thrombosis that occurred shortly after the administration of the second Pfizer/BioNTech COVID-19 vaccine and discuss the literature surrounding the subject. Methods: Manuscript was generated after reviewing patient's chart and clinical images with his written informed consent. Literature review was conducted using Pubmed and Google Scholar. Results: Portomesenteric venous thrombosis after Pfizer/BioNTech COVID-19 vaccine has previously been reported in the literature although infrequently. Conclusion: There is not enough information, given the paucity of literature, to assert a causative relationship between Pfizer/BioNTech COVID-19 vaccine and portomesenteric thrombosis.
Referências	PETROCHKO, J. M.; PATEMAN ACIU, S. M.; SHETH, S. U. Portal vein thrombosis after second Pfizer/BioNTech COVID-19 vaccine. **Journal of vascular surgery cases, innovations and techniques**, [United States], Sept. 15, 2022. DOI: 10.1016/j.jvscit.2022.08.028. Disponível em: https://www.sciencedirect.com/science/article/pii/S2468428722001721. Acesso em: 16 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2468428722001721/pdf

Título	A machine learning algorithm to analyze the effects of vaccination on COVID-19 mortality
Autor(es)	Cosimo Magazzino, Marco Mele, Mario Coccia
Resumo	The Coronavirus Disease 2019 (COVID-19), with new variants, continues to be a constant pandemic threat that is generating socio-economic and health issues in manifold countries. The principal goal of this study is to develop a Machine Learning experiment to assess the effects of vaccination on the fatality rate of the COVID-19 pandemic. Data from 192 countries are analyzed to explain the phenomena under study. This new algorithm selected two targets: the number of deaths and the fatality rate. Results suggest that, based on the respective vaccination plan, the turnout in the participation in the vaccination campaign, and the doses administered, countries under study suddenly have a reduction in the fatality rate of COVID-19 precisely at the point where the cut effect is generated in the Neural Network. This result is significant for the international scientific community. It would demonstrate the effective impact of the vaccination campaign on the fatality rate of COVID-19, whatever the country considered. In fact, once the vaccination has started (for vaccines that require a booster, we refer to at least the first dose), the antibody response of people seems to prevent the probability of death related to COVID-19. In short, at a certain point, the fatality rate collapses with increasing doses administered. All these results here can help decisions of policymakers to prepare optimal strategies, based on effective vaccination plans, to lessen the negative effects of the COVID-19 pandemic crisis in socioeconomic and health systems.
Referências	MAGAZZINO, C.; MELE, M.; COCCIA, M. A machine learning algorithm to analyze the effects of vaccination on COVID-19 mortality. **Epidemiology and infection**, [United Kingdom], p. 1–24, Sept. 12, 2022. DOI: 10.1017/S0950268822001418. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/machine-learning-algorithm-to-analyze-the-effects-of-vaccination-on-covid19-mortality/738FDCC83052C8E7A496D12C1297921D. Acesso em: 16 set. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/738FDCC83052C8E7A496D12C1297921D/S0950268822001418a.pdf

Título	Analysis of vaccine reactions after COVID-19 vaccine booster doses among pregnant and lactating individuals
Autor(es)	Alisa Kachikis, Janet A. Englund, Isabela Covelli, Yael Frank, Candace Haghighi, Michael Singleton, Alison L. Drake, Linda O. Eckert
Resumo	COVID-19 vaccine boosters or third doses are recommended for adolescents and adults who completed their initial COVID-19 vaccine course more than 5 months prior. Minimal data are available on COVID-19 vaccine booster or third dose reactogenicity among pregnant and lactating individuals. Objective: To describe the reactions to the booster or third dose of the COVID-19 vaccine and vaccine experiences among pregnant and lactating individuals. Design, Setting, and Participants: Beginning in October 2021, a follow-up Research Electronic Data Capture (REDCap) survey regarding a COVID-19 vaccine booster or third dose was sent to 17 504 participants in an ongoing online prospective cohort study on COVID-19 vaccines among pregnant and lactating individuals. A convenience sample of adults enrolled in the online prospective study who were pregnant, lactating, or neither pregnant nor lactating at the time of their booster or third dose was eligible for this follow-up survey; 17 014 (97.2%) completed the follow-up survey. Exposure: Receipt of a booster or third dose of the COVID-19 vaccine. Main Outcomes and Measures: Self-reported vaccine reactions less than 24 hours after the dose. Results: As of April 4, 2022, 17 014 eligible participants (mean [SD] age, 33.3 [3.5] years) responded to the booster or third dose survey; of these, 2009 (11.8%) were pregnant at the time of their booster or third dose, 10 279 (60.4%) were lactating, and 4726 (27.8%) were neither pregnant nor lactating. After a COVID-19 booster or third dose, most individuals (14 074 of 17 005 [82.8%]) reported a local reaction, and 11 542 of 17 005 (67.9%) reported at least 1 systemic symptom. Compared with individuals who were neither pregnant nor lactating, pregnant participants were more likely to report any local reaction to a COVID-19 booster or third dose (adjusted odds ratio [aOR], 1.2; 95% CI, 1.0-1.4; P = .01) but less likely to report any systemic reaction (aOR, 0.7; 95% CI, 0.6-0.8; P < .001). Most pregnant (1961 of 2009 [97.6%]) and lactating (9866 of 10 277 [96.0%]) individuals reported no obstetric or lactation concerns after vaccination. Conclusions and Relevance: This study suggests that COVID-19 vaccine boosters or third doses were well tolerated among pregnant and lactating individuals. Data to evaluate tolerability of boosters or additional doses among pregnant and lactating individuals will be important as they are considered for these populations.
Referências	KACHIKIS, A. *et al.* Analysis of vaccine reactions after COVID-19 vaccine booster doses among pregnant and lactating individuals. **JAMA network open**, [United States], v. 5, n. 9, p. e2230495, Sept. 8, 2022. DOI: 10.1001/jamanetworkopen.2022.30495. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.30495. Acesso em: 16 set. 2022.
Fonte	https://doi.org/10.1001/jamanetworkopen.2022.30495

Atualizado em: 28 de outubro de 2022

Título	Evaluation of risk factors for postbooster Omicron COVID-19 deaths in England
Autor(es)	Vahé Nafilyan, Isobel L. Ward, Chris Robertson, Aziz Sheikh, Consortium
Resumo	With the emergence of the Omicron variant, it has become critical to identify risk factors associated with COVID-19 death in individuals who have completed primary vaccination and received a messenger RNA (mRNA) booster dose. Existing evidence is based on people who have received 1 or 2 doses of a COVID-19 vaccine and were infected by the Alpha or Delta variant.1-3 Understanding which groups are at increased risk of COVID-19 death after receiving a booster is crucial for the prioritization of further booster doses and access to COVID-19 therapeutics. We used data from the Office for National Statistics Public Health Data Asset, a population-level linked data set combining the 2011 Census of England and Wales and electronic health records covering 80% of the population of England (eMethods in the Supplement). Ethics approval was obtained from the National Statistician's Data Ethics Advisory Committee and reporting follows the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline for cohort studies. Our study population included those aged 18 to 100 years living in England who had completed both doses of their primary vaccination schedule and had received their mRNA booster 14 days or more prior to December 31, 2021. […]
Referências	NAFILYAN, V. *et al.* Evaluation of risk factors for postbooster Omicron COVID-19 deaths in England. **JAMA network open**, [United States], v. 5, n. 9, p. e2233446, Sept. 8, 2022. DOI: 10.1001/jamanetworkopen.2022.30495. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.33446. Acesso em: 16 set. 2022.
Fonte	https://doi.org/10.1001/jamanetworkopen.2022.33446

Título	COVID-19-associated hospitalizations among vaccinated and unvaccinated adults 18 years or older in 13 US states, January 2021 to April 2022
Autor(es)	Fiona P. Havers, Huong Pham, Christopher A. Taylor, Michael Whitaker, Kadam Patel, Onika Anglin, Anita K. Kambhampati, Jennifer Milucky, Elizabeth Zell, Heidi L. Moline, Shua J. Chai, Pam Daily Kirley, Nisha B. Alden, Isaac Armistead, Kimberly Yousey-Hindes, James Meek, Kyle P. Openo, Evan J. Anderson, Libby Reeg, Alexander Kohrman, Ruth Lynfield, Kathryn Como-Sabetti, Elizabeth M. Davis, Cory Cline, Alison Muse, Grant Barney, Sophrena Bushey, Christina B. Felsen, Laurie M. Billing, Eli Shiltz, Melissa Sutton, Nasreen Abdullah, H. Keipp Talbot, William Schaffner, Mary Hill, Andrea George, Aron J. Hall, Stephanie R. Bialek, Neil C. Murthy, Bhavini Patel Murthy, Meredith McMorrow
Resumo	Understanding risk factors for hospitalization in vaccinated persons and the association of COVID-19 vaccines with hospitalization rates is critical for public health efforts to control COVID-19. Objective: To determine characteristics of COVID-19–associated hospitalizations among vaccinated persons and comparative hospitalization rates in unvaccinated and vaccinated persons. Design, Setting, and Participants: From January 1, 2021, to April 30, 2022, patients 18 years or older with laboratory-confirmed SARS-CoV-2 infection were identified from more than 250 hospitals in the population-based COVID-19–Associated Hospitalization Surveillance Network. State immunization information system data were linked to cases, and the vaccination coverage data of the defined catchment population were used to compare hospitalization rates in unvaccinated and vaccinated individuals. Vaccinated and unvaccinated patient characteristics were compared in a representative sample with detailed medical record review; unweighted case counts and weighted percentages were calculated. Exposures: Laboratory-confirmed COVID-19–associated hospitalization, defined as a positive SARS-CoV-2 test result within 14 days before or during hospitalization. Main Outcomes and Measures: COVID-19–associated hospitalization rates among vaccinated vs unvaccinated persons and factors associated with COVID-19–associated hospitalization in vaccinated persons were assessed. Results: Using representative data from 192 509 hospitalizations (see Table 1 for demographic information), monthly COVID-19–associated hospitalization rates ranged from 3.5 times to 17.7 times higher in unvaccinated persons than vaccinated persons regardless of booster dose status. From January to April 2022, when the Omicron

Resumo	variant was predominant, hospitalization rates were 10.5 times higher in unvaccinated persons and 2.5 times higher in vaccinated persons with no booster dose, respectively, compared with those who had received a booster dose. Among sampled cases, vaccinated hospitalized patients with COVID-19 were older than those who were unvaccinated (median [IQR] age, 70 [58-80] years vs 58 [46-70] years, respectively; P < .001) and more likely to have 3 or more underlying medical conditions (1926 [77.8%] vs 4124 [51.6%], respectively; P < .001). Conclusions and Relevance: In this cross-sectional study of US adults hospitalized with COVID-19, unvaccinated adults were more likely to be hospitalized compared with vaccinated adults; hospitalization rates were lowest in those who had received a booster dose. Hospitalized vaccinated persons were older and more likely to have 3 or more underlying medical conditions and be long-term care facility residents compared with hospitalized unvaccinated persons. The study results suggest that clinicians and public health practitioners should continue to promote vaccination with all recommended doses for eligible persons.
Referências	HAVERS, F. P. *et al.* COVID-19-associated hospitalizations among vaccinated and unvaccinated adults 18 years or older in 13 US states, January 2021 to April 2022. **JAMA internal medicine**, [United States], Sept. 8, 2022. DOI: 10.1001/jamainternmed.2022.4299. Disponível em: https://doi.org/10.1001/jamainternmed.2022.4299. Acesso em: 16 set. 2022.
Fonte	https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2796235

Título	Pregnancy status at the time of COVID-19 vaccination and incidence of SARS-CoV-2 infection
Autor(es)	Maria C. Magnus, Siri E. Håberg, Ellen Ø. Carlsen, Jeffrey C. Kwong, Sarah A. Buchan, Deshayne B. Fell
Resumo	Pregnant women are recommended to receive COVID-19 vaccines; however, relative effectiveness of vaccination by pregnancy status is unclear. Methods: We compared the relative effectiveness of mRNA COVID-19 vaccines according to whether women received both while pregnant (n= 7,412), one dose while pregnant (n = 3,538), both while postpartum (n = 1,856), or both doses while neither pregnant nor postpartum (n = 6,687). We estimated risk of SARS-CoV-2 infection starting 14 days after the second dose using Cox regression, reporting hazard ratios (HR) and 95% confidence intervals (CI). Secondly, we examined relative effectiveness of a third (booster) dose while pregnant compared to outside pregnancy. The major circulating variant during the study period was the Delta variant. Results: 54% of women received two doses of the BNT162b2 vaccine, 16% received two doses of the mRNA-1273 vaccine, while 30% received one dose of both vaccines. Compared to women who received both doses while neither pregnant nor postpartum, the adjusted HR for a positive SARS-CoV-2 PCR test was similar if the woman received both doses while pregnant (1.04; 95% CI: 0.94, 1.17), one dose while pregnant and one dose before or after pregnancy (1.03; 95% CI: 0.93, 1.14), or both doses while postpartum (0.99; 95% CI: 0.92, 1.07). The findings were similar for BNT162b2 (Pfizer-BioNTech Comirnaty) and mRNA-1273 (Moderna Spikevax), and during Delta- and Omicron-dominant periods. We observed no differences in the relative effectiveness of the booster dose according to pregnancy status. Conclusions: We observed similar effectiveness of mRNA vaccines against SARS-CoV-2 infection among women regardless of pregnancy status at the time of vaccination.
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Fonte	https://academic.oup.com/cid/advance-article-pdf/doi/10.1093/cid/ciac739/45744709/ciac739.pdf

Título	Effectiveness of COVID-19 vaccines over time prior to Omicron emergence in Ontario, Canada: test-negative design study
Autor(es)	Hannah Chung, Peter C. Austin, Kevin A. Brown, Sarah A. Buchan, Deshayne B. Fell, Cindy Fong, Jonathan B. Gubbay, Sharifa Nasreen, Kevin L. Schwartz, Maria E. Sundaram, Mina Tadrous, Kumanan Wilson, Sarah E. Wilson, Jeffrey C. Kwong
Resumo	Waning protection from two doses of COVID-19 vaccines led to third dose availability in multiple countries even prior to emergence of the Omicron variant. Methods: We used the test-negative study design to estimate vaccine effectiveness (VE) against any SARS-CoV-2 infection, symptomatic infection, and severe outcomes (COVID-19-related hospitalizations or death) by time since second dose of any combination of BNT162b2, mRNA-1273, and ChAdOx1 between 11 January and 21 November 2021 for subgroups based on patient and vaccine characteristics. Results: We included 261,360 test-positive cases (of any SARS-CoV-2 lineage) and 2,783,699 individuals as test-negative controls. VE of two mRNA vaccine doses decreased from 90% (95%CI, 90-90%) 7-59 days after the second dose to 75% (95%CI, 72-78%) after ≥240 days against infection, from 94% (95%CI, 84-95%) to 87% (95%CI, 85-89%) against symptomatic infection, and remained stable (98% [95%CI, 97-98%] to 98% [95%CI, 96-99%])against severe outcomes. Similar trends were seen with heterologous ChAdOx1 and mRNA vaccine schedules. VE estimates for dosing intervals <35 days were lower than for longer intervals (e.g., VE of two mRNA vaccines against symptomatic infection at 120-179 days was 86% [95%CI, 85-88%] for dosing intervals <35 days, 92% [95%CI, 91-93%] for 35-55 days, and 91% [95%CI, 90-92%] for ≥56 days), but when stratified by age group and subperiod, there were no differences between dosing intervals. Conclusions: Prior to Omicron emergence, VE of any two-dose primary series, including heterologous schedules and varying dosing intervals, decreased over time against any infection and symptomatic infection but remained high against severe outcomes.
Referências	CHUNG, H. *et al.* Effectiveness of COVID-19 vaccines over time prior to Omicron emergence in Ontario, Canada: test-negative design study. **Open forum infectious diseases**, [United Kingdom], p. ofac449, Sept. 7, 2022. DOI: 10.1093/ofid/ofac449. Disponível em: https://doi.org/10.1093/ofid/ofac449. Acesso em: 9 set. 2022.
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Título	Estimating the effectiveness of first dose of COVID-19 vaccine against mortality in England: a quasi-experimental study
Autor(es)	Charlotte Bermingham, Jasper Morgan, Daniel Ayoubkhani, Myer Glickman, Nazrul Islam, Aziz Sheikh, Jonathan Sterne, A Sarah Walker, Vahé Nafilyan
Resumo	Estimating real-world vaccine effectiveness is vital to assess the COVID-19 vaccination programme and to inform the ongoing policy response. However, estimating vaccine effectiveness using observational data is inherently challenging because of the non-randomised design and potential for unmeasured confounding. We used a Regression Discontinuity Design (RDD) to estimate vaccine effectiveness against COVID-19 mortality in England using. the fact that people aged 80 or over were prioritised for the vaccine roll-out. The prioritisation led to a large discrepancy in vaccination rates in people 80–84 compared to those 75–79 at the beginning of the vaccination campaign. We found a corresponding difference in COVID-19 mortality, but not in non-COVID-19 mortality, suggesting that our approach appropriately addresses the issue of unmeasured confounding factors. Our results suggest that the first vaccine dose reduced the risk of COVID-19 death by 52.6% (95% CI 26.6–84.2) in those aged 80, supporting existing evidence that a first dose of a COVID-19 vaccine has a strong protective effect against COVID-19 mortality in older adults. The RDD estimate of vaccine effectiveness is only slightly lower to previously published studies using different methods, suggesting that these estimates are unlikely to be substantially affected by unmeasured confounding factors.
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Fonte	https://academic.oup.com/aje/advance-article-pdf/doi/10.1093/aje/kwac157/45699638/kwac157.pdf

Título	Infectious diseases society of America guidelines on the treatment and management of patients with COVID-19
Autor(es)	Adarsh Bhimraj, Rebecca L. Morgan, Amy Hirsch Shumaker, Lindsey Baden, Vincent Chi Chung Cheng, Kathryn M. Edwards, Jason C. Gallagher, Rajesh T. Gandhi, William J. Muller, Mari M. Nakamura, John C. O'Horo, Robert W. Shafer, Shmuel Shoham, M. Hassan Murad, Reem A. Mustafa, Shahnaz Sultan, Yngve Falck-Ytter
Resumo	There are many pharmacologic therapies that are being used or considered for treatment of coronavirus disease 2019 (COVID-19), with rapidly changing efficacy and safety evidence from trials. Objective: Develop evidence-based, rapid, living guidelines intended to support patients, clinicians, and other healthcare professionals in their decisions about treatment and management of patients with COVID-19. Methods: In March 2020, the Infectious Diseases Society of America (IDSA) formed a multidisciplinary guideline panel of infectious disease clinicians, pharmacists, and methodologists with varied areas of expertise to regularly review the evidence and make recommendations about the treatment and management of persons with COVID-19. The process used a living guideline approach and followed a rapid recommendation development checklist. The panel prioritized questions and outcomes. A systematic review of the peer-reviewed and grey literature was conducted at regular intervals. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach was used to assess the certainty of evidence and make recommendations. Results: Based on the most recent search conducted on May 31, 2022, the IDSA guideline panel has made 30 recommendations for the treatment and management of the following groups/populations: pre- and post-exposure prophylaxis, ambulatory with mild-to-moderate disease, hospitalized with mild-to-moderate, severe but not critical, and critical disease. As these are living guidelines, the most recent recommendations can be found online at: https://idsociety.org/COVID19guidelines. Conclusions: At the inception of its work, the panel has expressed the overarching goal that patients be recruited into ongoing trials. Since then, many trials were done which provided much needed evidence for COVID-19 therapies. There still remain many unanswered questions as the pandemic evolved which we hope future trials can answer.
Referências	BHIMRAJ, A. *et al.* Infectious diseases society of America guidelines on the treatment and management of patients with COVID-19. **Clinical infectious diseases**, [United States], p. ciac724, Sept. 5, 2022. DOI: 10.1093/cid/ciac724. Disponível em: https://doi.org/10.1093/cid/ciac724. Acesso em: 9 set. 2022.
Fonte	https://academic.oup.com/cid/advance-article-pdf/doi/10.1093/cid/ciac724/45697762/ciac724.pdf

Título	The association of COVID-19 incidence with temperature, humidity, and UV radiation: a global multi-city analysis
Autor(es)	Luise Nottmeyer, Ben Armstrong, Rachel Lowe, Sam Abbott, Sophie Meakin, Kathleen O'Reilly, Rosa von Borries, Rochelle Schneider, Dominic Royé, Masahiro Hashizume, Mathilde Pascal, Aurelio Tobias, Ana Maria Vicedo-Cabrera, Eric Lavigne, Patricia Matus Correa, Nicolás Valdés Ortega, Jan Kynčl, Aleš Urban, Hans Orru, Niilo Ryti, Jouni Jaakkola, Marco Dallavalle, Alexandra Schneider, Yasushi Honda, Chris Fook Sheng Ng, Barrak Alahmad, Gabriel Carrasco, Iulian Horia Holobâc, Ho Kim, Whanhee Lee, Carmen Íñiguez, Michelle L. Bell, Antonella Zanobetti, Joel Schwartz, Noah Scovronick, Micheline de Sousa Zanotti Stagliorio Coélho, Paulo Hilario Nascimento Saldiva, Magali Hurtado Diaz, Antonio Gasparrini, Francesco Sera
Resumo	The associations between COVID-19 transmission and meteorological factors are scientifically debated. Several studies have been conducted worldwide, with inconsistent findings. However, often these studies had methodological issues, e.g., did not exclude important confounding factors, or had limited geographic or temporal resolution. Our aim was to quantify associations between temporal variations in COVID-19 incidence and meteorological variables globally. Methods: We analysed data from 455 cities across 20 countries from 3 February to 31 October 2020. We used a time-series analysis that assumes a quasi-Poisson distribution of the cases and incorporates distributed lag non-linear modelling for the exposure associations at the city-level while considering effects of autocorrelation, long-term trends, and day of the week. The confounding by governmental measures was accounted for by incorporating the Oxford Governmental Stringency Index. The effects of daily mean air temperature, relative and absolute humidity, and UV radiation were estimated by applying a meta-regression of local estimates with multi-level random effects for location, country, and climatic zone. Results: We found that air temperature and absolute humidity influenced the spread of COVID-19 over a lag period of 15 days. Pooling the estimates globally showed that overall low temperatures (7.5 °C compared to 17.0 °C) and low absolute humidity (6.0 g/m3 compared to 11.0 g/m3) were associated with higher COVID-19 incidence (RR temp =1.33 with 95%CI: 1.08; 1.64 and RR AH =1.33 with 95%CI: 1.12; 1.57). RH revealed no significant trend and for UV some evidence of a positive association was found. These results were robust to sensitivity analysis. However, the study results also emphasise the

	heterogeneity of these associations in different countries. Conclusion: Globally, our results suggest that comparatively low temperatures and low absolute humidity were associated with increased risks of COVID-19 incidence. However, this study underlines regional heterogeneity of weather-related effects on COVID-19 transmission.
Referências	NOTTMEYER, L. *et al.* The association of COVID-19 incidence with temperature, humidity, and UV radiation: a global multi-city analysis. **Science of the total environment**, [Netherlands], p. 158636, Sept. 7, 2022. DOI: 10.1016/j.scitotenv.2022.158636. Disponível em: https://www.sciencedirect.com/science/article/pii/S0048969722057357. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0048969722057357/pdf

Título	Development and application of a Japanese vaccine database for comparative assessments in the post-authorization phase: the Vaccine Effectiveness, Networking, and Universal Safety (VENUS) study
Autor(es)	Chieko Ishiguro, Wataru Mimura, Fumiko Murata, Haruhisa Fukuda
Resumo	Japan currently lacks a data platform that can support quantitative assessments of the causal relationships between vaccines and adverse events. This study describes the development and application of the Vaccine Effectiveness, Networking, and Universal Safety (VENUS) Study to facilitate such assessments. Methods: A database was created by linking public insurance enrollees' claims data with vaccination records acquired from participating municipalities. To provide an overview of the study data, we produced descriptive statistics of sex, age, and vaccinations. We also conducted a pilot study using the database to assess influenza vaccine safety during the 2018/2019 season among older persons (≥65 years) residing in a single municipality. Results: Our database was created using data from approximately 1.12 million individuals in 7 municipalities between 2013 and 2020. The data during fiscal year 2018 included 853,016 individuals (male: 363,079, female: 489,937) with a median age of 70 years (interquartile range: 52–79). We obtained information on 17 vaccine types, including the pneumococcal vaccine and influenza vaccine. In the pilot study, we analyzed 48,723 vaccinated persons matched with 48,723 unvaccinated persons. The only adverse event that occurred in both groups was Bell's palsy, which had an adjusted incidence rate ratio of 1.21 (95 % confidence interval: 0.48–3.07). Conclusions: The VENUS Study is Japan's first healthcare data platform that enables comparative assessments of vaccinated and unvaccinated persons in large samples covering all age groups. Efforts are underway to increase the number of participating municipalities and to generate evidence on vaccine effectiveness and safety.
Referências	ISHIGURO, C. *et al.* Development and application of a Japanese vaccine database for comparative assessments in the post-authorization phase: The Vaccine Effectiveness, Networking, and Universal Safety (VENUS) study. **Vaccine**, [United Kingdom], Sept. 9, 2022. DOI: 10.1016/j.vaccine.2022.08.069. Disponível em: https://www.sciencedirect.com/science/article/pii/S0264410X22010775. Acesso em: 9 set. 2022.
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Título	Robust time-series analysis of the effects of environmental factors on the COVID-19 pandemic in the area of Milan (Italy) in the years 2020-21
Autor(es)	Carlo Grillenzoni
Resumo	The effects of environmental factors on the spread of the COVID-19 pandemic have been widely debated in the scientific literature. The results are important for understanding the outbreak dynamics and for defining health measures of prevention and containment. Using multivariate autoregressive (AR) models and robust statistics of causality, this paper analyzes the effect of 19 time series (10 physical and 9 social) on 3 daily CoViD-19 series (infected, hospitalized, deaths) in the Milan area for about 16 months. Robust M-estimation shows the weak effect of climatic and pollution factors, while authority restrictions, people mobility, smart working and vaccination rate have a significant impact. In particular, the vaccination campaign is important for reducing hospitalizations and deaths.
Referências	GRILLENZONI, C. Robust time-series analysis of the effects of environmental factors on the COVID-19 pandemic in the area of Milan (Italy) in the years 2020-21. **Hygiene and environmental health advances**, [Netherlands], p. 100026, Sept. 9, 2022. DOI: 10.1016/j.heha.2022.100026. Disponível em: https://www.sciencedirect.com/science/article/pii/S2773049222000265. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2773049222000265/pdf

Título	A research and development (R&D) roadmap for broadly protective coronavirus vaccines: setting a path to address coronavirus threats
Autor(es)	Kristine A. Moore, Michael T. Osterholm, Eve M. Lackritz, Gregory A. Poland
Resumo	The emergence and spread of three pathogenic coronaviruses over the last 20 years serves as a dire warning for the future and must galvanize the global scientific and public health communities to act now to prepare for the next coronavirus threat. We need to acknowledge that the COVID-19 pandemic is not a "black swan" event and that future spillovers of coronaviruses from animal reservoirs to humans are very likely to occur; the question is not "if" but "when." The first novel coronavirus (severe acute respiratory syndrome coronavirus [SARS-CoV-1]) emerged in 2003 and was followed by Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012. The current COVID-19 pandemic and the rapid, ongoing evolution and emergence of new SARS-CoV-2 variants of concern (VOCs) that are capable of evading immune protection present a crucial opportunity for action and highlight the need to improve global pandemic preparedness, particularly through the development of new and improved vaccines before the next coronavirus threat appears. […]
Referências	MOORE, K. A. *et al.* A research and development (R&D) roadmap for broadly protective coronavirus vaccines: setting a path to address coronavirus threats. **Vaccine**, [United Kingdom], Sept. 8, 2022. DOI: 10.1016/j.vaccine.2022.08.071. Disponível em: https://www.sciencedirect.com/science/article/pii/S0264410X22010799. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0264410X22010799/pdf

Título	Immunogenicity and dafety of third-dose mRNA COVID-19 vaccines in healthy adults previously vaccinated with two doses of the ChAdOx1 vaccine
Autor(es)	Wang-Huei Sheng, Si-Man Ieong, Pin-Hung Lin, Ming-Ju Hsieh, Hung-Chih Yang, Ching-Fu Pan, Tai-Ling Chao, Sui-Yuan Chang, Shan-Chwen Chang
Resumo	The efficacy and safety of coronavirus disease 2019 (COVID-19) booster vaccines remain limited. We investigated the immunogenicity and adverse events of the third dose of mRNA vaccines in healthy adults. Methods: Volunteers vaccinated with two doses of the adenoviral vaccine (ChAdOx1) 12 weeks before were administered with an mRNA COVID-19 vaccine. These were divided into three groups, full-dose mRNA-1273 (group 1); half-dose mRNA-1273 (group 2); and full-dose BNT-162b2 (group 3). Primary outcomes included serum anti-SARS-CoV-2 spike immunoglobulin G (IgG) titers and neutralizing antibody titers against B.1.1.7 (alpha), B.1.617.2 (delta), and B.1.1.529 (omicron) variants. Secondary outcomes included the evaluation of humoral and cellular immunity and vaccine-associated adverse events after the boost. Results: Totally 300 participants were recruited, and 298 participants were enrolled. For all three groups, an increase in anti-SARS-CoV-2 spike IgG geometric mean titers (30.12- to 71.81-fold) and neutralizing antibody titers against the alpha variant (69.77- to 173.2-folds), delta variant (132.68- to 324.73-folds), and omicron variant (135.4- to 222.4-folds) were observed on day 28. All groups showed robust T- and B-cell responses after boosting. Adverse events were overall mild and transient but with higher prevalence and severity in group 1 participants than in other groups. Conclusions: Third dose mRNA COVID-19 vaccines markedly enhanced cellular and humoral responses and were safe. Immunological responses and adverse events were higher in individuals receiving the full-dose mRNA-1273 vaccine, followed by a half-dose mRNA-1273 vaccine and BNT-162b2 vaccine.

Referências	WANG, H. S. *et al.* Immunogenicity and safety of third-dose mRNA COVID-19 vaccines in healthy adults previously vaccinated with two doses of the ChAdOx1 vaccine. **Journal of the Formosan Medical Association**, [Netherlands], Sept. 8, 2022. DOI: 10.1016/j.jfma.2022.09.004. Disponível em: https://www.sciencedirect.com/science/article/pii/S0929664622003540. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0929664622003540/pdf

Título	Critical pediatric neurological illness associated with COVID-19 (Omicron BA.2.3.7 variant) infection in Taiwan: immunological assessment and viral genome analysis in tertiary medical center
Autor(es)	Chi-Sheng Chen, Chia-Ning Chang, Chih-Fen Hu, Ming-Jr Jian, Hsing-Yi Chung, Chih-Kai Chang, Cherng-Lih Perng, Kuo-Sheng Hung, Feng-Yee Chang, Chih-Hung Wang, Shyi-Jou Chen, Hung-Sheng Shang
Resumo	Since April 2022, another wave of the Omicron epidemic stroke Taiwan society, and children with severe neurological complications have been reported frequently. A few cases even developed acute fulminant encephalitis. To investigate the possible causes of the increased incidence of such complications here in Taiwan, we reviewed several cases of pediatric patients with severe neurological symptoms. Materials and Methods: We collected the medical records of pediatric patients with COVID-19 infection who presented with severe neurological symptoms. The COVID-19 infection was diagnosed by nasal swab RT-PCR. The remained samples were sent for whole-genome sequencing and S protein amino acid variation mapping. Results: The increased of several inflammatory markers was observed in all patients included in this article displayed. However, none of the cerebrospinal fluid (CSF) samples tested positive for SARS-CoV-2. The result of WGS showed that all the sequences belonged to the lineage BA.2.3.7. However, the sequences had a K97E mutation in the S protein that differed from other BA.2.3.7 lineage strains which was located at the spike protein N-terminal domain. Conclusions: The new mutation in the S protein, which had not previously been observed but was discovered in this study, potentially explains the sudden increase in incidence of extremely adverse neurological symptoms in pediatric patients.
Referências	CHI, C.-S. *et al.* Critical pediatric neurological illness associated with COVID-19 (Omicron BA.2.3.7 variant) infection in Taiwan: immunological assessment and viral genome analysis in tertiary medical center. **International journal of infectious diseases**, [Netherlands], Sept. 8, 2022. DOI: 10.1016/j.ijid.2022.09.001. Disponível em: https://www.sciencedirect.com/science/article/pii/S1201971222005008. Acesso em: 9 set. 2022.
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Atualizado em: 28 de outubro de 2022

Título	Simultaneous co-infection with Omicron (B.1.1.529) and Delta (21A/478K.V1) SARS-CoV-2 variants confirmed by whole genome sequencing
Autor(es)	Souheil Zayet, Jean-Baptiste Vuillemenot, Laurence Josset, Vincent Gendrin, Timothée Klopfenstein
Resumo	We reported herein a simultaneous co-identification with Omicron (B.1.1.529) and Delta (21A/478K.V1) SARS-CoV-2 variants confirmed by whole genome sequencing in a 83-year-old French patient.
Referências	ZAYET, S. *et al.* Simultaneous co-infection with Omicron (B.1.1.529) and Delta (21A/478K.V1) SARS-CoV-2 variants confirmed by whole genome sequencing. **International journal of infectious diseases**, [Netherlands], Sept. 8, 2022. DOI: 10.1016/j.ijid.2022.09.002. Disponível em: https://www.sciencedirect.com/science/article/pii/S120197122200501X. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S120197122200501X/pdf

Título	Impact of age structure and vaccine prioritization on COVID-19 in West Africa
Autor(es)	Hemaho B. Taboe, Michael Asare-Baah, Afsana Yesmin, Calistus N. Ngonghala
Resumo	The ongoing COVID-19 pandemic has been a major global health challenge since its emergence in 2019. Contrary to early predictions that sub-Saharan Africa (SSA) would bear a disproportionate share of the burden of COVID-19 due to the region's vulnerability to other infectious diseases, weak healthcare systems, and socioeconomic conditions, the pandemic's effects in SSA have been very mild in comparison to other regions. Interestingly, the number of cases, hospitalizations, and disease-induced deaths in SSA remain low, despite the loose implementation of non-pharmaceutical interventions (NPIs) and the low availability and administration of vaccines. Possible explanations for this low burden include epidemiological disparities, under-reporting (due to limited testing), climatic factors, population structure, and government policy initiatives. In this study, we formulate a model framework consisting of a basic model (in which only susceptible individuals are vaccinated), a vaccine-structured model, and a hybrid vaccine-age-structured model to assess the dynamics of COVID-19 in West Africa (WA). The framework is trained with a portion of the confirmed daily COVID-19 case data for 16 West African countries, validated with the remaining portion of the data, and used to (i) assess the effect of age structure on the incidence of COVID-19 in WA, (ii) evaluate the impact of vaccination and vaccine prioritization based on age brackets on the burden of COVID-19 in the sub-region, and (iii) explore plausible reasons for the low burden of COVID-19 in WA compared to other parts of the world. Calibration of the model parameters and global sensitivity analysis show that asymptomatic youths are the primary drivers of the pandemic in WA. Also, the basic and control reproduction numbers of the hybrid vaccine-age-structured model are smaller than those of the other two models indicating that the disease burden is overestimated in the models which do not account for age-structure. This result is also confirmed through the vaccine-

Resumo	derived herd immunity thresholds. In particular, a comprehensive analysis of the basic (vaccine-structured) model reveals that if 84% (73%) of the West African populace is fully immunized with the vaccines authorized for use in WA, vaccine-derived herd immunity can be achieved. This herd immunity threshold is lower (68%) for the hybrid model. Also, all three thresholds are lower (60% for the basic model, 51% for the vaccinestructured model, and 48% for the hybrid model) if vaccines of higher efficacies (e.g., the Pfizer or Moderna vaccine) are prioritized, and higher if vaccines of lower efficacy are prioritized. Simulations of the models show that controlling the COVID-19 pandemic in WA (by reducing transmission) requires a proactive approach, including prioritizing vaccination of more youths or vaccination of more youths and elderly simultaneously. Moreover, complementing vaccination with a higher level of mask compliance will improve the prospects of containing the pandemic. Additionally, simulations of the model predict another COVID-19 wave (with a smaller peak size compared to the Omicron wave) by mid-July 2022. Furthermore, the emergence of a more transmissible variant or easing the existing measures that are effective in reducing transmission will result in more devastating COVID-19 waves in the future. To conclude, accounting for age-structure is important in understanding why the burden of COVID-19 has been low in WA and sustaining the current vaccination level, complemented with the WHO recommended NPIs is critical in curbing the spread of the disease in WA.
Referências	TABOE, H. B. *et al.* Impact of age structure and vaccine prioritization on COVID-19 in West Africa. **Infectious disease modelling**, [China], Sept. 8, 2022. DOI: 10.1016/j.idm.2022.08.006. Disponível em: https://www.sciencedirect.com/science/article/pii/S2468042722000665. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2468042722000665/pdf

Título	Mathematical modeling of the dynamics of COVID-19 variants of concern: asymptotic and finite-time perspectives
Autor(es)	Ciupeanu A. -S., Varughese M., Roda W. C., Han D., Cheng Q., Li M. Y.
Resumo	The COVID-19 pandemic has seen multiple waves, in part due to the implementation and relaxation of social distancing measures by the public health authorities around the world, and also caused by the emergence of new variants of concern (VOCs) of the SARS-Cov-2 virus. As the COVID-19 pandemic is expected to transition into an endemic state, how to manage outbreaks caused by newly emerging VOCs has become one of the primary public health issues. Using mathematical modeling tools, we investigated the dynamics of VOCs, both in a general theoretical framework and based on observations from public health data of past COVID-19 waves, with the objective of understanding key factors that determine the dominance and coexistence of VOCs. Our results show that the transmissibility advantage of a new VOC is a main factor for it to become dominant. Additionally, our modeling study indicates that the initial number of people infected with the new VOC plays an important role in determining the size of the epidemic. Our results also support the evidence that public health measures targeting the newly emerging VOC taken in the early phase of its spread can limit the size of the epidemic caused by the new VOC (Wu et al., 2139Wu, Scarabel, Majeed, Bragazzi, & Orbinski, ; Wu et al., 2021).
Referências	CIUPEANU, A.-S. *et al.* Mathematical modeling of the dynamics of COVID-19 variants of concern: asymptotic and finite-time perspectives. **Infectious disease modelling**, [China], Sept. 8, 2022. DOI: 10.1016/j.idm.2022.08.004. Disponível em: https://www.sciencedirect.com/science/article/pii/S2468042722000641. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2468042722000641/pdf

Título	Building-level wastewater surveillance of SARS-CoV-2 is associated with transmission and variant trends in a university setting
Autor(es)	Sarah C. Sellers, Emily Gosnell, Dillon Bryant, Stefano Belmonte, Stella Self, Maggie S. J. McCarter, Kirsten Kennedy, R. Sean Norman
Resumo	The University of South Carolina (UofSC) was among the first universities to include building-level wastewater surveillance of SARS-CoV-2 to complement clinical testing during its reopening in the Fall 2020 semester. In the Spring 2021 semester, 24-hour composite wastewater samples were collected twice per week from 10 residence halls and the on-campus student isolation and quarantine building. The isolation and quarantine building served as a positive control site. The wastewater was analyzed using RT-ddPCR for the quantification of nucleocapsid genes (N1 and N2) to identify viral transmission trends within residence halls. Log10 SARS-CoV-2 RNA concentrations were compared to both new clinical cases identified in the days following wastewater collection and recovered cases returning to sites during the days preceding sample collection to test temporal and spatial associations. There was a statistically significant positive relationship between the number of cases reported from the sites during the seven-day period following wastewater sampling and the log10 viral RNA copies/L (overall IRR 1.08 (1.02, 1.16) p-value 0.0126). Additionally, a statistically significant positive relationship was identified between the number of cases returning to the residence halls after completing isolation during the seven-day period preceding wastewater sampling and the log10 viral RNA copies/L (overall 1.09 (1.01, 1.17) p-value 0.0222). The statistical significance of both identified cases and recovered return cases on log10 viral RNA copies/L in wastewater indicates the importance of including both types of clinical data in wastewater-based epidemiology (WBE) research. Genetic mutations associated with variants of concern (VOCs) were also monitored. The emergence of the Alpha variant on campus was identified, which contributed to the second wave of COVID-19 cases at UofSC. The study was able to identify sub-community transmission hotspots for targeted intervention in real-time, making WBE cost-effective and creating less of a burden on the general public compared to repeated individual testing methods.

Referências	SELLERS, S. C. *et al.* Building-level wastewater surveillance of SARS-CoV-2 is associated with transmission and variant trends in a university setting. **Environmental research**, [United States], p. 114277, Sept. 7, 2022. DOI: 10.1016/j.envres.2022.114277. Disponível em: https://www.sciencedirect.com/science/article/pii/S0013935122016048. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0013935122016048/pdf

Título	Rapid, label-free and low-cost diagnostic kit for COVID-19 based on liquid crystals and machine learning
Autor(es)	Mahboube Esmailpour, Mohammad Mohammadimasoudi, Mohammadreza G. Shemirani, Ali Goudarzi, Mohammad-Hossein Heidari Beni, Hosein Shahsavarani, Hamid Aghajan, Parvaneh Mehrbod, Mostafa Salehi-Vaziri, Fatemeh Fotouhi
Resumo	We report a label-free method for detection of the SARS-CoV-2 virus in nasopharyngeal swab samples without purification steps and multiplication of the target which simplifies and expedites the analysis process. The kit consists of a textile grid on which liquid crystals (LC) are deposited and the grid is placed in a crossed polarized microscopy. The swab samples are subsequently placed on the LCs. In the presence of a particular biomolecule, the direction of LCs changes locally based on the properties of the biomolecule and forms a particular pattern. As the swab samples are not perfectly purified, image processing and machine learning techniques are employed to detect the presence of specific molecules or quantify their concentrations in the medium. The method can differentiate negative and positive COVID-19 samples with an accuracy of 96% and also differentiate COVID-19 from influenza types A and B with an accuracy of 93%. The kit is portable, simple to manufacture, convenient to operate, cost effective, rapid and sensitive. The simplicity of the specimen processing, the speed of image acquisition, and fast diagnostic operations enable the deployment of the proposed technique for performing extensive on-spot screening of COVID-19 in public places.
Referências	ESMAILPOUR, M. *et al.* Rapid, label-free and low-cost diagnostic kit for COVID-19 based on liquid crystals and machine learning. **Biosensors and bioelectronics. X**, [Netherlands], p. 100233, Sept. 8, 2022. DOI: 10.1016/j.biosx.2022.100233. Disponível em: https://www.sciencedirect.com/science/article/pii/S2590137022001261. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2590137022001261/pdf

Título	COVID-19 vaccine acceptance and coverage among pregnant persons in the United States
Autor(es)	Annette K. Regan, Ravneet Kaur, Marcianna Nosek, Pallavi Aytha Swathi, Ning Yan Gu
Resumo	Pregnant persons are at higher risk of severe COVID-19. Although vaccination is recommended, COVID-19 vaccination rates are lower among pregnant persons compared to the non-pregnant population. We aimed to evaluate acceptance of any dose of COVID-19 vaccine during pregnancy. A national online cross-sectional survey of US adults who were pregnant between December 2020 and July 2021 was used to measure COVID-19 vaccine behaviors, attitudes, and beliefs. Post-stratification weighting was used to ensure representativeness to the US population. Marginal log-binomial models were used to estimate adjusted prevalence ratios (aPR) of COVID-19 vaccine acceptance, accounting for sociodemographic factors. Of 5,660 who responded to survey advertisements, 2,213 met eligibility criteria and completed the survey; 55.4% of respondents received or planned to receive COVID-19 vaccine prior to or during pregnancy, 27.0% planned to vaccinate after pregnancy, 8.8% were unsure and 8.7% had no plans to vaccinate. Individuals were more likely to receive or plan to receive COVID-19 vaccine if they had group prenatal care (aPR 1.57; 95% CI 1.40, 1.75), were employed in a workplace with a policy recommending vaccination (aPR 1.15; 95% CI 1.06, 1.26), and believed COVID-19 vaccines are safe (aPR 2.86; 95% CI 2.49, 3.29). Pregnant persons who were recommended COVID-19 vaccination by their healthcare provider less commonly reported concerns about vaccine safety (35.5% vs 55.9%) and were more likely to accept COVID-19 vaccines (aPR 1.52; 95% CI 1.31, 1.76). COVID-19 vaccine acceptance during pregnancy is not universal and public health intervention will be needed to continue to increase vaccine coverage.
Referências	REGAN, A. K. *et al.* COVID-19 vaccine acceptance and coverage among pregnant persons in the United States. **Preventive medicine reports**, [United States], p. 101977, Sept. 7, 2022. DOI: 10.1016/j.pmedr.2022.101977. Disponível em: https://www.sciencedirect.com/science/article/pii/S2211335522002844. Acesso em: 9 set. 2022.
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Título	Protection against SARS-CoV-2 transmission by a parenteral prime—intranasal boost vaccine strategy
Autor(es)	Dennis Christensen, Charlotta Polacek, Daniel J. Sheward, Leo Hanke, Ainhoa Moliner-Morro, Gerald McInerney, Ben Murrell, Katrine Top Hartmann, Henrik Elvang Jensen, Gregers Jungersen, Kristin Illigen, Louise Krag Isling, Rune Fledelius Jensen, Julia Sid Hansen, Ida Rosenkrands, Carlota Fernandez-Antunez, Santseharay Ramirez, Frank Follmann, Jens Bukh, Gabriel Kristian Pedersen
Resumo	Licensed vaccines against SARS-CoV-2 effectively protect against severe disease, but display incomplete protection against virus transmission. Mucosal vaccines providing immune responses in the upper airways are one strategy to protect against transmission. Methods: We administered Spike HexaPro trimer formulated in a cationic liposomal adjuvant as a parenteral (subcutaneous – s.c.) prime-intranasal boost regimen to elicit airway mucosal immune responses and evaluated this in a Syrian hamster model of virus transmission. Findings parenteral prime-intranasal boost elicited high-magnitude serum neutralizing antibody responses and IgA responses in the upper respiratory tract. The vaccine strategy protected against virus in the lower airways and lung pathology, but virus could still be detected in the upper airways. Despite this, the parenteral prime-intranasal booster vaccine effectively protected against onward SARS-CoV-2 transmission. Interpretation: This study suggests that parenteral-prime mucosal boost is an effective strategy for protecting against SARS-CoV-2 infection and highlights that protection against virus transmission may be obtained despite incomplete clearance of virus from the upper respiratory tract. It should be noted that protection against onward transmission was not compared to standard parenteral prime-boost, which should be a focus for future studies. Funding: This work was primarily supported by the European Union Horizon 2020 research and innovation program under grant agreement no. 101003653.
Referências	CHRISTENSEN, D. *et al.* Protection against SARS-CoV-2 transmission by a parenteral prime—intranasal boost vaccine strategy. **EBioMedicine**, [Netherlands], p. 104248, Sept. 7, 2022. DOI: 10.1016/j.ebiom.2022.104248. Disponível em: https://www.sciencedirect.com/science/article/pii/S2352396422004303. Acesso em: 9 set. 2022.
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Título	Disentangling the cognitive, physical, and mental health sequalae of COVID-19.
Autor(es)	Conor J. Wild, Loretta Norton, David K. Menon, David A. Ripsman, Richard H. Swartz, Adrian M. Owen
Resumo	As COVID-19 cases exceed hundreds of millions globally, many survivors face cognitive challenges and prolonged symptoms. However, important questions about the cognitive impacts of COVID-19 remain unresolved. In this cross-sectional online study, 478 adult volunteers who self-reported a positive test for COVID-19 (M=30 days since most recent test) perform significantly worse than pre-pandemic norms on cognitive measures of processing speed, reasoning, verbal, and overall performance, but not short-term memory – suggesting domain-specific deficits. Cognitive differences are even observed in participants that did not require hospitalisation. Factor analysis of health- and COVID-related questionnaires reveals two clusters of symptoms: one that varies mostly with physical symptoms and illness severity, and one with mental health. Cognitive performance is positively correlated with the global measure encompassing physical symptoms, but not the one that broadly described mental health, suggesting that the subjective experience of “long COVID” relates to physical symptoms and cognitive deficits, especially executive dysfunction.
Referências	WILD, C. J. *et al.* Disentangling the cognitive, physical, and mental health sequalae of COVID-19. **Cell reports medicine**, [United States], p. 100750, Sept. 7, 2022. DOI: 10.1016/j.xcrm.2022.100750. Disponível em: https://www.sciencedirect.com/science/article/pii/S2666379122002993. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2666379122002993/pdf

Título	Epidemiological characteristics and transmission dynamics of the outbreak caused by the SARS-CoV-2 Omicron variant in Shanghai, China: a descriptive study
Autor(es)	Zhiyuan Chen, Xiaowei Deng, Liqun Fang, Kaiyuan Sun, Yanpeng Wu, Tianle Che, Junyi Zou, Jun Cai, Hengcong Liu, Yan Wang, Tao Wang, Yuyang Tian, Nan Zheng, Xuemei Yan, Ruijia Sun, Xiangyanyu Xu, Xiaoyu Zhou, Shijia Ge, Yuxia Liang, Lan Yi, Juan Yang, Juanjuan Zhang, Marco Ajelli, Hongjie Yu
Resumo	In early March 2022, a major outbreak of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) Omicron variant spread rapidly throughout Shanghai, China. Here we aimed to provide a description of the epidemiological characteristics and spatiotemporal transmission dynamics of the Omicron outbreak under the population-based screening and lockdown policies implemented in Shanghai. Methods: We extracted individual information on SARS-CoV-2 infections reported between January 1 and May 31, 2022, and on the timeline of the adopted non-pharmaceutical interventions. The epidemic was divided into three phases: i) sporadic infections (January 1–February 28), ii) local transmission (March 1–March 31), and iii) city-wide lockdown (April 1 to May 31). We described the epidemic spread during these three phases and the subdistrict-level spatiotemporal distribution of the infections. To evaluate the impact on the transmission of SARS-CoV-2 of the adopted targeted interventions in Phase 2 and city-wide lockdown in Phase 3, we estimated the dynamics of the net reproduction number (Rt). Findings: A surge in imported infections in Phase 1 triggered cryptic local transmission of the Omicron variant in early March, resulting in the largest outbreak in mainland China since the original wave. A total of 626,000 SARS-CoV-2 infections were reported in 99.5% (215/216) of the subdistricts of Shanghai until the end of May. The spatial distribution of the infections was highly heterogeneous, with 37% of the subdistricts accounting for 80% of all infections. A clear trend from the city center towards adjacent suburban and rural areas was observed, with a progressive slowdown of the epidemic spread (from 463 to 244 meters/day) prior to the citywide lockdown. During Phase 2, Rt remained well above 1 despite the implementation of multiple targeted interventions. The citywide lockdown imposed on April 1 led to a marked decrease in transmission, bringing Rt below the epidemic threshold in the entire city on April 14

	and ultimately leading to containment of the outbreak. Interpretation: Our results highlight the risk of widespread outbreaks in mainland China, particularly under the heightened pressure of imported infections. The targeted interventions adopted in March 2022 were not capable of halting transmission, and the implementation of a strict, prolonged city-wide lockdown was needed to successfully contain the outbreak, highlighting the challenges for containing Omicron outbreaks.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2666606522002073/pdf

Título	Vaccine breakthrough infections with SARS-CoV-2: why older adults need booster vaccinations
Autor(es)	Maria I. Ventura, Allen Azizian, Sean E. Evans, Susan Velasquez, Juan Carlos Arguello, Katherine Warburton
Resumo	COVID-19 vaccinations are highly efficacious in preventing severe illness that can lead to hospitalizations and death, but incidents of vaccine breakthrough (VBT) infections persist. We examined VBT infections within a congregate setting to help guide public health practices. Study design: This is a retrospective cohort study of VBT infections identified via polymerase chain reaction (PCR) testing between 2/1/2021-11/1/2021. Methods: A VBT infection was defined as the detection of SARS-CoV-2 collected from a person ≥14 days after all recommended doses of a COVID-19 vaccine. VBT infections were examined in five California psychiatric inpatient hospitals with a workforce of more than 10,000 hospital staff and approximately 5500 patients. Results: 415 VBT infections out of 14,101 fully vaccinated individuals within our system (2.9%) were identified. Days since final vaccine date ranged from 16-291 days. Kruskal-Wallis nonparametric test revealed a statistically significant difference in age between individuals with VBT infections versus all other vaccinated individuals [U = 6.47, p = .01]. A chi-square test of independence revealed no significant sex differences between individuals with VBT infections (58.8% male and 41.2% female) versus all other vaccinated individuals (59.6% male and 40.4% female; X2 (3, N = 14101) = 5.059, p = .167). Out of 415 VBT cases, 65.1% received the Moderna vaccine, 33.2% received Pfizer, and 1.7% received J&J; and 38.1% were asymptomatic at time of VBT infection, 24.1% were symptomatic, while 37.8% were missing symptom data. Conclusions: Vaccination campaigns, including boosters and continued surveillance, are important complimentary strategies for reducing the proliferation of COVID-19 VBT cases and severity of symptoms associated with COVID-19.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2666535222000830/pdf

Título	Larger gray matter volumes in neuropsychiatric long-COVID syndrome
Autor(es)	Bianca Besteher, Marlene Machnik, Marie Troll, Antonia Toepffer, Ani Zerekidze, Tonia Rocktaschel, Carina Heller, Zora Kikinis, Stefan Brodoehl, Kathrin Finke, Philipp A. Reuken, Nils Opel, Andreas Stallmach, Christian Gaser, Martin Walter
Resumo	Neuropsychiatric symptoms are the most common sequelae of long-COVID. As accumulating evidence suggests an impact of survived SARS-CoV-2-infection on brain physiology, it is necessary to further investigate brain structural changes in relation to course and neuropsychiatric symptom burden in long-COVID. To this end, the present study investigated 3T-MRI scans from long-COVID patients suffering from neuropsychiatric symptoms (n = 30), and healthy controls (n = 20). Whole-brain comparison of gray matter volume (GMV) was conducted by voxel-based morphometry. To determine whether changes in GMV are predicted by neuropsychiatric symptom burden and/or initial severity of symptoms of COVID-19 and time since onset of COVID-19 stepwise linear regression analysis was performed. Significantly enlarged GMV in long-COVID patients was present in several clusters (spanning fronto-temporal areas, insula, hippocampus, amygdala, basal ganglia, and thalamus in both hemispheres) when compared to controls. Time since onset of COVID-19 was a significant regressor in four of these clusters with an inverse relationship. No associations with clinical symptom burden were found. GMV alterations in limbic and secondary olfactory areas are present in long-COVID patients and might be dynamic over time. Larger samples and longitudinal data in long-COVID patients are required to further clarify the mediating mechanisms between COVID-19, GMV and neuropsychiatric symptoms.
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Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0165178122004292/pdf

Título	How many asymptomatic cases were unconfirmed in the US COVID-19 pandemic? The evidence from a serological survey
Autor(es)	Junyang Cai, Jian Zhou
Resumo	A serological survey from CDC revealed more than 10% of individuals in America probably resolving or past infection with SARS-CoV-2 at the end of 2020, which illustrated there were massive unconfirmed asymptomatic infected people by contrast with the reported cases numbers. Asymptomatic patients as one of the crucial reasons for the COVID-19 pandemic being tough to contain, estimating the number of unconfirmed ones including the active infected and having cured in this population, is of great guiding significance for formulating epidemic prevention and control policies. This paper proposes a varying coefficient Susceptible-Infected-Removed-Susceptible (vSIRS) model to obtain the time series data of the unconfirmed asymptomatic infected numbers. Moreover, due to the time-varying coefficients, we can effectively track the situation changes of the COVID-19 intervened by related policy support and medical care level through this epidemiological model. A novel two-stage approach with a programming problem is correspondingly developed to accomplish the estimation of the unknown parameters in the vSIRS model. Subsequently, by leveraging seroprevalence data, daily reported cases data, and other clinical information, we apply the vSIRS model to analyze the evolution of COVID-19 in America. The modeling results show millions of active asymptomatic infected individuals were unconfirmed during the autumn and winter of 2020, which was a momentous factor for driving American COVID-19 pandemic.
Referências	JUNYANG, C.; JIAN Z. How many asymptomatic cases were unconfirmed in the US COVID-19 pandemic? The evidence from a serological survey. **Chaos, solitons and fractals**, [United Kingdom], p. 112630, Sept. 6, 2022. DOI: 10.1016/j.chaos.2022.112630. Disponível em: https://www.sciencedirect.com/science/article/pii/S0960077922008116. Acesso em: 9 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0960077922008116/pdf

Título	Post-COVID-19 condition 3 months after hospitalisation with SARS-CoV-2 in South Africa: a prospective cohort study
Autor(es)	Murray Dryden, Caroline Mudara, Caroline Vika, Prof Lucille Blumberg, Natalie Mayet, Prof Cheryl Cohen, Prof Stefano Tempia, Arifa Parker, Jeremy Nel, Rubeshan Perumal, Michelle J Groome, Francesca Conradie, Norbert Ndjeka, Louise Sigfrid, Laura Merson, Waasila Jassat,
Resumo	Post COVID-19 condition (PCC), as defined by WHO, refers to a wide range of new, returning, or ongoing health problems in people who have had COVID-19, and it represents a rapidly emerging public health priority. We aimed to establish how this developing condition has affected patients in South Africa and which population groups are at risk. Methods: In this prospective cohort study, we used the DATCOV national hospital surveillance system to identify participants aged 18 years or older who had been hospitalised with laboratory-confirmed SARS-CoV-2 infection in South Africa. Participants underwent telephone follow-up assessment at 1 month and 3 months after hospital discharge. Participants were assessed using a standardised questionnaire for the evaluation of symptoms, functional status, health-related quality of life, and occupational status. We used negative binomial regression models to determine factors associated with PCC. Findings: Of 241 159 COVID-19 admissions reported to DATCOV between Dec 1, 2020, and Aug 23, 2021, 8309 were randomly selected for enrolment. Of the 3094 patients that we were able to contact, 2410 (77·9%) consented to participate in the study at 1 month after discharge. Of these, 1873 (77·7%) were followed up at 3 months after hospital discharge. Participants had a median age of 52 years (IQR 41–62) and 960 (51·3%) were women. At 3 months of follow-up, 1249 (66·7%) of 1873 participants reported new or persistent COVID-19-related symptoms, compared with 1978 (82·1%) of 2410 at 1 month after hospital discharge. The most common symptoms reported at 3 months were fatigue (50·3%), shortness of breath (23·4%), confusion or lack of concentration (17·5%), headaches (13·8%), and problems seeing or blurred vision (10·1%). On multivariable analysis, the factors associated with persistent symptoms after acute COVID-19 were being female (adjusted incident rate ratio 1·20, 95% CI 1·04–1·38) and admission to an intensive care unit (1·17, 1·01–1·37). Interpretation: Most participants in this cohort of individuals previously hospitalised with COVID-19 reported persistent symptoms 3 months after hospital discharge and a significant impact of PCC on their functional and occupational status. The large burden of

Resumo	PCC symptoms identified in this study emphasises the need for a national health strategy. This should include the development of clinical guidelines and training of health-care workers for identifying, assessing, and caring for patients affected by PCC; establishment of multidisciplinary health services; and provision of information and support to people who have PCC.
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Fonte	https://www.thelancet.com/action/showPdf?pii=S2214-109X%2822%2900286-8

Título	Epidemiology and risk factors associated with COVID-19 infection and mortality in nursing homes
Autor(es)	Idoia Beobide Telleria, Alexander Ferro Uriguen, Esther Laso Lucas, Cinzia Sannino Menicucci, Maria Enriquez Barroso, Adolfo Lopez de Munain Arregui
Resumo	The aim of this paper was to analyse the association of demographic, clinical and pharmacological risk factors with the presence of SARS-COV-2 virus infection, as well as to know the variables related to mortality from COVID-19 in Nursing Home (NH) residents. Design: Retrospective case-control study. The study variables of those residents who acquired the infection (case) were compared with those of the residents who did not acquire it (control). A subgroup analysis was carried out to study those variables related to mortality. Site: Nursing Homes in the region of Guipúzcoa (Spain). Participants and interventions: 4 NHs with outbreaks of SARS-CoV-2 between March-December 2020 participated in the study. The infectivity and, secondary, mortality was studied, as well as demographic, clinical and pharmacological variables associated with them. Data were collected from the computerised clinical records. Main measurements: Infection and mortality rate. Risk factors associated with infection and mortality. Results: 436 residents were studied (median age 87 years (IQR 11)), 173 acquired SARS-CoV-2 (39.7%). People with dementia and Global Deterioration Scale ≥ 6 were less likely to be infected by SARS-CoV-2 virus [OR= 0.65 (95% CI 0.43-0.97; p<0.05)]. Overall case fatality rate was 10.3% (a mortality of 26% among those who acquired the infection). COVID-19 mortality was significantly associated with a Global Deterioration Scale ≥ 6 (OR= 4.9 (95% CI 1.5-16.1)), COPD diagnosis (OR= 7.8 (95% CI 1.9-31.3)) and antipsychotic use (OR= 3.1 (95% CI 1.0-9.0)). Conclusions: Advanced dementia has been associated with less risk of SARS-CoV-2 infection but higher risk of COVID-19 mortality. COPD and chronic use of antipsychotics have also been associated with mortality. These results highlight the importance of determining the stage of diseases such as dementia as well as maintaining some caution in the use of some drugs such as antipsychotics.
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Título	Calling on Latin America and the Caribbean countries to recognise the disability from long COVID
Autor(es)	Sateesh M. Sakhamuri, Satish Jankie, Lexley M. Pinto Pereira
Resumo	Long COVID sufferers voiced the term on social media after being stigmatised, denied access to medical/specialist services or diagnosis, and feeling “fobbed off,” hoping their burden of devastating debilitation would stop being dismissed.1 This multi-dimensional disability is characterised by diverse health-related challenges embracing physical, mental, and cognitive issues, affecting daily activities, social, family, and employment relationships. Considering its life-changing impact on disabling resumption of normalcy, mentation, and work capacity, the 2006 United Nations Convention on the Rights of Persons with Disabilities qualifies it as a disability.2 An impending enormous influx of new entrants to the disability community is signalled by adverse health issues for six months or more in half of COVID-19 survivors from a large systemic review of 57 reports.3 The longest longitudinal cohort of COVID-19 patients, studied two years post-hospitalisation in Wuhan, found that 11% who did not return to work had decreased physical function or were unwilling to do so.4 As of early 2022 long COVID has distressed 23 million Americans, driving an approximate million people jobless, causing yet unknown significant public health, social, and economic outcomes. […]
Referências	SAKHAMURI, S. M.; JANKIE, S.; PEREIRA, L. M. P. Calling on Latin America and the Caribbean countries to recognise the disability from long COVID. **The Lancet regional health – Americas**, [United Kingdom], Aug. 26, 2022. DOI: 10.1016/j.lana.2022.100362. Disponível em: https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(22)00179-X/fulltext. Acesso em: 2 set. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2667-193X%2822%2900179-X

Título	Epidemiological and clinical features of SARS-CoV-2 infection in children during the outbreak of Omicron variant in Shanghai, March 7–31, 2022
Autor(es)	Xiangshi Wang,Hailing Chang,He Tian,Yanfeng Zhu,Jingjing Li,Zhongqiu Wei,Yixue Wang,Aimei Xia,Yanling Ge,Gongbao Liu,Jiehao Cai,Qirong Zhu,Xiaowen Zhai,Mei Zeng
Resumo	This study aimed to understand the epidemiological and clinical characteristics of pediatric SARS-CoV-2 infection during the early stage of Omicron variant outbreak in Shanghai.Methods: This study included local COVID-19 cases <18 years in Shanghai referred to the exclusively designated hospital from March 7 to March 31, 2022. Clinical data, epidemiological exposure, and COVID-19 vaccination status were collected. Relative risks (RRs) were calculated to assess the effect of vaccination on symptomatic infection and febrile disease. Results: A total of 376 pediatric cases of COVID-19 (median age: 6.0 ± 4.2 years) were referred to the designated hospital, including 257 (68.4%) symptomatic cases and 119 (31.6%) asymptomatic cases. Of the 307 (81.6%) children ≥3 years eligible for COVID-19 vaccination, 110 (35.8%) received two doses of vaccines. The median interval between the completion of two-dose vaccination and infection was 3.5 (interquartile range [IQR]: 3, 4.5) months. Compared with no vaccination, two-dose COVID-19 vaccination reduced the risks of symptomatic infection and febrile disease by 35% (RR 0.65, 95% confidence interval [CI]: 0.53–0.79) and 33% (RR 0.64, 95% CI: 0.51–0.81) among confirmed cases. Eighty-four percent of symptomatic cases had fever (mean duration: 1.7 ± 1.0.8 days), 40.5% had cough, and 16.4% had transient leukopenia. Three hundred and seven (81.6%) had an epidemiological exposure in household (69.1%), school (21.8%), and residential area (8.8%). Conclusion: The surge of pediatric COVID-19 cases and multiple transmission model reflect wide dissemination of Omicron variant in the community. Asymptomatic infection is common among Omicron-infected children. COVID-19 vaccination can offer some protection against symptomatic infection and febrile disease.
Referências	XIANGSHI, W. *et al.* Epidemiological and clinical features of SARS-CoV-2 infection in children during the outbreak of Omicron variant in Shanghai, March 7–31, 2022. **Influenza and other respiratory viruses**, [United Kingdom], Aug. 31, 2022. DOI: 10.1111/irv.13044. Disponível em: https://onlinelibrary.wiley.com/doi/abs/10.1111/irv.13044. Acesso em: 2 set. 2022.
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Título	Analysis of COVID-19 incidence and severity among adults vaccinated with 2-dose mRNA COVID-19 or inactivated SARS-CoV-2 vaccines with and without boosters in Singapore
Autor(es)	Oon Tek Ng, Kalisvar Marimuthu, Nigel Lim, Ze Qin Lim, Natascha May Thevasagayam, Vanessa Koh, Calvin J. Chiew, Stefan Ma, Mingshi Koh, Pin Yan Low, Say Beng Tan, Joses Ho, Sebastian Maurer-Stroh, Vernon J. M. Lee, Yee-Sin Leo, Kelvin Bryan Tan, Alex R. Cook, Chorh Chuan Tan
Resumo	Assessing booster effectiveness of COVID-19 mRNA vaccine and inactivated SARS-CoV-2 vaccine over longer time intervals and in response to any further SARS-CoV-2 variants is crucial in determining optimal COVID-19 vaccination strategies. Objective: To determine levels of protection against severe COVID-19 and confirmed SARS-CoV-2 infection by types and combinations of vaccine boosters in Singapore during the Omicron wave. Design, Setting, and Participants This cohort study included Singapore residents aged 30 years or more vaccinated with either at least 2 doses of mRNA COVID-19 vaccines (ie, Pfizer-BioNTech BNT162b2 or Moderna mRNA-1273) or inactivated SARS-CoV-2 vaccines (Sinovac CoronaVac or Sinopharm BBIBP-CorV) as of March 10, 2022. Individuals with a known SARS-CoV-2 infection prior to December 27, 2021, an infection on or before the date of their second vaccine dose, or with reinfection cases were excluded. Exposures: Two or 3 doses of Pfizer-BioNTech BNT162b2, Moderna mRNA-1273, Sinovac CoronaVac, or Sinopharm BBIBP-CorV. Main Outcomes and Measures Notified infections from December 27, 2021, to March 10, 2022, adjusted for age, sex, race, housing status, and calendar days. Estimated booster effectiveness, defined as the relative incidence-rate reduction of severe disease (supplemental oxygen, intensive care, or death) or confirmed infection following 3-dose vaccination compared with 5 months after second mRNA dose, was determined using binomial regression. Results: Among 2 441 581 eligible individuals (1 279 047 [52.4%] women, 846 110 (34.7%) aged 60 years and older), there were 319 943 (13.1%) confirmed SARS-CoV-2 infections, of which 1513 (0.4%) were severe COVID-19 cases. mRNA booster effectiveness against confirmed infection 15 to 60 days after boosting was estimated to range from 31.7% to 41.3% for the 4 boosting combinations (homologous BNT162b2, homologous mRNA-1273, 2-dose BNT162b2/mRNA-1273 booster, and 2-dose mRNA-1273/BNT162b2

Resumo	booster). Five months and more after boosting, estimated booster effectiveness against confirmed infection waned, ranging from –2.8% to 14.6%. Against severe COVID-19, estimated mRNA booster effectiveness was 87.4% (95% CI, 83.3%-90.5%) 15 to 60 days after boosting and 87.2% (95% CI, 84.2%-89.7%) 5 to 6 months after boosting, with no significant difference comparing vaccine combinations. Booster effectiveness against severe COVID-19 15 days to 330 days after 3-dose inactivated COVID-19 vaccination, regardless of combination, was estimated to be 69.6% (95% CI, 48.7%-81.9%). Conclusions and Relevance: Booster mRNA vaccine protection against severe COVID-19 was estimated to be durable over 6 months. Three-dose inactivated SARS-CoV-2 vaccination provided greater protection than 2-dose but weaker protection compared with 3-dose mRNA.
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Título	Self-sampling for SARS-CoV-2 detection in children
Autor(es)	Ilan Youngster
Resumo	On January 18, 2020, the Centers for Disease Control and Prevention (CDC) reported the first confirmed case of COVID-19 in the US.1 Since then, in only 2.5 years, the global pandemic has resulted in 588 757 628 confirmed cases of COVID-19 and 6 433 794 deaths (as of August 8, 2022).2 While the world is (once again) gradually reopening, the lingering social and economic effects of the pandemic are clearly felt, with national lockdowns and school closures still ongoing in 23 countries. Furthermore, the World Health Organization (WHO) recently forecasted a new wave of COVID-19, predicted to peak in the autumn and winter months, suggesting the potential need to reinstate disruptive measures in the northern hemisphere. Preparing for the future, the WHO released its autumn/winter strategy for COVID-19, emphasizing the central role of diagnostics in counteracting the pandemic. Specifically, the organization recommended that countries should strengthen “laboratory capacities to ensure reliable rapid diagnostic SARS-CoV-2 detection and tracking of variants, complemented by continued population use of rapid diagnostic testing; [integrate] population-based surveillance systems for influenza, SARS-CoV-2 and other respiratory viruses to monitor the spread and intensity of respiratory viruses; [and prioritize] contact tracing and quarantining based on WHO recommendations for individuals, high-risk settings and situations of concern.” […]
Referências	YOUNGSTER, I. Self-sampling for SARS-CoV-2 detection in children. **JAMA**, [United States], Aug. 26, 2022. DOI: 10.1001/jama.2022.15225. Disponível em: https://doi.org/10.1001/jama.2022.15225. Acesso em: 2 set. 2022.
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Título	PREPRINT: Zero-COVID policy or living-with-COVID policy? Analysis based on percent excess mortality
Autor(es)	Xiaohan Cao, Yan Li, Yunlong Zi, Yuyan Zhu
Resumo	Since the outbreak of the SARS-CoV-2 variant B.1.1.529 (Omicron) in late 2021, many countries adopted the living-with-COVID (LWC) policy instead of the zero-COVID (ZC) policy to restore pre-COVID-19 normalcy. However, given that the Omicron variant is much more contagious, whether the mortality burden under the LWC policy is tolerable to the society remains under debate. Methods: In this study, four countries (Singapore, South Korea, Australia, and New Zealand) that have shifted to the LWC policy and one region (Hong Kong) with a significant Omicron outbreak were selected as research objects. Percent excess mortality (PEM), which is the percentage of excess mortality over expected mortality, was selected to assess the effectiveness of different anti-pandemic policies in controlling the mortality burden within the same country/region during the pandemic. In addition, confirmed COVID cases, COVID-associated deaths, percent COVID-excess mortality, expected and observed mortality over time were collected or calculated for further comparisons. Results: In the examined four countries, PEM fluctuated around 0 and was lower than 10% most of the time under the ZC policy. After shifting to the LWC policy, PEM usually exceeded 10%, and countries with high population density experienced a peak PEM of 20-70%. New Zealand was the only country in our analysis that achieved approximately 10% average PEM during the Omicron outbreak under the LWC policy. Hong Kong, under a specialized ZC policy, attained a significant high PEM during the Omicron outbreak. Conclusion: Our analysis demonstrated that PEM was significantly higher during the LWC policy period than that during the ZC policy period. Thus, the precondition of the policy transition needs to be cautiously examined, and the current LWC policy should be revised to achieve a lower PEM.
Referências	XIAOHAN, C. *et al.* Zero-COVID policy or living-with-COVID policy? Analysis based on percent excess mortality. **medRxiv** , [United States], Sept. 1, 2022. DOI: 10.1101/2022.08.31.22279422. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.31.22279422v1. Acesso em: 2 set. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.31.22279422v1.full.pdf

Título	PREPRINT: Recent SARS-CoV-2 infection abrogates antibody and B-cell responses to booster vaccination
Autor(es)	Clarisa Buckner, Lela Kardava, Omar El Merhebi, Sandeep Narpala, Leonid Serebryannyy, Bob Lin, Wei Wang, Xiaozhen Zhang, Felipe Lopes de Assis, Sophie Kelly, I-Ting Teng, Genevieve McCormack, Lauren Praiss, Catherine Seamon, M. Ali Rai, Heather Kalish, Peter Kwong, Michael Proschan, Adrian McDermott, Anthony Fauci, Tae-Wook Chun, Susan Moir
Resumo	SARS-CoV-2 mRNA booster vaccines provide protection from severe disease, eliciting strong immunity that is further boosted by previous infection. However, it is unclear whether these immune responses are affected by the interval between infection and vaccination. Over a two-month period, we evaluated antibody and B-cell responses to a third dose mRNA vaccine in 66 individuals with different infection histories. Uninfected and post-boost but not previously infected individuals mounted robust ancestral and variant spike-binding and neutralizing antibodies, and memory B cells. Spike-specific B-cell responses from recent infection were elevated at pre-boost but comparatively less so at 60 days post-boost compared to uninfected individuals, and these differences were linked to baseline frequencies of CD27lo B cells. Day 60 to baseline ratio of BCR signaling measured by phosphorylation of Syk was inversely correlated to days between infection and vaccination. Thus, B-cell responses to booster vaccines are impeded by recent infection.
Referências	BUCKNER, C. *et al.* Recent SARS-CoV-2 infection abrogates antibody and B-cell responses to booster vaccination. **medRxiv** , [United States], Aug. 31, 2022. DOI: 10.1101/2022.08.30.22279344. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.30.22279344v1. Acesso em: 2 set. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.30.22279344v1.full.pdf

Título	The actual status of hospitals as COVID-19 vaccination clinic in China and safety monitoring of inactivated vaccine: a cross-sectional study
Autor(es)	Jin Huang, Mei-quan Zhang, Mei-zheng Huang, Gao-min Lin
Resumo	The outbreak has had a devastating impact, and efforts are underway to speed up vaccination. The study's objective was to describe the clinical characteristics of the COVID-19 vaccination clinic in the Second People's Hospital of Fujian Province, China. Meanwhile, We monitored all the vaccine recipients to evaluate adverse reactions. Methods: A cross-sectional study was done at the COVID-19 Vaccination Clinic, the Second People's Hospital of Fujian Province, China. We systematically collected Clinical data from the COVID-19 vaccination clinic between March 11 and November 11, 2021, including the type of vaccine, number of doses, gender, age, educational level, occupational category, adverse reactions, etc. Investigators will contact vaccine recipients via phone call or WeChat message to record the negative responses. Lastly, this report covers data through 8 months, so it will be better to Evaluate the Safety of two inactivated COVID-19 vaccines from China (BBIBP-CorV (Beijing Institute of Biological Products, Beijing, China) and CoronaVac (Sinovac Life Sciences, Beijing, China)). Results: The results indicated that the Second People's Hospital of Fujian Province received a total of 64,602 COVID-19 vaccines from March 11 to November 11, 2021, including 34,331 (53.14%) first doses, 29,245 (45.27%) second doses, and 1,026 (1.59%) third doses. This study found the highest proportion in other personnel (38.69% at the first dose, 38.75% at the second dose, and 2.44% at the third dose), who were mainly retirees. People with higher levels of education are more likely to be vaccinated against COVID-19 during the early stages of vaccine rollout. In terms of age stratification, the highest proportion was found among people aged 18-49 (BBIBP-CorV: first dose 61%, second dose 62.6%, and third dose 76.8%; Corona Vac: first dose 66.1%, double dose 63.6%, and third dose 75.5%), followed by those over 60. The common adverse reactions were mainly local and systemic, and there were some differences between the two inactivated vaccines (P<0.05).

Resumo	Conclusions: This is the first study to analyze the actual status of hospitals as COVID-19 vaccination clinics in China. The hospital has focused on vaccinating citizens and the initial rollout of vaccines to ensure any safety issues are identified. More citizens are willing to vaccinate in hospitals because of the uncertain safety of the available vaccines and adverse reactions. The good news is that vaccine-related severe adverse events have not been found in the hospital vaccination clinic. The Safety of BBIBP-CorV and Corona Vac is relatively high.
Referências	JIN, H. *et al.* The actual status of hospitals as COVID-19 vaccination clinic in China and safety monitoring of inactivated vaccine: a cross-sectional study. **Disaster medicine and public health preparedness**, [United States], p. 1–23, Aug. 26, 2022. DOI: 10.1017/dmp.2022.217. Disponível em: https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/actual-status-of-hospitals-as-covid19-vaccination-clinic-in-china-and-safety-monitoring-of-inactivated-vaccine-a-crosssectional-study/E1D15773842203246C038E4A3973D7F0. Acesso em: 2 set. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/E1D15773842203246C038E4A3973D7F0/S1935789322002178a.pdf

Atualizado em: 28 de outubro de 2022

Título	Dengue outbreak in the times of COVID-19 pandemic: common myths associated with the dengue
Autor(es)	Saba Zaheer, Muhammad Junaid Tahir, Irfan Ullah, Ali Ahmed, Sheikh Mohd Saleem, Sheikh Shoib, Muhammad Sohaib Asghar
Resumo	With the sharp rise in dengue cases across the state and the ongoing COVID-19 pandemic, it is crucial to pay attention to the common misbelieves among the population about dengue. It should be considered to actively spread awareness about the disease to bust the common myths associated with it. A few common myths include that it is a contagious disease, or it is a milder infection than COVID-19, so it's not taken more seriously, or that one cannot be coinfected with both dengue and COVID-19 at one time. We propose that accurate information about dengue can be spread through community education through televisions and social media to cater to the targeted audience. In addition to that, awareness campaigns in rural areas should be planned to help the masses understand the pathogenesis of the diseases and play a role in limiting the transmission.
Referências	ZAHEER, S. *et al.* Dengue outbreak in the times of COVID-19 pandemic: common myths associated with the dengue. **Annals of medicine and surgery**, [United Kingdom], p. 104535, Sept. 1, 2022. DOI: 10.1016/j.amsu.2022.104535. Disponível em: https://www.sciencedirect.com/science/article/pii/S204908012201295X. Acesso em: 2 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S204908012201295X/pdf

Título	Current trends in COVID-19 diagnosis and its new variants in physiological fluids: surface antigens, antibodies, nucleic acids, and RNA sequencing
Autor(es)	Menna Mostafa, Ahmed Barhoum, Ekin Sehit, Hossam Gewaid, Eslam Mostafa, Mohamed M. Omran, Mohga S. Abdalla, Fatehy M. Abdel-Haleem, Zeynep Altintas, Robert J. Forster
Resumo	Rapid, highly sensitive, and accurate virus circulation monitoring techniques are critical to limit the spread of the virus and reduce the social and economic burden. Therefore, point-of-use diagnostic devices have played a critical role in addressing the outbreak of COVID-19 (SARS-CoV-2) viruses. This review provides a comprehensive overview of the current techniques developed for the detection of SARS-CoV-2 in various body fluids (e.g., blood, urine, feces, saliva, tears, and semen) and considers the mutations (i.e., Alpha, Beta, Gamma, Delta, Omicron). We classify and comprehensively discuss the detection methods depending on the biomarker measured (i.e., surface antigen, antibody, and nucleic acid) and the measurement techniques such as lateral flow immunoassay (LFIA), enzyme-linked immunosorbent assay (ELISA), reverse transcriptase-polymerase chain reaction (RT-PCR), reverse transcription loop-mediated isothermal amplification (RT-LAMP), microarray analysis, clustered regularly interspaced short palindromic repeats (CRISPR) and biosensors. Finally, we addressed the challenges of rapidly identifying emerging variants, detecting the virus in the early stages of infection, the detection sensitivity, selectivity, and specificity, and commented on how these challenges can be overcome in the future.
Referências	MOSTAFA, M. *et al.* Current trends in COVID-19 diagnosis and its new variants in physiological fluids: surface antigens, antibodies, nucleic acids, and RNA sequencing. **TrAC Trends in analytical chemistry**, [Netherlands], p. 116750, Aug. 30, 2022. DOI: 10.1016/j.trac.2022.116750. Disponível em: https://www.sciencedirect.com/science/article/pii/S0165993622002333. Acesso em: 2 set. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0165993622002333/pdf

Título	Transmission of SARS-CoV-2 by children to contacts in schools and households: a prospective cohort and environmental sampling study in London
Autor(es)	Rebecca Cordery, Lucy Reeves, Jie Zhou, Aileen Rowan, Patricia Watber, Carolina Rosadas, Michael Crone, Marko Storch, Paul Freemont, Lucy Mosscrop, Alice Cowley, Gina Zelent, Kate Bisset, Holly Le Blond, Sadie Regmi, Christian Buckingham, Ramlah Junaideen, Nadia Abdulla, Joseph Eliahoo, Miranda Mindlin, Theresa Lamagni, Wendy Barclay, Graham P. Taylor, Shiranee Sriskandan
Resumo	Assessing transmission of SARS-CoV-2 by children in schools is of crucial importance to inform public health action. We assessed frequency of acquisition of SARS-CoV-2 by contacts of pupils with COVID-19 in schools and households, and quantified SARS-CoV-2 shedding into air and onto fomites in both settings. Methods: We did a prospective cohort and environmental sampling study in London, UK in eight schools. Schools reporting new cases of SARS-CoV-2 infection to local health protection teams were invited to take part if a child index case had been attending school in the 48 h before a positive SARS-CoV-2 PCR test. At the time of the study, PCR testing was available to symptomatic individuals only. Children aged 2–14 years (extended to <18 years in November, 2020) with a new nose or throat swab SARS-CoV-2 positive PCR from an accredited laboratory were included. Incidents involving exposure to at least one index pupil with COVID-19 were identified (the prevailing variants were original, α, and δ). Weekly PCR testing for SARS-CoV-2 was done on immediate classroom contacts (the so-called bubble), non-bubble school contacts, and household contacts of index pupils. Testing was supported by genome sequencing and on-surface and air samples from school and home environments. Findings: Between October, 2020, and July, 2021 from the eight schools included, secondary transmission of SARS-CoV-2 was not detected in 28 bubble contacts, representing ten bubble classes (participation rate 8·8% [IQR 4·6–15·3]). Across eight non-bubble classes, 3 (2%) of 62 pupils tested positive, but these were unrelated to the original index case (participation rate 22·5% [9·7–32·3]). All three were asymptomatic and tested positive in one setting on the same day. In contrast, secondary transmission to previously negative household contacts from infected index pupils was found in six (17%) of 35 household contacts rising to 13 (28%) of 47 household contacts when considering all potential infections in household contacts.

Resumo	Environmental contamination with SARS-CoV-2 was rare in schools: fomite SARS-CoV-2 was identified in four (2%) of 189 samples in bubble classrooms, two (2%) of 127 samples in non-bubble classrooms, and five (4%) of 130 samples in washrooms. This contrasted with fomites in households, where SARS-CoV-2 was identified in 60 (24%) of 248 bedroom samples, 66 (27%) of 241 communal room samples, and 21 (11%) 188 bathroom samples. Air sampling identified SARS-CoV-2 RNA in just one (2%) of 68 of school air samples, compared with 21 (25%) of 85 air samples taken in homes. Interpretation: There was no evidence of large-scale SARS-CoV-2 transmission in schools with precautions in place. Low levels of environmental contamination in schools are consistent with low transmission frequency and suggest adequate cleaning and ventilation in schools during the period of study. The high frequency of secondary transmission in households associated with evident viral shedding throughout the home suggests a need to improve advice to households with infection in children to prevent onward community spread. The data suggest that SARS-CoV-2 transmission from children in any setting is very likely to occur when precautions are reduced.
Referências	CORDERY, R. *et al.* Transmission of SARS-CoV-2 by children to contacts in schools and households: a prospective cohort and environmental sampling study in London. **The Lancet microbe**, [United Kingdom], Aug. 24, 2022. DOI: 10.1016/S2666-5247(22)00124-0. Disponível em: https://www.thelancet.com/journals/lanmic/article/PIIS2666-5247(22)00124-0/fulltext. Acesso em: 26 ago. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2666-5247%2822%2900124-0

Título	PREPRINT: Effective matrix designs for COVID-19 group testing
Autor(es)	David Brust, Johannes J. Brust
Resumo	Grouping samples with low prevalence of positives into pools and testing these pools can achieve considerable savings in testing resources compared with individual testing in the context of COVID-19. We review published pooling matrices, which encode the assignment of samples into pools and describe decoding algorithms, which decode individual samples from pools. Based on the findings we propose new one-round pooling designs with high compression that can efficiently be decoded by combinatorial algorithms. This expands the admissible parameter space for the construction of pooling matrices compared to current methods. By arranging samples in a grid and using polynomials to construct pools, we develop direct formulas for an Algorithm (Polynomial Pools (PP)) to generate assignments of samples into pools. Designs from PP guarantee to correctly decode all samples with up to a specified number of positive samples. PP includes recent combinatorial methods for COVID-19, and enables new constructions that can result in more effective designs. For low prevalences of COVID-19, group tests can save resources when compared to individual testing. Constructions from the recent literature on combinatorial methods have gaps with respect to the designs that are available. We develop a method (PP), which generalizes previous constructions and enables new designs that can be advantageous in various situations.
Referências	BRUST, D.; BRUST, J. J. Effective matrix designs for COVID-19 group testing. [United States]: **medRxiv**, Aug. 24, 2022. DOI: 10.1101/2022.08.23.22279137. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.23.22279137v1. Acesso em: 26 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.23.22279137v1.full.pdf

Título	PREPRINT: Effectiveness of fourth dose COVID-19 vaccine against the Omicron variant compared to no vaccination
Autor(es)	Jessie Zeng, Joshua Szanyi, Tony Blakely
Resumo	In response to enhanced immune evasion properties of the Omicron SARS-CoV-2 variant and waning COVID-19 vaccine effectiveness (VE), several jurisdictions have rolled out fourth dose vaccination programs. Using a system of logistic regression equations and VE estimates for a fourth dose relative to a third dose reported in an Israeli study, we estimated absolute vaccine effectiveness for third and fourth doses of mRNA COVID-19 vaccine (c.f. no vaccination) against Omicron, by clinical outcome. We found that a fourth dose restores or even enhances protection conferred by a third dose at the same time since vaccination.
Referências	ZENG, J.; SZANYI, J.; BLAKELY, T. Effectiveness of fourth dose COVID-19 vaccine against the Omicron variant compared to no vaccination. [United States]: **medRxiv**, Aug. 21, 2022. DOI: 10.1101/2022.08.17.22278807. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.17.22278807v1. Acesso em: 26 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.17.22278807v1.full.pdf

Título	Affinity of anti-spike antibodies to three major SARS-CoV-2 variants in recipients of three major vaccines
Autor(es)	Patrick J. Macdonald, Jeffrey M. Schaub, Qiaoqiao Ruan, Carroll L. Williams, John C. Prostko, Sergey Y. Tetin
Resumo	Measuring anti-viral antibody affinity in blood plasma or serum is a rational quantitative approach to assess humoral immune response and acquired protection. Three common vaccines against SARS-CoV-2—Comirnaty developed by Pfizer/BioNTech, Spikevax developed by Moderna/NIAID, and Jcovden (previously Janssen COVID-19 Vaccine) developed by Johnson & Johnson/Janssen (J&J)—induce antibodies to a variety of immunogenic epitopes including the epitopes located in the ACE2 receptor-binding domain (RBD) of the spike protein. Blocking RBD with antibodies interferes with the binding of the virus to ACE2 thus protecting against infection. Methods: We perform measurements in the serum of the recipients of Pfizer, Moderna, and J&J vaccines, and we compare the apparent affinities of vaccine-induced antibodies against the RBD of the ancestral SARS-CoV-2 virus and the Delta and Omicron variants. We use our recently published method to determine the apparent affinity of anti-spike protein antibodies directly in human serum. This involves probing antibody-antigen equilibria with a small number of antigen-coated magnetic microparticles and imaging them on a fluorescence microscope. Results: Recipients of two-dose Pfizer and Moderna vaccines, as well as recipients of the single-dose J&J vaccine, develop high-affinity antibodies toward RBD derived from ancestral SARS-CoV-2. Affinities of these antibodies to Delta-RBD are approximately 10 times weaker, and even more drastically reduced (~1000-fold) toward Omicron-RBD. Conclusions: Vaccine-induced antibodies against ancestral SARS-CoV-2 RBD demonstrate ~10-fold and ~1000-fold weaker affinities toward Delta- and Omicron-RBD, respectively. Our approach offers a direct means for evaluating vaccine-induced adaptive immunity and can be helpful in designing or updating vaccines.
Referências	MACDONALD, P. J. *et al.* Affinity of anti-spike antibodies to three major SARS-CoV-2 variants in recipients of three major vaccines. **Communications medicine**, [United Kingdom], v. 2, n. 1, p. 1–7, Aug. 25, 2022. DOI: 10.1038/s43856-022-00174-9. Disponível em: https://www.nature.com/articles/s43856-022-00174-9. Acesso em: 26 ago. 2022.
Fonte	https://www.nature.com/articles/s43856-022-00174-9.pdf

Título	Development of an index to assess COVID-19 hospital care installed capacity in the 450 brazilian health regions
Autor(es)	Anny Andrade, Carla Machado, Everton Silva, Fernando Herkrath, Fernando Soares, Gustavo Frio, Ivana Barreto, Layana Alves, Leonor Santos, Rodrigo Lima, Claudia Aguiar Pereira
Resumo	The article seeks to assess the Brazilian health system ability to respond to the challenges imposed by the Covid-19 pandemic by measuring the capacity of Brazilian hospitals to care for Covid-19 cases in the 450 Health Regions of the country during the year 2020. Hospital capacity refers to the availability of hospital beds, equipment, and human resources. Methods: We used longitudinal data from the National Register of Health Facilities (CNES) regarding the availability of resources necessary to care for patients with Covid-19 in inpatient facilities (public or private) from January to December 2020. Among the assessed resources are health professionals (certified nursing assistants, nurses, physical therapists, and doctors), hospital beds (clinical, intermediate care, and intensive care units), and medical equipment (CT scanners, defibrillators, ECG monitors, ventilators, and resuscitators). In addition to conducting a descriptive analysis of absolute and relative data (per 10,000 users), a synthetic indicator named Installed Capacity Index (ICI) was calculated using the multivariate principal component analysis technique to assess hospital capacity. The indicator was further stratified into value ranges to understand its evolution. Results: There was an increase in all selected indicators between January and December 2020. It was possible to observe differences between the Northeast and North regions and the other regions of the country; most Health Regions presented low ICI. The ICI increased between the beginning and the end of 2020, but this evolution differed among Health Regions. The average increase in the ICI was more evident in the groups that already had considerably high baseline capacity in January 2020. Conclusion: It was possible to identify inequalities in the hospital capacity to care for patients affected by Covid-19 in the Health Regions of Brazil, with a concentration of low index values in the Northeast and North of the country. As the indicator increased throughout the year 2020, inequalities were also observed. The information here

Resumo	provided may be used by health authorities, providers, and managers in planning and adjusting for future Covid-19 care and in dimensioning the adequate supply of hospital beds, health care professionals, and devices in Health Regions to reduce associated morbidity and mortality. We recommend that the ICI continue to be calculated in the coming months of the pandemic to monitor the capacity in the country's Health Regions.
Referências	ANDRADE, A. *et al.* Development of an index to assess COVID-19 hospital care installed capacity in the 450 Brazilian health regions. **Disaster medicine and public health preparedness**, [United States], p. 1–22, Aug. 22, 2022. DOI: 10.1017/dmp.2022.214. Disponível em: https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/development-of-an-index-to-assess-covid19-hospital-care-installed-capacity-in-the-450-brazilian-health-regions/AA3610AF4D03DD2E309B321BCAAEF676. Acesso em: 26 ago. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/AA3610AF4D03DD2E309B321BCAAEF676/S1935789322002142a.pdf

Título	Efficacy of approved versus unapproved vaccines for SARS-CoV-2 infection in randomised blinded clinical trials
Autor(es)	Andrea Perez Navarro, Victoria Pilkington, Toby Pepperrell, Manya Mirchandani, Jacob Levi, Andrew Hill
Resumo	Five SARS-CoV-2 vaccines are approved in North America and/or Europe: Pfizer/BioNTech, Moderna, Janssen, Oxford-AstraZeneca and Novavax. Other vaccines have been developed, including Sinopharm, SinoVac, QazVac, Covaxin, Soberana, Zifivax, Medicago, Clover and Cansino, but are not approved in high-income countries. This meta-analysis compared the efficacy of FDA/EMA approved and unapproved vaccines in randomised clinical trials (RCTs). Methods: A systematic review of trial registries identified RCTs of SARS-CoV-2 vaccines. Risk of bias was assessed using the Cochrane tool (RoB 2). In the meta-analysis, relative risks of symptomatic infection and severe disease were compared for each vaccine versus placebo, using Cochrane-Mantel Haenszel Tests (random effects method). Results: Twenty-two RCTs were identified and one was excluded for high-risk of bias. Ten RCTs evaluated 5 approved vaccines and 11 RCTs evaluated 9 unapproved vaccines. In the meta-analysis, prevention of symptomatic infection was 84% (95% C.I. 68-92%) for approved vaccines versus 72% (95% C.I. 66-77%) for unapproved vaccines, with no significant difference between vaccine types (p = 0.12). Prevention of severe SARS-CoV-2 infection was 94% (95% C.I. 75-98%) for approved vaccines versus 86% (95% C.I. 76-92%) for unapproved vaccines (p = 0.33). The risk of serious adverse events was similar between vaccine types (p = 0.12). Discussion: This meta-analysis of 21 RCTs in 390,459 participants, showed no significant difference in efficacy between the FDA/EMA approved and unapproved vaccines for symptomatic or severe infection. Differences in study design, endpoint definitions, variants and infection prevalence may have influenced results. New patent-free vaccines could lower costs of worldwide SARS-CoV-2 vaccination campaigns significantly.
Referências	PEREZ NAVARRO, A. *et al.* Efficacy of approved versus unapproved vaccines for SARS-CoV-2 infection in randomised blinded clinical trials. **Open forum infectious diseases**, [United Kingdom], p. ofac408, Aug. 22, 2022. DOI: 10.1093/ofid/ofac408. Disponível em: https://academic.oup.com/ofid/advance-article/doi/10.1093/ofid/ofac408/6668876. Acesso em: 26 ago. 2022.
Fonte	https://academic.oup.com/ofid/advance-article-pdf/doi/10.1093/ofid/ofac408/45449496/ofac408.pdf

Título	Clinical risk factors of adverse outcomes among women with COVID-19 in the pregnancy and postpartum period: a sequential, prospective meta-analysis
Autor(es)	Emily R. Smith, Erin Oakley, Gargi Wable Grandner, Gordon Rukundo, Fouzia Farooq, Kacey Ferguson, Sasha Baumann, Kristina Adams Waldorf, Yalda Afshar, Mia Ahlberg, Homa Ahmadzia, Victor Akelo, Grace Aldrovandi, Elisa Bevilacqua, Nabal Bracero, Justin S. Brandt, Natalie Broutet, Jorge Carrillo, Jeanne Conry, ErichCosmi, Fatima Crispi, Francesca Crovetto, Maria del Mar Gil, Camille Delgado-López, Hema Divakar, Amanda J. Driscoll, Guillaume Favre, Irene Fernandez Buhigas, Valerie Flaherman, Christopher Gale, Christine L. Godwin, Sami Gottlieb, Eduard Gratacós, Siran He, Olivia Hernandez, Stephanie Jones, Sheetal Joshi, Erkan Kalafat, Sammy Khagayi, Marian Knight, Karen Kotloff, Antonio Lanzone, Valentina Laurita Longo, Kirsty Le Doare, Christoph Lees, Ethan Litman, Erica M. Lokken, Shabir A. Madhi, Laura A. Magee, Raigam Jafet Martinez-Portilla, Torri D. Metz, Emily S. Miller, Deborah Money, Sakita Moungmaithong, Edward Mullins, Jean B. Nachega, Marta C. Nunes, Dickens Onyango, Alice Panchaud, Liona C. Poon, Daniel Raiten, Lesley Regan, Daljit Sahota, Allie Sakowicz, Jose Sanin-Blair, Olof Stephansson, Marleen Temmerman, Anna Thorson, Soe Soe Thwin, Beth A. Tippett Barr, Jorge E. Tolosa, Niyazi Tug, Miguel Valencia-Prado, Silvia Visentin, Peter Von Dadelszen, Clare Whitehead, Mollie Wood, Huixia Yang, Rebecca Zavala, James M.Tielsch
Resumo	This sequential, prospective meta-analysis (sPMA) sought to identify risk factors among pregnant and postpartum women with COVID-19 for adverse outcomes related to: disease severity, maternal morbidities, neonatal mortality and morbidity, adverse birth outcomes. Data sources: We prospectively invited study investigators to join the sPMA via professional research networks beginning in March 2020. Study eligibility criteria Eligible studies included those recruiting at least 25 consecutive cases of COVID-19 in pregnancy within a defined catchment area. Study appraisal and synthesis methods: We included individual patient data from 21 participating studies. Data quality was assessed, and harmonized variables for risk factors and outcomes were constructed. Duplicate cases were removed. Pooled estimates for the absolute and relative risk of adverse outcomes comparing those with and without each risk factor were generated using a two-stage meta-analysis. Results: We collected data from 33 countries and territories, including 21,977 cases of SARS-CoV-2 infection in pregnancy or postpartum. We found that women with comorbidities (pre-existing diabetes, hypertension, cardiovascular disease) versus those without were at higher risk for COVID-19 severity and pregnancy health outcomes (fetal death, preterm birth, low birthweight). Participants with COVID-19 and HIV were 1.74 times (95%

Resumo	CI: 1.12, 2.71) more likely to be admitted to the ICU. Pregnant women who were underweight before pregnancy were at higher risk of ICU admission (RR 5.53, 95% CI: 2.27, 13.44), ventilation (RR 9.36, 95% CI: 3.87, 22.63), and pregnancy-related death (RR 14.10, 95% CI: 2.83, 70.36). Pre-pregnancy obesity was also a risk factor for severe COVID-19 outcomes including ICU admission (RR 1.81, 95% CI: 1.26,2.60), ventilation (RR 2.05, 95% CI: 1.20,3.51), any critical care (RR 1.89, 95% CI: 1.28,2.77), and pneumonia (RR 1.66, 95% CI: 1.18,2.33). Anemic pregnant women with COVID-19 also had increased risk of ICU admission (RR 1.63, 95% CI: 1.25, 2.11) and death (RR 2.36, 95% CI: 1.15, 4.81). Conclusion: We found that pregnant women with comorbidities including diabetes, hypertension, and cardiovascular disease were at increased risk for severe COVID-19-related outcomes, maternal morbidities, and adverse birth outcomes. We also identified several less commonly-known risk factors, including HIV infection, pre-pregnancy underweight, and anemia. Although pregnant women are already considered a high-risk population, special priority for prevention and treatment should be given to pregnant women with these additional risk factors.
Referências	SMITH, E. R. *et al.* Clinical risk factors of adverse outcomes among women with COVID-19 in the pregnancy and postpartum period: A sequential, prospective meta-analysis. **American journal of obstetrics and gynecology**, [United States], Aug. 24, 2022. DOI: 10.1016/j.ajog.2022.08.038. Disponível em: https://www.sciencedirect.com/science/article/pii/S0002937822006809. Acesso em: 26 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0002937822006809/pdf

Título	Study of the correlation between COVID-19 cases and deaths and basic sanitation in Brazil: is this a possible secondary route of virus transmission?
Autor(es)	Mateus Guimarães da Silva, Alessandra dos Santos Carniel
Resumo	People with COVID-19 may excrete viable SARS-CoV-2 virus through urine and faeces, which has raised concerns about the possibility of transmission of COVID-19 via water contaminated or sewage. These concerns are especially exacerbated in underdeveloped countries like Brazil, where untreated sewage is usually discharged to surface water or soil. Because of that, a hypothesis emerged that was addressed in this study, which seeks to understand whether access to basic sanitation services can influence the proliferation of the virus. A correlation study was carried out between the cases of COVID-19 and the indicators of basic sanitation from all regions of Brazil. The results showed that there was a correlation only with the water supply indicator. A hypothesis that would explain the presented correlation would be the inefficiency of the water treatment systems in Brazil, not totally inactivating the virus, or possible contamination of the water distribution networks by sanitary sewage. In general, the data presented reinforce the need to expand and monitor basic sanitation services, especially to ensure the effective and efficient disinfection of drinking water. This monitoring could be useful for early warning surveillance of the spread of the virus.
Referências	SILVA, M. G. da; CARNIEL, A. dos S. Study of the correlation between COVID-19 cases and deaths and basic sanitation in Brazil: is this a possible secondary route of virus transmission?. **Journal of hazardous materials advances**, [Netherlands], v. 8, p. 100149, Nov. 2022. DOI: 10.1016/j.hazadv.2022.100149. Disponível em: https://www.sciencedirect.com/science/article/pii/S277241662200105X. Acesso em: 26 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S277241662200105X/pdf

Título	Antibody response to SARS-CoV-2 vaccines in people with severe obesity
Autor(es)	Zehra Kara, Rüveyda Akçin, Ahmet Numan Demir, Harika Öykü Dinç, Halit Eren Taşkın, Bekir Kocazeybek, Volkan Demirhan Yumuk
Resumo	Obesity is a disease complicating the course of COVID-19 and SARS-CoV-2 vaccine effectiveness in adults with obesity may be compromised. Our aim is to investigate the spike-protein receptor-binding domain antibody titers against BNT162b2 mRNA and inactivated SARS-CoV-2 (CoronaVac) vaccines in people with severe obesity. It is anticipated that the results to be obtained may provide invaluable information about future SARS-CoV-2 vaccination strategies in this vulnerable population. Methods: A total of 124 consecutive patients with severe obesity (age > 18 years, BMI ≥ 40 kg/m2) presenting between August and November 2021 were enrolled. The normal weight control group (age > 18, BMI 18.5–24.9 kg/m2) was recruited from 166 subjects who visited the vaccination unit. SARS-CoV-2 spike-protein antibody titers were measured in patients with severe obesity and in normal weight controls who received two doses of BNT162b2, or CoronaVac vaccines. SARS-CoV-2 IgG Nucleocapsid Protein antibody (NCP Ab) testing was performed to discover prior SARS-CoV-2 infection. Blood samples were taken from individuals at 4th week and after 2nd dose of vaccination. SARS-CoV-2 IgG antibody titers were determined by quantitative serological methods. Results: A total of 290 individuals (220 female, 70 male) who have received two doses of BNT162b2 or CoronaVac vaccines were enrolled in the study. Seventy had prior SARS-CoV-2 infection. In 220 subjects (non-prior infection) vaccinated with BNT162b2 or CoronaVac, the antibody titers against SARS-CoV-2 spike antigen of patients with severe obesity were significantly lower than normal weight controls ($p = 0.001$, $p = 0.001$ respectively). In seventy subjects with prior SARS-CoV-2 infection, spike antigen antibody titers in patients with severe obesity, vaccinated with BNT162b2 or CoronaVac, were not significantly different from normal weight controls ($p = 0.1$, $p = 0.1$ respectively). In patients with severe obesity, with and without prior SARS-CoV-2 infection, spike antigen antibody

Resumo	levels of those vaccinated with BNT162b2 were found to be significantly higher than those vaccinated with CoronaVac ($p = 0.043$, $p < 0.001$ respectively). Conclusion: Patients with severe obesity generated significantly reduced antibody titers against SARS-CoV-2 spike antigen after CoronaVac and BNT162b2 vaccines compared to people with normal weight. Antibody levels in patients with severe obesity vaccinated with BNT162b2 were found to be significantly higher than those vaccinated with CoronaVac. People living with severe obesity should be prioritized for COVID-19 vaccination and BNT162b2 vaccine may be recommended for this vulnerable population.
Referências	KARA, Z. *et al.* Antibody Response to SARS-CoV-2 Vaccines in People with Severe Obesity. **Obesity surgery**, [United States], v. 32, n. 9, p. 2987–2993, July 8, 2022. DOI: 10.1007/s11695-022-06181-y. Disponível em: https://link.springer.com/article/10.1007/s11695-022-06181-y. Acesso em: 26 ago. 2022.
Fonte	https://link.springer.com/content/pdf/10.1007/s11695-022-06181-y.pdf

Título	Co-existence and co-infection of influenza A viruses and coronaviruses: public health challenges
Autor(es)	Jing Yang, Yuhuan Gong, Chunge Zhang, Ju Sun, Gary Wong, Weifeng Shi, Wenjun Liu, George F. Gao, Yuhai Bi
Resumo	Since the 20th century, humans have lived through five pandemics caused by influenza A viruses (IAVs) (H1N1/1918, H2N2/1957, H3N2/1968, and H1N1/2009), and the coronavirus (CoV) SARS-CoV-2. IAVs and CoVs both have broad host ranges and share multiple hosts. Virus co-circulation and even co-infections facilitate genetic reassortment among IAVs and recombination among CoVs, further altering virus evolution dynamics and generating novel variants with increased cross-species transmission risk. Moreover, SARS-CoV-2 may maintain long-term circulation in humans as seasonal IAVs. Co-existence and co-infection of both viruses in humans could alter disease transmission patterns and aggravate disease burden. Herein, we demonstrate how virus-host ecology correlates with the co-existence and co-infection of IAVs and/or CoVs, further affecting virus evolution and disease dynamics and burden, calling for active virus surveillance and countermeasures for future public health challenges.
Referências	JING, Y. *et al.* Co-existence and co-infection of influenza A viruses and coronaviruses: public health challenges. **The Innovation**, [United States], Aug. 17, 2022. DOI: 10.1016/j.xinn.2022.100306. Disponível em: https://www.cell.com/the-innovation/abstract/S2666-6758(22)00102-3. Acesso em: 26 ago. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2666-6758%2822%2900102-3

Título	Investigating the impacts of COVID-19 safety measures and related uncertainties among socially vulnerable groups in lagos megacity
Autor(es)	Jokotola Omidiji, Udofia Samuel, Fashoto Busayo Amidu Ayeni
Resumo	The emergence of the unique coronavirus disease (COVID-19), associated safety measures and impacts have been experienced differently across various sociodemographic and livelihood groups. As a result of the impacts of the COVID-19 restrictions, this study examined experiences and livelihood uncertainties from socially vulnerable groups. One hundred and fifty responses (150) were recorded from residents in Iwaya, and Makoko areas within Lagos Mainland Local Government Area of Lagos state. Complete lockdown or stay-at-home orders, compulsory face masks in public spaces, curfews, physical and social distancing and restriction of inter-state movements are some of the precautionary/safety measures introduced by the Government and enforced by security agents. The findings show that curfews and restriction of inter-state movements were two of the safety measures that had no or reduced impact (p-values > 0.01) on the respondents' means of livelihood. Our results reveal that because a larger percentage of male participants are self-employed and owned personal businesses they were more affected by COVID-19 restrictions than females. 42.7% (64) of females and 57.3% (86) of males reported COVID-19-related anxieties and stress from fear of starvation, and contracting the virus, to impacts on money/finances, slow sales and businesses, food supply, job loss, erratic power supply affecting work from home options. 54.7% of respondents had more than 5 people living together, while 84.7% of housing types (128) are bungalows with several rooms inhabited by an average of three to four people per household. Increased stress, fear of hunger, loss of jobs and source of income were some of the negative impacts resulting from the introduction of the COVID-19 safety measures which adversely affected occupations like traders, people engaged in fishing activities, painters, carpenters, hairdressers and barbers, printers and bricklayers. Our work provides insights into the effects of the COVID-19-safety measures and subjective impact across vulnerable groups and occupations.

Referências	OMIDIJI, J.; SAMUEL, U.; AYENI, F. B. A. Investigating the impacts of COVID-19 safety measures and related uncertainties among socially vulnerable groups in lagos megacity. **Heliyon**, [United Kingdom], Aug. 19, 2022. DOI: 10.1016/j.heliyon.2022.e10090. Disponível em: https://www.cell.com/heliyon/abstract/S2405-8440(22)01378-0. Acesso em: 26 ago. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2405-8440%2822%2901378-0

Título	The amount of SARS-CoV-2 RNA in wastewater relates to the development of the pandemic and its burden on the health system
Autor(es)	Hao Wang, Marianela Patzi Churqui, Timur Tunovic, Lucica Enache, Anette Johansson, Ambjörn Kärmander, Staffan Nilsson, Martin Lagging, Maria Andersson, Leif Dotevall, Thomas Brezicka, Kristina Nyström, Heléne Norder
Resumo	Virus surveillance in wastewater can be a useful indicator of the development of the COVID-19 pandemic in communities. However, knowledge about how the amount of SARS-CoV-2 RNA in wastewater relates to different data on the burden on the health system is still limited. Herein, we monitored the amount of SARS-CoV-2 RNA and the spectrum of virus variants in weekly pooled wastewater samples for two years from mid-February 2020 and compared with several clinical data. The two-year monitoring showed the weekly changes in the amount of viral RNA in wastewater preceded the hospital care needs for COVID-19 and the number of acute calls on adult acute respiratory distress by 1-2 weeks during the first three waves of COVID-19. Our study demonstrates that virus surveillance in wastewater can predict the development of a pandemic and its burden on the health system, regardless of society's test capacity and possibility of tracking infected cases.
Referências	HAO, W. *et al.* The amount of SARS-CoV-2 RNA in wastewater relates to the development of the pandemic and its burden on the health system. **iScience**, [Netherlands], Aug. 23, 2022. DOI: 10.1016/j.isci.2022.105000. Disponível em: https://www.cell.com/iscience/abstract/S2589-0042(22)01272-X. Acesso em: 26 ago. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2589-0042%2822%2901272-X

Título	Global vaccine inequality threatens to unleash the next COVID-19 variant
Autor(es)	Richard L.Oehler, Vivian R. Vega
Resumo	The emergence of the Omicron variant (B.1.1.529 BA.1) from near Johannesburg heralded the development of an unprecedented number of new COVID-19 infections across South Africa in November 2021. Omicron and its subvariants would soon become the dominant strains across Africa, Europe, and the United States. As with the Delta variant (B.1.617.2), Omicron emerged from an industrialized nation with one of the lowest vaccination rates of any well-developed country. The emergence of variants from under-vaccinated regions is a direct consequence of the virus replicating unchecked through an unprotected population. Despite this, the U.S. and other wealthier nations have adopted a strategy of preferentially inoculating their citizens with multiple and booster doses, while poorer nations struggle with vaccine availability, infrastructure, and their own vaccine manufacturing capability. Much more needs to be done to address global vaccine inequities and prevent the next devastating variant. The persistence of the pandemic anywhere remains an ongoing threat to global citizens everywhere.
Referências	OEHLER, R. L.; VEGA, V. R. Global vaccine inequality threatens to unleash the next COVID-19 variant. **International journal of infectious diseases**, [Netherlands], Aug. 18, 2022. DOI: 10.1016/j.ijid.2022.08.010. Disponível em: https://www.sciencedirect.com/science/article/pii/S1201971222004805. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1201971222004805/pdf

Título	Coronavirus pandemic and pregnant mothers
Autor(es)	Rozhan Khezri, Layla Shojaie, Hossein-Ali Nikbakht, Sepideh Jahanian, Mousa Ghelichi-Ghojogh
Resumo	In December 2019, four cases of pneumonia from an unknown cause were reported to the World Health Organization (WHO) in Wuhan, China and since then, SARS-COV-2 has spread rapidly worldwide until eventually on March 12, 2020, WHO identified the outbreak as pandemic. SARS-COV-2 lead to the most lethal pandemic in the past century (1-3). Until the January 3 2021, According to the WHO, more than 83322449 people have been infected and 183141212 deaths due to Covid 19 have occurred worldwide (4). Despite the progress on Covid 19 research, there is a paucity of information on the impact of this disease on pregnant women (5). The main purpose of infectious disease control is to protect people, especially high-risk groups like pregnant women. Respiratory infections lead to increased morbidity and mortality rate in this group. Bacterial and viral pneumonia during pregnancy are life-threatening to the mother. There is still no evidence to suggest that pregnancy increases the chances of Covid-19 infection (6). […]
Referências	KHEZRI, R. *et al.* Coronavirus pandemic and pregnant mothers. **Annals of medicine and surgery**, [United Kingdom], p. 104376, Aug. 18, 2022. DOI: 10.1016/j.amsu.2022.104376. Disponível em: https://www.sciencedirect.com/science/article/pii/S2049080122011360. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2049080122011360/pdf

Título	Water demand profile before and during COVID-19 pandemic in a Brazilian social housing complex
Autor(es)	C. Cominato, J. Sborz, A. Kalbusch, E. Henning
Resumo	The COVID-19 pandemic has changed the way resources are consumed around the world. The relationship between the pandemic and water consumption has important implications for the management of water use and must be evaluated in depth. The main goal of this research paper is to establish a comparison between pre-pandemic and pandemic water consumption profiles for 14 social-housing buildings located in Joinville, Southern Brazil. Telemetry data from each apartment were collected on an hourly basis before and during the COVID-19 pandemic. The analysis was based on descriptive statistics on the hourly and daily water consumption in addition to its profile plots. The best probability distribution fitting was also determined. To assess the differences in water consumption due to de pandemic, the Wilcoxon-Mann-Whitney test was employed and a Generalized Linear Model with mixed effects was fitted to the data. The Lognormal distribution was shown to be the most appropriate to model the water consumption data. Due to the COVID-19 pandemic, the two daily peak consumption periods changed from 12 h to 15 h and from 19 h to 21 h. The COVID-19 pandemic also impacted daily water consumption, leading to a small, yet significant, increase in demand in the first quarter of the pandemic period.
Referências	COMINATO, C. *et al.* Water demand profile before and during COVID-19 pandemic in a Brazilian social housing complex. **Heliyon**, [United Kingdom], p. e10307, Aug. 18, 2022. DOI: 10.1016/j.heliyon.2022.e10307. Disponível em: https://www.sciencedirect.com/science/article/pii/S240584402201595X. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S240584402201595X/pdf

Título	Impact of the COVID-19 pandemic on obstetric interventions at a public hospital
Autor(es)	Tatyana A. Johnson, Denise J. Jamieson, Franklyn H. Geary, Kaitlyn K. Stanhope, Sheree L. Boule
Resumo	In response to the COVID-19 pandemic, health systems quickly implemented changes in care delivery with a goal of balancing patient-focused obstetric care with the need to protect pregnant persons and healthcare providers from infection. Yet, there is no consensus within the scientific community on the impact these measures have on obstetric outcomes in vulnerable populations. Objective: We aimed to assess the impact of the COVID-19 pandemic on rates of obstetric procedures and severe maternal morbidity among births at an urban safety-net institution. Study design: We used an interrupted time series design to calculate risk ratios (RRs) and 95% confidence intervals (CIs) comparing monthly rates of labor induction, cesarean births (overall and among nulliparous, term, singleton, vertex (NTSV) births), operative vaginal births, and severe maternal morbidity (SMM) among births occurring at a public hospital before (March 1, 2016-February 29, 2020) and during (March 1, 2020-May 31, 2021) the COVID-19 pandemic. Results: There were 10,714 and 2,736 births in the pre-pandemic and post-pandemic periods, respectively. Overall, rates of obstetric interventions and SMM were constant over the two time periods. There were no significant differences in rates of labor induction (42% during pre-pandemic period vs 45% during pandemic period, RR 1.12, 95% CI 0.93-1.34), operative vaginal births (5% vs 6%, RR 1.24, 95% CI 0.88-1.76), cesarean births (28% vs 33%, RR 1.10, 95% CI 0.94-1.28), or NTSV cesarean births (24% vs 31%, RR 1.27, 95% CI 0.92-1.74). Rates of SMM (7% vs 8%, RR 1.19, 95% CI 0.86-1.65) were also unchanged. Conclusions: Our findings indicate that the rapid implementation of measures to reduce viral transmission in the labor and delivery setting did not materially affect routine clinical management or rates of serious maternal complications.
Referências	JOHNSON, T. A. *et al.* Impact of the COVID-19 pandemic on obstetric interventions at a public hospital. **Women's health issues**, [United States], Aug. 17, 2022. DOI: 10.1016/j.whi.2022.08.003. Disponível em: https://www.sciencedirect.com/science/article/pii/S104938672200086X. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S104938672200086X/pdf

Título	Recent advances in the vaccine development for the prophylaxis of SARS Covid-19
Autor(es)	Vipul Kumar, Sahil Kumar, Prabodh Chander Sharma
Resumo	The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-caused Coronavirus Disease 2019 (COVID-19) is currently a global pandemic that has wreaked havoc on public health, lives, and the global economy. The present COVID-19 outbreak has put pressure on the scientific community to develop medications and vaccinations to combat COVID-19. However, according to highly optimistic forecasts, we could not have a COVID-19 vaccine until September 2020. This is due to the fact that a successful COVID-19 vaccine will necessitate a careful validation of effectiveness and adverse reactivity given that the target vaccine population includes high-risk people over 60, particularly those with severe co-morbid conditions, frontline healthcare professionals, and those involved in essential industrial sectors. For passive immunization, which is being considered for Covid-19, there are several platforms for vaccine development, each with its own advantages and disadvantages. The COVID-19 pandemic, which is arguably the deadliest in the last 100 years after the Spanish flu, necessitates a swift assessment of the various approaches for their ability to incite protective immunity and safety to prevent unintended immune potentiation, which is crucial to the pathogenesis of this virus. Considering the pandemic's high fatality rate and rapid spread, an efficient vaccination is critical for its management. As a result, academia, industry, and government are collaborating in unprecedented ways to create and test a wide range of vaccinations. In this review, we summarize the Covid-19 vaccine development initiatives, recent trends, difficulties, comparison between traditional vaccines development and Covid-19 vaccines development also listed the approved/authorized, phase-3 and pre-clinical trials Covid-19 vaccines in different countries.
Referências	KUMAR, V.; KUMAR, S.; CHANDER SHARMA, P. Recent advances in the vaccine development for the prophylaxis of SARS Covid-19. **International immunopharmacology**, [Netherlands], p. 109175, Aug. 17, 2022. DOI: 10.1016/j.intimp.2022.109175. Disponível em: https://www.sciencedirect.com/science/article/pii/S1567576922006592. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1567576922006592/pdf

Título	First or second trimester SARS-CoV-2 infection and subsequent pregnancy outcomes
Autor(es)	Brenna L. Hughes, Grecio J. Sandoval, Torri D. Metz, Rebecca G. Clifton, William A. Grobman, George R. Saade, Tracy A. Manuck, Monica Longo, Amber Sowles, Kelly Clark, Hyagriv N. Simhan, Dwight J. Rouse, Hector Mendez-figueroa, Cynthia Gyamfi-bannerman, Jennifer Bailit, Maged M. Costantine, Harish M. Sehdev, Alan T.N. Tita, George A. Macones
Resumo	SARS-CoV2 infection during pregnancy is associated with adverse pregnancy outcomes including fetal death and preterm birth. It is not known whether that risk occurs only during the time of acute infection or whether risk persists later in pregnancy. Objective: The goal of this analysis was to evaluate whether the risk of SARS-CoV-2 infection during pregnancy persists after acute maternal illness. Study design: A retrospective cohort study of pregnant patients with and without SARS-CoV2 infection delivering at 17 hospitals in the United States between March and December 2020. Patients experiencing a SARS-CoV-2 positive test at or prior to 28 weeks' gestation with a subsequent delivery hospitalization were compared with those without a positive SAR-CoV-2 test at the same hospitals with randomly selected delivery days during the same period. Deliveries occurring <20 weeks' gestation in both groups were excluded. Study outcomes included fetal or neonatal death, preterm birth less than 37 weeks' gestation and less than 34 weeks' gestation, hypertensive disorders of pregnancy, any major congenital malformation, and size for gestational age less than 5th or 10th percentiles at birth based on published standards. Hypertensive disorders of pregnancy that were collected included hypertensive disorders of pregnancy and preeclampsia with severe features, both overall and with delivery <37 weeks' gestation. Results: Of 2,326 patients who tested positive for SARS-CoV-2 during pregnancy and were at least 20 weeks' gestation at delivery from March through December 2020, 402 patients (delivering 414 fetuses/neonates) were SARS-CoV-2 positive before 28 weeks' gestation and prior to their admission for delivery; they were compared to 11,705 patients without a positive SARS-CoV-2 test. In adjusted analyses, those with SARS-CoV-2 prior to 28 weeks' had a subsequent increased risk of fetal/neonatal death [2·9% vs 1·5%, adjusted relative risk (aRR) 1·97, 95% confidence interval (CI),1·01 - 3·85], preterm birth <37 weeks' (19·6% vs 13·8%, aRR, 1·29; 95%CI, 1·02 - 1·63) and hypertensive disorders of pregnancy with delivery less than 37 weeks' gestation (7·2% vs 4·1%, aRR 1·74, 95% CI 1·19-2·55). There were no significant differences in the rates of preterm birth <34 weeks', any major congenital

Resumo	malformation, size for gestational age less than the 5th or 10th percentiles. There were also no significant differences in the rate of gestational hypertension overall or in preeclampsia with severe features. Conclusion: There is a modest increase in risk of adverse pregnancy outcomes subsequent to SARS-CoV-2 infection.
Referências	HUGHES, B. L. *et al.* First or second trimester SARS-CoV-2 infection and subsequent pregnancy outcomes. **American journal of obstetrics and gynecology**, [United States], Aug. 13, 2022. DOI: 10.1016/j.ajog.2022.08.009. Disponível em: https://www.sciencedirect.com/science/article/pii/S000293782200641X. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S000293782200641X/pdf

Título	The next frontier in vaccine design: blending immune correlates of protection into rational vaccine design
Autor(es)	Carl Britto, Galit Alter
Resumo	Despite the extraordinary speed and success in SARS-Cov-2 vaccine development, the emergence of variants of concern perplexed the vaccine development community. Neutralizing antibodies waned antibodies waned and were evaded by viral variants, despite the preservation of protection against severe disease and death across vaccinated populations. Similar to other vaccine design efforts, the lack of mechanistic correlates of immunity against Coronavirus Disease 2019, raised questions related to the need for vaccine redesign and boosting. Hence, our limited understanding of mechanistic correlates of immunity – across pathogens - remains a major obstacle in vaccine development. The identification and incorporation of mechanistic correlates of immunity are key to the accelerated design of highly impactful globally relevant vaccines. Systems-biology tools can be applied strategically to define a complete understanding of mechanistic correlates of immunity. Embedding immunological dissection and target immune profile identification, beyond canonical antibody binding and neutralization, may accelerate the design and success of durable protective vaccines.
Referências	BRITTO, C.; ALTER, G. The next frontier in vaccine design: blending immune correlates of protection into rational vaccine design. **Current opinion in immunology**, [United Kingdom], v. 78, p. 102234, Oct. 1, 2022. DOI: 10.1016/j.coi.2022.102234. Disponível em: https://www.sciencedirect.com/science/article/pii/S0952791522000814. Acesso em: 19 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0952791522000814/pdf

Título	COVID-19 antibody status and its impact on the severity of dengue fever among children: an observational study
Autor(es)	Niveditha Thangamani, Lakshmi Shanmugavel Velmurugan, Poovazhagi Varadarajan, Selvakumar Shanmugam, Aishvarya Ravindran
Resumo	Dengue is an endemic infection in our country while COVID-19 is a recent pandemic. It is important to know the dynamic between the two infections, and if there is any cross-protective effect or antibody-dependent enhancement effect [1, 2]. This is an analytical cross-sectional study from a pediatric tertiary care center to know the prevalence of IgG SARS-CoV-2 antibody titers among children admitted with dengue, and its impact on the severity of dengue. Serum IgG SARS-CoV-2 antibody titers were measured and compared among 124 children, aged 1 mo to 12 y, admitted with varying severity of dengue after approval from the Institutional Ethics Committee. The overall prevalence of IgG SARS-CoV-2 antibody reactivity (positivity) was 54% (67/124) [3]. In our study population, 29 (23.4%) children had severe dengue, 55 (44.4%) had dengue with warning signs, while 40 (32.3%) had dengue without warning signs. Among the 29 children with severe dengue, 20 (69%) did not have SARS-CoV-2 antibodies, while only 9 (31%) were SARS-CoV-2 reactive ($p < 0.01$). Among the 40 dengue children without warning signs, 34 (85%) children were SARS-CoV-2 reactive and 6 (15%) were antibody nonreactive ($p < 0.01$). Among the dengue children with warning signs, 24 (44%) children were antibody reactive and 31 (56%) were nonreactive ($p = 0.046$). SARS-CoV-2 antibody reactivity rate among children with severe dengue was 31.03% (9/29); among children with dengue with warning signs was 43.64% (24/55); and among children with dengue without warning signs was 85% (34/40). IgG SARS-CoV-2 antibody reactivity rate was inversely proportional to the severity of dengue. The initial and lowest platelet counts were much lower in antibody nonreactive groups, while the other clinical and laboratory parameters and complications were similar in both the groups. IgG SARS-CoV-2 antibodies may have a protective effect against the development of severe dengue which could be due to the effect of cross-reacting neutralizing antibodies [4].
Referências	THANGAMANI, N. *et al.* COVID-19 antibody status and its impact on the severity of dengue fever among children: an observational study. **Indian journal of pediatrics**, [India], v. 89, n. 9, p. 944–944, Sept. 2022. DOI: 10.1007/s12098-022-04266-1. Disponível em: https://link.springer.com/article/10.1007/s12098-022-04266-1. Acesso em: 19 ago. 2022.
Fonte	https://link.springer.com/content/pdf/10.1007/s12098-022-04266-1.pdf

Título	Evaluation of the effectiveness of surveillance policies to control the COVID-19 pandemic in São Paulo, Brazil
Autor(es)	Lorena G. Barberia, Natália de P. Moreira, Brigina Kemp, Maria Amelia de Sousa Mascena Veras, Marcela Zamudio, Isabel Seelaender Costa Rosa, Rebeca de J. Carvalho, Tatiane C. M. Sousa
Resumo	Surveillance efforts are essential to pandemic control, especially where the state is the primary health provider, such as Brazil. When public health testing guidelines limit molecular tests, there are reductions in detection efforts aimed at early recognition, isolation, and treatment of those infected with the virus. This study evaluates the effectiveness of surveillance policies to control the COVID-19 pandemic in São Paulo. Methods: We conducted an interrupted time series analysis with a segmented regression model to analyze if changes in the state's guidelines improved RT-PCR testing outcomes in Brazil's most affluent and largest state, São Paulo. Anonymized daily data on the RT-PCR tests conducted in public laboratories belonging to the state-wide network from March 1, 2020 to June 5, 2021 were extracted from the Sao Paulo State open-source database, while the data on the genomic sequences were obtained from GISAID. We then aggregated these data for the 17 regional health departments in the state to evaluate regional-level outcomes. Results: The public health system restricted RT-PCR testing to hospitalized cases in the first months. Testing was expanded to permit symptomatic testing of non-hospitalized persons only in July 2020, but a statistically significant increase in surveillance efforts was not observed. Case definition was expanded to allow case confirmation based on clinical, laboratory and image data criteria other than an RT-PCR test without increasing the testing effort for asymptomatic suspicious cases in September 2020. There was an increase in the mean volume of testing in each RHD, but the test positivity rate increased due to insufficient testing expansion. Results also show an uneven improvement in testing outcomes following these changes across the state's regional health departments.Conclusions: Evidence suggests that lower RT-PCR testing and genomic surveillance efforts are associated with areas characterized by a higher population concentration and a greater population reliance on the public health system. Our results highlight the need to structure health surveillance and information systems for disease control and prevention in emergency settings considering local demographics and vulnerabilities. In high prevalence settings,

	efforts at identifying and including vulnerable populations in routine and enhanced surveillance programs during COVID-19 must be significantly improved.
Referências	BARBERIA, L. G. *et al.* Evaluation of the effectiveness of surveillance policies to control the COVID-19 pandemic in São Paulo, Brazil. **Global health research and policy**, [United Kingdom], v. 7, n. 1, p. 27, Aug. 17, 2022. DOI: 10.1186/s41256-022-00260-4. Disponível em: https://ghrp.biomedcentral.com/articles/10.1186/s41256-022-00260-4. Acesso em: 19 ago. 2022.
Fonte	https://ghrp.biomedcentral.com/track/pdf/10.1186/s41256-022-00260-4.pdf

Título	Antibodies in the breastmilk of COVID-19 recovered women
Autor(es)	Paulina Szczygioł, Błażej Łukianowski, Katarzyna Kościelska-Kasprzak, Katarzyna Jakuszko, Dorota Bartoszek, Magdalena Krajewska, Barbara Królak-Olejnik
Resumo	Human milk contains antibodies against Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) which may serve as a protective factor through passive immunization in infants. The objective of this study was to measure the levels of anti-SARS-CoV-2 IgG and IgA in human milk and serum after a SARS-CoV-2 infection. Design: Breast milk and serum samples from 72 lactating mothers with confirmed SARS-CoV-2 asymptomatic or symptomatic infection were collected 1-229 days after the onset of clinical symptoms related to COVID-19. Seventeen mothers with no history of COVID-19 served as a control group. Enzyme-Linked ImmunoSorbent Assay was performed to analyze antibodies against SARS-CoV-2. Results: SARS-CoV-2-IgA human milk antibodies were detected in mothers and their concentrations were consistently higher than SARS-CoV-2-IgG antibodies. The serum and breastmilk samples of women with COVID-19 was characterized by a higher concentration of anti-RBD IgA and IgG than the serum from the control group without COVID-19. No statistically significant difference was observed between the antibody levels in the serum samples obtained from symptomatic and asymptomatic women exposed to SARS-CoV-2 and between the antibody level and the time from a positive SARS-CoV-2 test result over the period studied. Conclusion: Our results confirm the presence of SARS-CoV-2 IgA and IgG antibodies in the breastmilk of COVID-19 recovered women and the possibility of these antibodies in providing specific immunologic benefits to breastfeeding infants such as protection against the virus transmission and severity of the acquired COVID-19 disease.
Referências	SZCZYGIOŁ, P. *et al.* Antibodies in the breastmilk of COVID-19 recovered women. **BMC pregnancy and childbirth**, [United Kingdom], v. 22, n. 1, p. 635, Aug. 11, 2022. DOI: 10.1186/s12884-022-04945-z. Disponível em: https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-022-04945-z. Acesso em: 19 ago. 2022.
Fonte	https://bmcpregnancychildbirth.biomedcentral.com/track/pdf/10.1186/s12884-022-04945-z.pdf

Título	Better healthcare can reduce the risk of COVID-19 in-hospital post-partum maternal death: evidence from Brazil
Autor(es)	Char Leung, Li Su, Ana Cristina Simões e Silva
Resumo	COVID-19 in post-partum women is commonly overlooked. The present study assessed whether puerperium is an independent risk factor of COVID-19 related inhospital maternal death and whether fatality is preventable in the Brazilian context. Methods: We retrospectively studied the clinical data of post-partum/pregnant patients hospitalized with COVID-19 gathered from a national database that registered severe acute respiratory syndromes (SIVEP-Gripe) in Brazil. Logistic regressions were used to examine the associations of in-hospital mortality with obstetric status and with the type of public healthcare provider, adjusting for socio-demographic, epidemiologic, clinical and healthcare-related measures. Results: As of 30 November 2021, 1943 (21%) post-partum and 7446 (79%) pregnant patients of age between 15 and 45 years with COVID-19 that had reached the clinical endpoint (death or discharge) were eligible for inclusion. Case-fatality rates for the two groups were 19.8% and 9.2%, respectively. After the adjustment for covariates, post-partum patients had almost twice the odds of in-hospital mortality compared with pregnant patients. Patients admitted to private (not-for-profit) hospitals, those that had an obstetric centre or those located in metropolitan areas were less likely to succumb to SARS-CoV-2 infection. Those admitted to the Emergency Care Unit had similar mortality risk to those admitted to other public healthcare providers. Conclusion: We demonstrated that puerperium was associated with an increased odds of COVID-19-related in-hospital mortality. Only part of the risk can be reduced by quality healthcare such as non-profit private hospitals, those that have an obstetric centre or those located in urban areas.
Referências	LEUNG, C.; SU, L.; SIMÕES E SILVA, A. C. Better healthcare can reduce the risk of COVID-19 in-hospital post-partum maternal death: evidence from Brazil. **International journal of epidemiology**, [United Kingdom], p. dyac157, August 10, 2022. DOI: 10.1093/ije/dyac157. Disponível em: https://academic.oup.com/ije/advance-article/doi/10.1093/ije/dyac157/6659906. Acesso em: 12 ago. 2022.
Fonte	https://academic.oup.com/ije/advance-article-pdf/doi/10.1093/ije/dyac157/45317804/dyac157.pdf

Título	Severe acute respiratory syndrome coronavirus 2 vaccine boosters: an influenza vaccine perspective
Autor(es)	David R. Sayers
Resumo	Changes to severe acute respiratory syndrome 2 (SARS-CoV-2) vaccine guidance since their initial authorization may lead to confusion and hesitancy. Suggested recommendations for an annual SARS-CoV-2 vaccine naturally draw comparisons with the infuenza vaccine program. Considering viral and vaccine characteristics between these pathogens provides an important perspective that can help increase vaccine confdence with SARS-CoV-2 vaccines.
Referências	SAYERS, D. R. Severe acute respiratory syndrome coronavirus 2 vaccine boosters: an influenza vaccine perspective. **Military medicine**, [United Kingdom], p. usac243, August 9, 2022. DOI: 10.1093/milmed/usac243. Disponível em: https://academic.oup.com/milmed/advance-article/doi/10.1093/milmed/usac243/6658843. Acesso em: 12 ago. 2022.
Fonte	https://academic.oup.com/milmed/advance-article-pdf/doi/10.1093/milmed/usac243/45294792/usac243.pdf

Título	Tracking the turnover of SARS-CoV-2 VOCs gamma to delta in a Brazilian state (Minas Gerais) with a high-vaccination status
Autor(es)	Paula L. C. Fonseca, Filipe R. R. Moreira, Rafael M. de Souza, Natália R. Guimarães, Nara O. Carvalho, Talita E. R. Adelino, Hugo J. Alves, Luige B. Alvim, Darlan S. Candido, Helena P. Coelho, Alana V. B. Costa, Walyson C. Costa, Alex F. de Carvalho, Bruna W. F. de Faria, Aline B. de Lima, Eneida S. de Oliveira, Carolina S. A. de Souza, Fernanda G. de Souza, Rillery C. Dias, Victor E. V. Geddes, Igor P. Godinho, Alessandro L. Gonçalves, Karine L. Lourenço, Rubens D. M. Magalhães, Frederico S. V. Malta, Eva L. A. Medeiros, Fernanda S. Mendes, Pedro H. B. de P. Mendes, Cristiane P. T. B. Mendonça, Andre L. Menezes, Diego Menezes, Mariane T. Menezes, Lucyene Miguita, Rennan G. Moreira, Renata B. Peixoto, Daniel C. Queiroz, Adriana A. Ribeiro, Ana Paula de B. Ribeiro, Juliana W. Saliba, Hugo I. Sato, Joice do P. Silva, Natiely P. Silva, Nuno R. Faria, Santuza M. R. Teixeira, Flávio G. da Fonseca, Ana Paula S. M. Fernandes, Danielle A. G. Zauli, José Nélio Januario, Jaqueline S. de Oliveira, Felipe C. de M. Iani, Renato S. de Aguiar, Renan P. de Souza
Resumo	The emergence and global dissemination of Severe Acute Respiratory Syndrome virus 2 (SARS-CoV-2) variants of concern (VOCs) have been described as the main factor driving the Coronavirus Disease 2019 pandemic. In Brazil, the Gamma variant dominated the epidemiological scenario during the frst period of 2021. Many Brazilian regions detected the Delta variant after its frst description and documented its spread. To monitor the introduction and spread of VOC Delta, we performed Polymerase Chain Reaction (PCR) genotyping and genome sequencing in ten regional sentinel units from June to October 2021 in the State of Minas Gerais (MG). We documented the introduction and spread of Delta, comprising 70 per cent of the cases 8 weeks later. Comparing the viral loads of the Gamma and Delta dominance periods, we provide additional evidence that the latter is more transmissible. The spread and dominance of Delta did not culminate in the increase in cases and deaths, suggesting that the vaccination may have restrained the epidemic growth. Analysis of 224 novel Delta genomes revealed that Rio de Janeiro state was the primary source for disseminating this variant in the state of MG. We present the establishment of Delta, providing evidence of its enhanced transmissibility and showing that this variant shift did not aggravate the epidemiological scenario in a high immunity setting.
Referências	FONSECA, P. L. C. *et al.* Tracking the turnover of SARS-CoV-2 VOCs Gamma to Delta in a Brazilian state (Minas Gerais) with a high-vaccination status. **Virus evolution**, [United Kingdom], v. 8, n. 2, p. veac064, July 27, 2022. DOI: 10.1093/ve/veac064. Disponível em: https://academic.oup.com/ve/article/8/2/veac064/6650740. Acesso em: 12 ago. 2022.
Fonte	https://academic.oup.com/ve/article-pdf/8/2/veac064/45287857/veac064.pdf

Título	What effect might border screening have on preventing importation of COVID-19 compared with other infections?: Considering the additional effect of post-arrival isolation
Autor(es)	Declan Bays, Emma Bennett, Thomas Finnie
Resumo	We recently described a simple model through which we assessed what effect subjecting travelers to a single on-arrival test might have on reducing risk of importing disease cases during simulated outbreaks of COVID-19, Influenza, SARS, and Ebola. We build upon this work to allow for the additional requirement that inbound travellers also undergo a period of self-isolation upon arrival, where upon completion the traveller is again tested for signs of infection prior to admission across the border. Prior results indicated that a single on-arrival test has the potential to detect 9% of travellers infected with COVID-19, compared to 35%, 10% and 3% for travellers infected with influenza, SARS, and Ebola respectively. Our extended model shows that testing administered after a 2-day isolation period could detect up to 41%, 97%, 44% and 15% of COVID-19, Influenza, SARS, and Ebola infected travellers respectively. Longer self-isolation periods increase detection rates further, with an 8-day self-isolation period suggesting detection rates of up to 94%, 100%, 98% and 62% for travellers infected with COVID-19, Influenza, SARS, and Ebola respectively. These results therefore suggest that testing arrivals after an enforced period of self-isolation may present a reasonable method of protecting against case importation during international outbreaks.
Referências	BAYS, D.; BENNETT, E.; FINNIE, T. What effect might border screening have on preventing importation of COVID-19 compared with other infections? – Considering the additional effect of post-arrival isolation. **Epidemiology and infection**, [United Kingdom], p. 1–7, August 11, 2022. DOI: 10.1017/S0950268822001327. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/what-effect-might-border-screening-have-on-preventing-importation-of-covid19-compared-with-other-infections-considering-the-additional-effect-of-postarrival-isolation/EF58EC9C13D2262F28C33694AC5F2D4E. Acesso em: 12 ago. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/EF58EC9C13D2262F28C33694AC5F2D4E/S0950268822001327a.pdf

Título	Serial interval in households infected with SARS-CoV-2 variant B.1.1.529 (Omicron) are even shorter compared to Delta
Autor(es)	Udo Buchholz, Matthias an der Heiden
Resumo	A previous publication of the authors has shown a significant shortening of the serial interval – the time from symptom onset of the primary case to symptom onset of secondary cases - in household clusters from wild-type to Alpha and Delta variant of concern (VOC) (4.8; 4.5; 4.0 days)(1). Since December 2021 the VOC Omicron is circulating in Germany, and since calendar week (CW) 2 it surpassed a level of 80% of infections (2). As Omicron was “spreading at a rate … not seen with any previous variant” (3) it was unclear if the rapidity of the rise in case numbers was due to an increase of transmissibility or a shortening of the serial interval, or both. To extend the findings from our previous paper also to the period when Omicron dominated we aimed to investigate the timing of symptom onset of secondary household cases also for omicron households. […]
Referências	BUCHHOLZ, U.; HEIDEN, M. an der. Serial interval in households infected with SARS-CoV-2 variant B.1.1.529 (Omicron) are even shorter compared to Delta. **Epidemiology and infection**, [United Kingdom], p. 1–5, August 5, 2022. DOI: 10.1017/S0950268822001248. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/serial-interval-in-households-infected-with-sarscov2-variant-b11529-omicron-are-even-shorter-compared-to-delta/60AA52E3C01DEFA8AABC7B51B186A639. Acesso em: 12 ago. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/60AA52E3C01DEFA8AABC7B51B186A639/S0950268822001248a.pdf

Título	Sex and age differences in the proportion of experienced symptoms by SARS-CoV-2 serostatus in a community-based cross-sectional study
Autor(es)	Demi ME Pagen, Stephanie Brinkhues, Nicole HTM Dukers-Muijrers, Casper DJ den Heijer, Noortje Bouwmeester-Vincken, Daniëlle AT Hanssen, Linda M van de Laar, Inge HM van Loo, Paul HM Savelkoul, Christian JPA Hoebe
Resumo	We examined the possible sex and age differences in the proportion of experienced Coronavirus Disease 2019 (COVID-19) symptoms in unaware (previously) infected adults, and their uninfected counterparts, estimated by serostatus prior to vaccination, at the end of 2020 (Wuhan strain). A cross-sectional community-based study using a convenience sample of 10001 adult inhabitants of a southern Dutch province, heavily affected by COVID-19, was conducted. Participants donated a blood sample to indicate past infection by serostatus (positive/negative). Experienced symptoms were assessed by questionnaire, before availability of the serological test result. Only participants without confirmed SARS-CoV-2 infection were included (n=9715, age range 18-90 years). The seroprevalence was comparable between men (17.3%) and women (18.0%), and participants aged 18-60 years (17.3%) and aged 60 years and older (18.6%). We showed sex and age differences in the proportion experienced symptoms by serostatus in a large cohort of both unaware (untested) seropositive compared with seronegative reference participants. Irritability only differed by serostatus in men (independent of age), while stomach ache, nausea, and dizziness only differed by serostatus in women aged 60 years and older. Besides, the proportion of experiencing pain when breathing and headache differed by serostatus in men aged 18-60 years only. Our study highlights the importance of taking possible sex and age differences into account with respect to acute and long-term COVID-19 outcomes. Identifying symptom profiles for sex and age subgroups can contribute to timely identification of infection, gaining importance once governments currently move away from mass testing again.
Referências	PAGEN, D. M. *et al.* Sex and age differences in the proportion of experienced symptoms by SARS-CoV-2 serostatus in a community-based cross-sectional study. **Epidemiology and infection**, [United Kingdom], p. 1–23, August 10, 2022. DOI: 10.1017/S0950268822001339. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/sex-and-age-differences-in-the-proportion-of-experienced-symptoms-by-sarscov2-serostatus-in-a-communitybased-crosssectional-study/568BBD53AFB8A58C84A9F5B6273EC456. Acesso em: 12 ago. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/568BBD53AFB8A58C84A9F5B6273EC456/S0950268822001339a.pdf

Título	Global burden of SARS-CoV-2 infection, hospitalization and case fatality rate among COVID-19 vaccinated individuals and its associated factors: a systematic review and meta-analysis protocol
Autor(es)	Alex Durand Nka, Aude Christelle Ka'e, Yagai Bouba, Ezechiel Ngoufack Jagni Semengue, Michel Carlos Tommo Tchouaket, Désiré Takou, Willy Pabo, Nadine Fainguem, Samuel Martin Sosso, Vittorio Colizzi, Carlo-Federico Perno, Joseph Fokam
Resumo	COVID-19 has been the most important public health concern worldwide since 2020. Several vaccines are now available to help in controlling COVID-19 associated morbidity and mortality. This study will aim to provide the global and regional prevalence of SARS-CoV-2 infection as well as an estimate of disease severity among COVID-19 vaccinated individuals. Materials and methods: In order to determine the global burden of SARS-CoV-2 infection among vaccinated individuals, we will systematically extract and review papers from PubMed/MEDLINE, Excerpta Medica database (EMBASE), Cochrane Central Register of Controlled Trials (CENTRAL), Science direct and Cumulative Index to Nursing and Allied Health Literature (CINAHL). All the studies describing the prevalence and/or disease severity (hospitalization and case fatality rate) data of COVID-19 among individuals who received a partial or complete dose of WHO-approved COVID-19 vaccines will be eligible. A random effect model will be used to calculate the pooled prevalence and to estimate the disease severity. Subgroup analysis will be performed to explore the association between the number of vaccine doses received and the COVID-19 burdens. Discussion: This systematic review and meta-analysis will provide the global estimate data on pooled prevalence, hospitalization and case fatality rates of COVID-19 among vaccinated individuals. Moreover, the factors associated with reinfection and disease severity will be equally investigated in the meta-analysis. The results of this study will contribute in the understanding and estimation of the global burden of COVID-19 among vaccinated individuals. Findings will provide meaningful information for the success of the current global rollout of COVID-19 vaccination strategies and pave the way for future interventions.
Referências	NKA, A. D. et al. Global burden of SARS-CoV-2 infection, hospitalization and case fatality rate among COVID-19 vaccinated individuals and its associated factors: A systematic review and meta-analysis protocol. **PloS one**, [United States], v. 17, n. 8, p. e0272839, August 9, 2022. DOI: 10.1371/journal.pone.0272839. Disponível em: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0272839. Acesso em: 12 ago. 2022.
Fonte	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0272839

Título	Cohort study protocol of the brazilian collaborative research network on COVID-19: strengthening WHO global data
Autor(es)	Fernando Anschau, Natalia Del' Angelo Aredes, Ludovic Reveiz, Monica Padilla, Rosane de Mendonca Gomes, Wellington Mendes Carvalho, Fernando Antonio Gomes Leles, Fernanda Baeumle Reese, Andre Hostilio Hubert, Elisandrea Sguario Kemper, Renilson Rehem de Souza, Cristiane Feitosa Salviano, Hevelin Silveira e Silva, Eduardo Barbosa Coelho, Giuseppe Cesare Gatto, Rafael Freitas de Morais, Leonardo Nunes Alegre, Rodrigo Citton Padilha dos Reis, Joaquim Francisco dos Santos Neto, Cesar Perdomo Purper, Veridian Baldon dos Santos, Andressa Fontoura Garbini, Rafaela dos Santos Charao de Almeida, Bruna Donida, Rogerio Farias Bitencourt, Luciane Kopittke, Fernanda Costa dos Santos, Raquel Lutkmeier, Daniela dos Reis Carazai, Virginia Angelica Silveira Reis, Flavio Clemente Deulefeu, Fernanda Gadelha Severino, Jose Gustavo da Costa Neto, Nirvania do Vale Carvalho, Andre Jamson Rocha de Andrade, Adriana Melo Teixeira, Olavo Braga Neto, Gabriel Cardozo Muller, Ricardo de Souza Kuchenbecker
Resumo	With the COVID-19 pandemic, hospitals in low-income countries were faced with a triple challenge. First, a large number of patients required hospitalization because of the infection's more severe symptoms. Second, there was a lack of systematic and broad testing policies for early identification of cases. Third, there were weaknesses in the integration of information systems, which led to the need to search for available information from the hospital information systems. Accordingly, it is also important to state that relevant aspects of COVID-19's natural history had not yet been fully clarified. The aim of this research protocol is to present the strategies of a Brazilian network of hospitals to perform systematized data collection on COVID-19 through the World Health Organization (WHO) Platform. Methods and Analysis: This is a multicenter project among Brazilian hospitals to provide data on COVID-19 through the WHO global platform, which integrates patient care information from different countries. From October 2020 to March 2021, a committee worked on defining a flowchart for this platform, specifying the variables of interest, data extraction standardization and analysis. Ethics and Dissemination: This protocol was approved by the Research Ethics Committee

	(CEP) of the Research Coordinating Center of Brazil (CEP of the Hospital Nossa Senhora da Conceicao), on January 29, 2021, under approval No. 4.515.519 and by the National Research Ethics Commission (CONEP), on February 5, 2021, under approval No. 4.526.456. The project results will be explained in WHO reports and published in international peer-reviewed journals, and summaries will be provided to the funders of the study.
Referências	ANSCHAU, F. *et al.* Cohort study protocol of the brazilian collaborative research network on COVID-19: strengthening WHO global data. [United States]: **medRxiv**, August 11, 2022. DOI: 10.1101/2022.08.08.22278550. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.08.22278550v1. Acesso em: 12 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.08.22278550v1

Título	Impact of lifting school masking requirements on incidence of COVID-19 among staff and students in greater-boston area school districts: a difference-in-differences analysis
Autor(es)	Tori L. Cowger, Jaylen Clarke, Eleanor J. Murray, Sarimer M. Sánchez, Mary T. Bassett, Bisola O. Ojikutu, Natalia Linos, Kathryn T. Hall
Resumo	In February 2022, following the rescinding of a Massachusetts statewide school masking mandate, only two cities (Boston and neighboring Chelsea) out of 79 school districts in the greater-Boston area, maintained masking requirements in K-12 schools. This provided an opportunity to examine the impact of removing masking on COVID-19 case rates among students and staff in the public-school setting. Methods: We used difference-in-differences for staggered policy adoption to compare incidence of COVID-19 cases among students and staff in greater-Boston area school districts that lifted masking requirements to those that had not yet lifted masking requirements during the 2021-2022 school year. Results: Before the statewide school masking policy was lifted, there was no statistically significant difference in case rate trajectories between school districts. However, weekly and cumulative case rates were significantly higher in students and staff in school districts that removed masking requirements, compared to districts that had not yet lifted requirements. We estimate that lifting of school masking requirements was associated with an additional 44.9 (95% CI: 32.6, 57.1) COVID-19 cases per 1,000 students and staff over the 15 weeks since the lifting of the statewide school masking requirement, representing nearly 30% of all cases observed in schools during that time. School districts that sustained masking requirements for longer periods tended to have older school buildings in poorer condition, more crowded classrooms, higher proportion of low income and English learning students and students with disabilities, and a higher proportion of Black and Latinx students and staff. Conclusions: Masking is a relatively low-cost but effective intervention that can protect students and staff from substantial illness and loss of in-person days in school. Despite compelling evidence that masking significantly reduces the spread of SARS-CoV-2, political will and public adherence to masking has waned. Our study confirms that

	universal masking requirements can benefit all students and staff, and therefore represents an important strategy to mitigate the impacts of structural racism, ensure health equity, and to avoid potential deepening of educational inequities.
Referências	COWGER, T. L. *et al.* Impact of lifting school masking requirements on incidence of COVID-19 among staff and students in greater-boston area school districts: a difference-in-differences analysis. [United States]: medRxiv, August 9, 2022. DOI: 10.1101/2022.08.09.22278385. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.09.22278385v1. Acesso em: 12 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.09.22278385v1.full.pdf

Título	Differential immune response induced by two immunization schedules with an inactivated SARS-CoV-2 vaccine in a randomized phase 3 clinical trial
Autor(es)	Nicolás MS Gálvez, Gaspar A. Pacheco, Bárbara M Schultz, Felipe Melo-González, Jorge A Soto, Luisa F Duarte, Liliana A González, Daniela Rivera-Pérez, Mariana Ríos, Roslye V Berríos, Yaneisi Vázquez, Daniela Moreno-Tapia, Omar P Vallejos, Catalina A Andrade, Guillermo Hoppe-Elsholz, Carolina Iturriaga, Marcela Urzua, María S Navarrete, Álvaro Rojas, Rodrigo Fasce, Jorge Fernández, Judith Mora, Eugenio Ramírez, Aracelly Gaete-Argel, Mónica Acevedo, Fernando Valiente-Echeverría, Ricardo Soto-Rifo, Daniela Weiskopf, Alba Grifoni, Alessandro Sette, Gang Zeng, Weining Meng, CoronaVac03CL Study Group, José V González-Aramundiz, David Goldblatt, Pablo A González, Katia Abarca, Susan M Bueno, Alexis M Kalergis
Resumo	The development of vaccines to control the COVID-19 pandemic progression is a worldwide priority. CoronaVac® is an inactivated SARS-CoV-2 vaccine approved for emergency use with robust efficacy and immunogenicity data reported in trials in China, Brazil, Indonesia, Turkey, and Chile. Methods: This study is a randomized, multicenter, and controlled phase 3 trial in healthy Chilean adults aged ≥18 years. Volunteers received two doses of CoronaVac® separated by two (0-14 schedule) or four weeks (0-28 schedule). 2,302 volunteers were enrolled, 440 were part of the immunogenicity arm, and blood samples were obtained at different times. Samples from a single center are reported. Humoral immune responses were evaluated by measuring the neutralizing capacities of circulating antibodies. Cellular immune responses were assessed by ELISPOT and flow cytometry. Correlation matrixes were performed to evaluate correlations in the data measured. Results: Both schedules exhibited robust neutralizing capacities with the response induced by the 0-28 schedule being better. No differences were found in the concentration of antibodies against the virus and different variants of concern between schedules. Stimulation of PBMCs with MPs induced the secretion of IFN-γ and the expression of activation induced markers for both schedules. Correlation matrixes showed strong correlations between neutralizing antibodies and IFN-γ secretion. Conclusions: Immunization with CoronaVac® in Chilean adults promotes robust cellular and humoral immune responses. The 0-28 schedule induced a stronger humoral immune response

	than the 0-14 schedule.
Referências	SALVADOR GÁLVEZ, N. M. *et al.* Differential immune response induced by two immunization schedules with an inactivated SARS-CoV-2 vaccine in a randomized phase 3 clinical trial. [United States]: **medRxiv**, August 8, 2022. DOI: 10.1101/2022.08.05.22278464. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.05.22278464v1. Acesso em: 12 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.05.22278464v1.full.pdf

Título	Two years of COVID-19 pandemic: framework of health interventions in a brazilian city
Autor(es)	Vanessa dos Santos Faiões, Helvécio Cardoso Corrêa Póvoa, Bruna Alves Thurler, Gabriela Ceccon Chianca, Andréa Videira Assaf, Natalia Lopes Pontes Póvoa Iorio
Resumo	The COVID-19 pandemic and its effects on public health have urgently demanded effective health policies to avoid the spread of COVID-19. Thus, public administrators have implemented non-pharmacological and pharmacological interventions to mitigate the pandemic's impacts and strengthen health services. The aim of this ecological study is to describe the scenario of COVID-19 pandemic in a Brazilian city, during two years. This ecological study was carried out in Nova Friburgo, a Brazilian city, for 105 weeks (two years), from March 29, 2020 (week 1) to April 02, 2022 (week 105). Data on COVID-19 cases and COVID-19 deaths, occupation of COVID-19 exclusive beds in hospitals, community mobility, vaccination, government regulation on the opening of city establishments and city risk assessment were collected from public datasets. Four waves of COVID-19 cases and deaths were observed during this period. The first case occurred in week 1 and first death in week 3 of this study. The highest peaks of cases and deaths were observed during the third wave with 1,131 cases (week 54) and 47 deaths (week 55) and where the highest occupation of COVID-19 exclusive beds in local hospitals occurred. Interventions from more restrictive to more flexible, were implemented throughout this study, including lockdown and gradual return in economic and social strata levels. Vaccination began on week 43 and at the end of this study 89.91% of the total population was vaccinated with at least one dose, being 83.22% fully vaccinated. A deep description of several interventions used to avoid COVID-19 spread in a Brazilian city during two years of this pandemic can help promote better decision-making in the future while it exposes the challenges of conducting public health policies in a pandemic scenario.
Referências	FAIÕES, V. dos S. *et al.* Two years of COVID-19 pandemic: framework of health interventions in a brazilian city. [United States]: **medRxiv**, August 7, 2022. DOI: 10.1101/2022.08.05.22278481. Disponível em: https://www.medrxiv.org/content/10.1101/2022.08.05.22278481v1. Acesso em: 12 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.08.05.22278481v1.full.pdf

Título	Assessing COVID-19 pandemic excess deaths in Brazil: years 2020 and 2021
Autor(es)	Saditt Rocio Robles Colonia, Lara Morena Cardeal, Rogério Antonio de Oliveirax, Luzia Aparecida Trinca
Resumo	We estimated the impact of the COVID-19 pandemic on mortality in Brazil for 2020 and 2021 years. We used mortality data (2015-2021) from the Health Ministry, Brazil government, to fit linear mixed models for forecasting baseline deaths under non-pandemic conditions. An advantage of the linear mixed model is the flexibility to capture year-trend while dealing with the correlations among death counts over time. Following a specified model building strategy, estimation of all-cause excess deaths at the country level and stratified by sex, age, ethnicity and region of residence, from March 2020 to August 2021. We also considered the estimation of excess deaths by specific causes. Estimated all-cause excess deaths was 199 108 (95% PI: 171 007; 227 209, P-Score=17.3%) for weeks 10-53, 2020, and 417 167 (95% PI: 372 075; 462 259, P-Score=50.1%) for weeks 1-32, 2021. P-scores ranged from 5.4% (RS, South) to 36.2% (AM, North) in 2020 and from 29.3% (AL, Northeast) to 94.9% (RO, North) in 2021. Differences among men (18.9%) and women (14.2%) appeared in 2020 only, and the P-scores were about 51% for both sexes in 2021. Except for youngsters (< 20 years old), all adult age groups were badly hit, especially those from 40 to 79 years old. In 2020, the Indigenous+East Asian population had the highest P-score (27%), and the Black population suffered the greatest impact (61.9%) in 2021. The pandemic impact had enormous regional heterogeneity and substantial differences according to socio-demographic factors, mainly during the first wave, showing some population strata benefits from the social distancing measures when able to adhere to them. In the second wave, the burden was very high for all but extremely high for some, highlighting our society needs to tackle the health inequalities experienced by groups of different socio-demographic and economic status.
Referências	COLONIA, S. R. R. et al. Assessing COVID-19 pandemic excess deaths in Brazil: years 2020 and 2021. [United States]: **medRxiv**, July 29, 2022. DOI: 10.1101/2022.07.27.22278096. Disponível em: https://www.medrxiv.org/content/10.1101/2022.07.27.22278096v1. Acesso em: 5 ago. 2022.
Fonte	https://www.medrxiv.org/content/10.1101/2022.07.27.22278096v1.full.pdf

Título	Real-life evaluation of a rapid antigen test (DPP SARS-CoV-2 Antigen) for COVID-19 diagnosis of primary healthcare patients, in the context of the Omicron-dominant wave in Brazil
Autor(es)	Matheus Filgueira Bezerra, Lilian Caroliny Amorim Silva, Romulo Pessoa-e-Silva, Gisele Lino, Filipe Zimmer Dezordi, Gustavo Barbosa Lima, Raul Emidio de Lima, Tulio Campos, Cassia Docena, Anderson Oliveira, Maira Galdino da Rocha Pitta, Francisco de Assis Santos da Silva, Michelly Pereira, Gabriel Luz Wallau, Marcelo Henrique Santos Paiva
Resumo	Rapid antigen tests play an important role in the monitoring and mitigation of the COVID-19 pandemic, as it provides an easy, fast and efficient diagnosis with minimum infrastructure requirements. However, as new variants of concern continue to emerge, mutations in the virus genome may impair the recognition of the mutated antigen by the tests. Therefore, it is essential to re-assess the test's sensitivity as the virus mutation profile undergoes significant changes. Here, we prospectively accessed the performance of the DPP SARS-CoV-2 Antigen test in the context of an omicron-dominant real-life setting. We evaluated 347 unselected individuals (all-comers) from a public testing center in Brazil, performing the rapid antigen test diagnosis at point-of-care with fresh samples. The combinatory result from two distinct RT-qPCR methods was employed as reference and 13 samples with discordant PCR results were excluded. The assessment of the rapid test in 67 PCR-positive and 265 negative samples revealed an overall sensitivity of 80.5%, specificity of 99.2% and positive/negative predictive values higher than 95%. However, we observed that the sensitivity was dependent on the viral load (sensitivity in Ct<31 = 93.7%; Ct>31 = 47.4%). Furthermore, we were able to confirm that the positive samples evaluated in the study were Omicron (BA.1/BA.1.1) by whole-genome sequencing (n=40) and multiplex RT-qPCR (n=17). Altogether, the data obtained from a real-life prospective cohort supports that the rapid antigen test sensitivity for the Omicron remains high and underscores the reliability of the test for COVID-19 diagnosis in a setting with high disease prevalence and limited PCR testing capability.
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Fonte	https://www.medrxiv.org/content/10.1101/2022.08.02.22278277v1.full.pdf

Título	The post–COVID-19 case for primary care
Autor(es)	Sandro Galea
Resumo	Much has been written and discussed about challenges faced by the US health care system, with most of it justifiably concerning the payment system for medical services, and how that leaves an unconscionably large proportion of US residents uninsured or underinsured for quality care. Although payment systems are undoubtedly a challenge and merit substantial conversation, the structure of US health care delivery also leaves much to be desired. Central to that problem is the paucity of primary care physicians in the US. The approximately 200 000 active primary care physicians in the US represent about 30% of all active physicians, down from 32% about 10 years ago. About 28% of men and 17% of women report they do not have a primary care physician. The Council on Graduate Medical Education recommended an increase in the proportion of primary care physicians to 40%, a recommendation now further from reality than it was in 2010 when the report was published. By way of comparison, about 50% of Canadian physicians are primary care physicians. As a result, a substantially smaller proportion of persons in the Canadian population—about 17% of men and 12% of women—report not having regular access to a physician. […]
Referências	GALEA, S. The post–COVID-19 case for primary care. **JAMA health forum**, [United States], v. 3, n. 7, p. e223096, July 28, 2022. DOI: 10.1001/jamahealthforum.2022.3096. Disponível em: https://jamanetwork.com/journals/jama-health-forum/fullarticle/2794949. Acesso em: 5 ago. 2022.
Fonte	https://jamanetwork.com/journals/jama-health-forum/fullarticle/2794949

Título	US adults' beliefs about harassing or threatening public health officials during the COVID-19 pandemic
Autor(es)	Rachel J. Topazian, Emma E. McGinty, Hahrie Han, Adam S. Levine, Kelly E. Anderson, Rachel Presskreischer, Colleen L. Barry
Resumo	The rise in attacks on public health officials has weakened the public health workforce and complicated COVID-19 mitigation efforts. Objective: To examine the share of US adults who believed harassing or threatening public health officials because of COVID-19 business closures was justified and the factors shaping those beliefs. Design, Setting, and Participants: The Johns Hopkins University COVID-19 Civic Life and Public Health Survey was fielded from November 11 to 30, 2020, and July 26 to August 29, 2021. A nationally representative cohort of 1086 US adults was included. Main Outcomes and Measures: Respondents were asked how much they believed that threatening or harassing public health officials for business closures to slow COVID-19 transmission was justified. Adjusted differences in beliefs regarding attacks on public health officials were examined by respondent sociodemographic and political characteristics and by trust in science. Results: Of 1086 respondents who completed both survey waves, 565 (52%) were women, and the mean (SE) age was 49 (0.77) years. Overall, 177 respondents (16%) were Hispanic, 125 (11%) were non-Hispanic Black, 695 (64%) were non-Hispanic White, and 90 (8%) were non-Hispanic and another race. From November 2020 to July and August 2021, the share of adults who believed harassing or threatening public health officials because of business closures was justified rose from 20% (n = 218) to 25% (n = 276) (P = .046) and 15% (n = 163) to 21% (n = 232) (P = .01), respectively. In multivariable regression analysis, respondents who trusted science not much or not at all were more likely to view threatening public health officials as justified compared with who trusted science a lot (November 2020: 35% [95% CI, 21%-49%] vs 7% [95% CI, 4%-9%]; P < .001; July and August 2021: 47% [95% CI, 33%-61%] vs 15% [95% CI, 11%-19%]; P < .001). There were increases in negative views toward public health officials between November 2020 and July and August 2021, among those earning

	$75 000 or more annually (threatening justified: 7 [95% CI, 1-14] percentage points; P = .03), those with some college education (threatening justified: 6 [95% CI, 2-11] percentage points; P = .003), those identifying as politically independent (harassing justified: 9 [95% CI, 3-14] percentage points; P = .01), and those trusting science a lot (threatening justified: 8 [95% CI, 4-13] percentage points; P < .001). Conclusions and Relevance: While antagonism toward public health officials was concentrated among those doubting science and groups most negatively affected by the pandemic (eg, those with lower income and less education), the findings of this study suggest that there has been a shift toward such beliefs within more economically advantaged subgroups and those more trusting of science. Restoring public trust in public health officials will require nuanced engagement with diverse groups.
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Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2794789

Título	Violence against health workers rises during COVID-19
Autor(es)	Jacqui Thornton
Resumo	Violence against health-care staff has got “even worse” since the COVID-19 pandemic—but new strategies are tackling the problem. Jacqui Thornton reports. A new joint study by the International Council of Nurses, the International Committee of the Red Cross, the International Hospital Federation, and the World Medical Association has found that violence against doctors is endemic regardless of a country's security situation. Moreover, respondents to the survey thought that violence by patients or their families against health-care workers has worsened and has become more frequent since the start of the COVID-19 pandemic. […]
Referências	THORNTON, J. Violence against health workers rises during COVID-19. **The Lancet**, [United Kingdom], v. 400, n. 10349, p. 348, July 30, 2022. DOI: 10.1016/S0140-6736(22)01420-9. Disponível em: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01420-9/fulltext. Acesso em: 5 ago. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S0140-6736%2822%2901420-9

Título	Prevalence and predictors of anti-SARS-CoV-2 serology in a highly vulnerable population of Rio de Janeiro: A population-based serosurvey
Autor(es)	Lara E. Coelho, Paula M. Luz, Débora C. Pires, Emilia M. Jalil, Hugo Perazzo, Thiago S. Torres, Sandra W. Cardoso, Eduardo M. Peixoto, Sandro Nazer, Eduardo Massad, Mariângela F. Silveira, Fernando C. Barros, Ana T. R. Vasconcelos, Carlos A. M. Costa, Rodrigo T. Amancio, Daniel A. M. Villela, Tiago Pereira, Guilherme T. Goedert, Cleber V. B. D. Santos, Nadia C. P. Rodrigues, Beatriz Grinsztejn, Valdilea G. Veloso, Claudio J. Struchiner
Resumo	COVID-19 serosurveys allow for the monitoring of the level of SARS-CoV-2 transmission and support data-driven decisions. We estimated the seroprevalence of anti-SARS-CoV-2 antibodies in a large favela complex in Rio de Janeiro, Brazil. Methods: A population-based panel study was conducted in Complexo de Manguinhos (16 favelas) with a probabilistic sampling of participants aged ≥1 year who were randomly selected from a census of individuals registered in primary health care clinics that serve the area. Participants answered a structured interview and provided blood samples for serology. Multilevel regression models (with random intercepts to account for participants' favela of residence) were used to assess factors associated with having anti-S IgG antibodies. Secondary analyses estimated seroprevalence using an additional anti-N IgG assay. Findings: 4,033 participants were included (from Sep/2020 to Feb/2021, 22 epidemic weeks), the median age was 39·8 years (IQR:21·8-57·7), 61% were female, 41% were mixed-race (Pardo) and 23% Black. Overall prevalence was 49·0% (95%CI:46·8%-51·2%) which varied across favelas (from 68·3% to 31·4%). Lower prevalence estimates were found when using the anti-N IgG assay. Odds of having anti-S IgG antibodies were highest for young adults, and those reporting larger household size, poor adherence to social distancing and use of public transportation. Interpretation: We found a significantly higher prevalence of anti-S IgG antibodies than initially anticipated. Disparities in estimates obtained using different serological assays highlight the need for cautious interpretation of serosurveys estimates given the heterogeneity of exposure in communities, loss of immunological biomarkers, serological antigen target, and variant-specific test affinity. Funding: Fundação Oswaldo Cruz, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Fundação de Amparo a Pesquisa do Estado do Rio de Janeiro (FAPERJ), the European Union's Horizon 2020 research and innovation programme,

	Royal Society, Serrapilheira Institute, and FAPESP.
Referências	COELHO, L. E. *et al.* Prevalence and predictors of anti-SARS-CoV-2 serology in a highly vulnerable population of Rio de Janeiro: A population-based serosurvey. **The Lancet regional health – Americas**, [United Kingdom], v. 15, July 29, 2022. DOI: 10.1016/j.lana.2022.100338. Disponível em: https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(22)00155-7/fulltext. Acesso em: 5 ago. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2667-193X%2822%2900155-7

Título	Co-existence of a pandemic (SARS-CoV-2) and an epidemic (Dengue virus) at some focal points in Southeast Asia: pathogenic importance, preparedness, and strategy of tackling
Autor(es)	Sakirul Khan, Sheikh Mohammad Fazle Akbar, Akira Nishizono
Resumo	The coronavirus disease 2019 (COVID-19) pandemic, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has now entered its 3rd year. Other infectious diseases with similar symptoms (dengue infection) usually prevail at different intensities in Southeast Asian and Latin American countries. A recent study published in The Lancet Infectious Diseases reported that COVID-19-related changes in social activities decreased the incidence of dengue during the first year of the pandemic (in 2020).1 Here, we provide data to support that the observed reduction in the incidence of dengue in 2020 may not be committed epidemiological behavior of dengue in 2021 in some South Asian countries (Figure 1; Suppl. Figure 1). Using the official database of (WHO/Government) and reference reporting system, we have shown that a sporadic surge of dengue infection was recorded in some Southeast Asian countries in the 2nd year of the COVID-19 pandemic (2021) using Microsoft® Excel and SAS (version 9.4 (Cary, NC, USA). […]
Referências	KHAN, S.; AKBAR, S. M. F.; NISHIZONO, A. Co-existence of a pandemic (SARS-CoV-2) and an epidemic (Dengue virus) at some focal points in Southeast Asia: pathogenic importance, preparedness, and strategy of tackling. **The Lancet regional health - Southeast Asia**, [United Kingdom], v. 0, n. 0, July 26, 2022. DOI: 10.1016/j.lansea.2022.100046. Disponível em: https://www.thelancet.com/journals/lansea/article/PIIS2772-3682(22)00056-7/fulltext. Acesso em: 5 ago. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2772-3682%2822%2900056-7

Título	COVID-19 (SARS-CoV-2) in patients treated in the unified health system (SUS) with flu and respiratory symptoms from three brazilian municipalities in the border region
Autor(es)	Arianne Peruzo Pires Gonçalves Sereno, Dahiane Locatelli de Sousa, Pollyanna Santos Gimenes, Wanylla Paula dos Santos Czezaniak, Lorena de Fátima Moretto, Laisa Marina Rosa Rey, Kawany Gabrieli Zanetti Fazoli, Luís Antônio Cassaro, Isabela Carvalho dos Santos, Lidiane Nunes Barbosa, Daniela Dib Gonçalves
Resumo	The objective of this study was to investigate the prevalence and carry out epidemiology using sociodemographic data from patients with symptoms suggestive of COVID-19 (SARS-CoV-2) in three bordering Brazilian municipalities. Methods: An epidemiological survey of positive cases of COVID-19 through RT-PCR was carried out in 1874 patients, seen in the Unified Health System (SUS), aged between 0-99 years, who had symptoms suggestive of COVID-19, from the cities of Assis Chateaubriand, Tupãssi, and Formosa do Oeste. Results: It was possible to observe that of the 1874 patients seen in the public health network of the three municipalities, 354 were diagnosed as positive. The predominance of cases was in female patients (51.97%) and in patients who lived in urban areas (93.50%), and the predominant age group was 20-29 years (19.78%). Conclusion: The result of this study demonstrated the epidemiological profile of patients with respiratory and flu-like symptoms, positive for COVID-19, in three municipalities bordering Paraguay and Argentina. It was evident that the age group has its specificities regarding the susceptibility of the infection. Although the borders are closed, there was probably a spread of the virus in this region, due to the diversion, which showed an increase during the pandemic period.
Referências	SERENO, A. P. P. G. *et al.* COVID-19 (SARS-CoV-2) in patients treated in the unified health system (SUS) with flu and respiratory symptoms from three brazilian municipalities in the border region. **Disaster medicine and public health preparedness**, [United States], p. 1–21, July 28, 2022. DOI: 10.1017/dmp.2022.195. Disponível em: https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/covid19-sarscov2-in-patients-treated-in-the-unified-health-system-sus-with-flu-and-respiratory-symptoms-from-three-brazilian-municipalities-in-the-border-region/C7765DAD123E82898DC168745FF02CB2. Acesso em: 5 ago. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/C7765DAD123E82898DC168745FF02CB2/S1935789322001951a.pdf/covid-19-sars-cov-2-in-patients-treated-in-the-unified-health-system-sus-with-flu-and-respiratory-symptoms-from-three-brazilian-municipalities-in-the-border-region.pdf

Título	Exhaled breath SARS-CoV-2 shedding patterns across variants of concern
Autor(es)	Joren Raymenants, Wout Duthoo, Tim Stakenborg, Bert Verbruggen, Julien Verplanken, Jos Feys, Joost Van Duppen, Rabea Hanifa, Elisabeth Marchal, Andy Lambrechts, Piet Maes, Emmanuel André, Nik Van den Wijngaert, Peter Peumans
Resumo	We performed exhaled breath (EB) and nasopharyngeal (NP) qPCR and NP rapid antigen testing (RAT) throughout SARS-CoV-2 infections with different variants. Methods: We recruited immuno-naïve alpha-infected (n=11) and partly boosted omicron infected patients (n=8) as high-risk contacts. We compared peak NP and EB qPCR cycle time (CT) values between cohorts (Wilcoxon-Mann-Whitney test). Test positivity was compared for three infection phases (Cochran Q test). Results: Peak median NP CT was 11.5 (IQR 10.1-12.1) for alpha and 12.2 (IQR 11.1-15.3) for omicron infections. Peak median EB CT was 25.2 (IQR 24.5-26.9) and 28.3 (IQR 26.4- 30.8), respectively. Distributions did not differ between cohorts for NP (p = 0.19) or EB (p =0.09). SARS-CoV-2 shedding peaked on day 1 in EB (CI 0.0 - 4.5) and day 3 in NP (CI 1.5 - 6.0). EB qPCR positivity equaled NP qPCR positivity on D0-D1 (p=0.44) and D2-D6 (p=1.0). It superseded NP RAT positivity on D0-D1 (p=0.003) and D2-D6 (p=0.008). It was inferior to both on D7-D10 (p<0.001). Conclusions: Peak exhaled breath and nasopharynx shedding were comparable across variants. EB qPCR positivity matched NP qPCR and superseded NP RAT in the first week of infection.
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Título	The impact of COVID-19 on the epidemiology of non-airborne/droplet-transmitted notifiable infectious diseases in Taiwan: a descriptive study
Autor(es)	Shun-Hsing Hung, Wei-Ting Lin, Jui-Hsiang Wang, Chih-Cheng Lai
Resumo	This study was conducted to compare the number of cases of non-airborne/droplet-transmitted notifiable infectious disease (NID) before and after COVID-19 pandemic. Methods: This study used an open database - National Notifiable Diseases Surveillance System to collect the epidemiological data of NIDs. Ten fecal-oral-, six vector-borne-, four direct-contact, and four sexually-transmitted NIDs between pandemic period (defined as from January 2020 to December 2021) and the pre-pandemic period (defined as the period from January 2018 to December 2019) were included for the analysis. Results: Overall, the annual case number of these 24 non-airborne/droplet-transmitted NIDs was 19,186, 19,101, 19,567, and 19,863 in 2018, 2019, 2020 and 2021, respectively. The overall case number in the pandemic period was higher than those in pre-pandemic period (39,430 vs 38,287) and the monthly case number was significantly higher in pandemic period than pre-pandemic period (1,643 vs 1,595, $p < 0.05$). However, the lower case number in the pandemic period than those in pre-pandemic period was observed in overall ten fecal-oral-transmitted NIDs (1,278 vs 1,775), six vector-borne-NIDs (922 vs 2,210), and four direct-contact transmitted NIDs (196 vs 344). In contrast, the case number of sexually-transmitted NIDs in the pandemic period was higher than those in pre-pandemic period (37,034 vs 33,958), particularly for gonorrhea (14,463 vs 8,732). Conclusions: Most of the fecal-oral-, vector-borne, and direct-contact transmitted NIDs had declined during pandemic in Taiwan. In contrast, gonorrhea had large increase, and other NPIs were needed.
Referências	SHUN-HSING, H. *et al.* The impact of COVID-19 on the epidemiology of non-airborne/droplet-transmitted notifiable infectious diseases in Taiwan: a descriptive study. **Journal of infection and public health**, [Netherlands], August 4, 2022. DOI: 10.1016/j.jiph.2022.08.001. Disponível em: https://www.sciencedirect.com/science/article/pii/S1876034122002040. Acesso em: 5 ago. 2022.
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Título	Useful molecular tools for facing next pandemic events: effective sample preparation and improved RT-PCR for highly sensitive detection of SARS-CoV-2 in wastewater environment
Autor(es)	Magdaléna Rusková, Mária Bučková, Adam Achs, Andrea Puškárová, Jer-Horng Wu, Tomáš Kuchta, Zdeno Šubr, Domenico Pangallo
Resumo	Viral pandemics can be inevitable in the next future. Considering SARS-CoV-2 pandemics as an example, there seems to be a need to develop a surveillance system able to monitor the presence of potential pathogenic agents. The sewage and wastewater environments demonstrated to be suitable targets for such kind of analysis. In addition, it is important to have reliable molecular diagnostic tools and also to develop a robust detection strategy. In this study, an effective sample preparation procedure was selected from four options and combined with a newly developed improved RT-PCR. First, a model viral system was constructed, containing a fragment of the SARS-CoV-2 gene encoding for the Spike protein. The encapsidated S RNA mimic (ESRM) was based on the plum pox virus (PPV) genome with the inserted targeted gene fragment. ESRM was used for seeding wastewater samples in order to evaluate the viral recovery of four different viral RNA concentration/extraction methods. The efficiency of individual approaches was assessed by the use of a quantitative reverse transcription PCR (qRT-PCR) and by a one-step single-tube nested quantitative reverse transcription PCR (OSN-qRT-PCR). For the detection of viruses in wastewater samples with low viral loads, OSN-qRT-PCR assay produced the most satisfactory results and the highest sensitivity.
Referências	RUSKOVÁ, M. *et al.* Useful molecular tools for facing next pandemic events: effective sample preparation and improved RT-PCR for highly sensitive detection of SARS-CoV-2 in wastewater environment. **International journal of hygiene and environmental health**, [Germany], p. 114017, August 3, 2022. DOI: 10.1016/j.ijheh.2022.114017. Disponível em: https://www.sciencedirect.com/science/article/pii/S1438463922001006. Acesso em: 5 ago. 2022.
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Título	Excess mortality rather than case fatality rate is a superior indicator to assess the impact of COVID-19 pandemic
Autor(es)	Guanhao He, Jianpeng Xiao, Ziqiang Lin, Wenjun Ma
Resumo	Since the end of 2021, the world has been grappling with a series of COVID-19 outbreaks caused by the highly transmissible Omicron variant. Though the Omicron variant has a fatality rate that is lower than other variants and high vaccine coverage, more countries have lifted their non-pharmaceutical interventions (NPIs) and tried to combine natural infection and vaccine immunity to achieve herd immunity, so as to coexist with the virus. Although the case fatality rate declined significantly since the Omicron epidemic (dropping to 0.2-0.4% after 1 May 2022; obtained from: https://ourworldindata.org/coronavirus#explore-the-global-situation), using case fatality rate to guide policy making or adjustment may be biased. Case fatality rate is usually calculated by dividing the number of deaths from COVID-19 by the number of confirmed cases. However, the “correct” numerator is hard to obtain due to the different rules for coding causes of death. For example, if a cancer patient diagnosed with COVID-19 died, the primary cause of death may be coded as COVID-19 in some countries and cancer in others. Additionally, the real denominator is difficult to obtain due to the huge difference in testing ability in various countries. […]
Referências	GUANHAO, H. *et al.* Excess mortality rather than case fatality rate is a superior indicator to assess the impact of COVID-19 pandemic. **The Innovation**, [United States], p. 100298, August 3, 2022. DOI: 10.1016/j.xinn.2022.100298. Disponível em: https://www.sciencedirect.com/science/article/pii/S2666675822000947. Acesso em: 5 ago. 2022.
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Título	Epidemiological assessment of SARS-CoV-2 reinfection
Autor(es)	Marwa AlMadhi, Adel Salman Alsayyad, Ronan Conroy, Stephen Atkin, Abdulla Al Awadhi, Jaffar A. Al-Tawfiq, Manaf AlQahtani
Resumo	SARS-CoV-2 vaccination has shown reduced infection severity; however, the reinfection frequency amongst unvaccinated, partially vaccinated and fully vaccinated remains unclear. This study aims to elucidate the rates and associated factors for such occurrences. Methods. This retrospective epidemiological report included 1362 COVID-19 reinfection cases in Bahrain between April 2020 and July 2021. We analysed differences in disease severity and reinfection characteristics between various vaccination statuses; fully vaccinated, interrupted vaccination, one vaccination dose, post-reinfection vaccination and unvaccinated. Results. Reinfection cases increased from zero cases per month in April – June 2020 to a sharp peak of 579 reinfection cases in May 2021. Males constituted a significantly larger proportion of reinfections (60.3%, p<0.0001). Reinfection episodes were highest amongst the 30-39 years of age (29.7%). The least reinfection episodes occurred at 3-6 months after the first infection (20.6%) and most occurred ≥9 months after initial infection (46.4%). Most individuals were asymptomatic during both episodes (35.7%), Reinfection disease severity was mild, with vaccinated patients less likely to have symptomatic reinfection (OR 0·71, p=0·004). Only 6.6% reinfection cases required hospitalization. One death was recorded, corresponding to unvaccinated group. Conclusion. Vaccine-induced immunity and prior infection with or without vaccination were effective in reducing reinfection disease severity.
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Título	Impact of vaccination and the omicron variant on COVID-19 severity in pregnant women
Autor(es)	Haemin Kim, Hyo-Shin Kim, Hyun Mi Kim, Mi Ju Kim, Ki Tae Kwon, Hyun-Hwa Cha, Won Joon Seong
Resumo	We compared the clinical course of pregnant women with coronavirus disease 2019 (COVID-19) before and after the emergence of the omicron variant and based on vaccination status. We retrospectively reviewed the electronic medical charts of 224 patients and 82 deliveries from November 1, 2020, to March 7, 2022; of these, 42% were diagnosed during the omicron dominance period. Disease severity and morbidity of COVID-19 were significantly decreased during the omicron era. The vaccination rates among the patients were higher after omicron emergence (31.9%) than before (6.9%). Overall, 4.1% and 25% of patients had severe symptoms, and 2.6% and 16.2% required oxygen therapy in the vaccination and non-vaccination groups, respectively. Overall, patients had a more favorable clinical course in the omicron era; moreover, vaccinated patients were better protected than non-vaccinated patients, indicating the importance of vaccination against COVID-19.
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Título	A comparative analysis of epidemiological characteristics of MERS-CoV and SARS-CoV-2 in Saudi Arabia
Autor(es)	Yehya Althobaity, Jianhong Wu, Michael J. Tildesley
Resumo	In this study, we determine and compare the incubation duration, serial interval, pre-symptomatic transmission, and case fatality rate of MERS-CoV and COVID-19 in Saudi Arabia based on contact tracing data we acquired in Saudi Arabia. The date of infection and infector-infectee pairings are deduced from travel history to Saudi Arabia or exposure to confirmed cases. The incubation times and serial intervals are estimated using parametric models accounting for exposure interval censoring. Our estimations show that MERS-CoV has a mean incubation time of 7.21 (95% CI: 6.59–7.85) days, whereas COVID-19 (for the circulating strain in the study period) has a mean incubation period of 5.43(95% CI: 4.81–6.11) days. MERS-CoV has an estimated serial interval of 14.13(95% CI: 13.9–14.7) days, while COVID-19 has an estimated serial interval of 5.1(95% CI: 5.0–5.5) days. The COVID-19 serial interval is found to be shorter than the incubation time, indicating that pre-symptomatic transmission may occur in a significant fraction of transmission events. We conclude that during the COVID-19 wave studied, at least 75% of transmission happened prior to the onset of symptoms. The CFR for MERS-CoV is estimated to be 38% (95% CI: 36.8–39.5), while the CFR for COVID-19 1.67% (95% CI: 1.63–1.71). This work is expected to help design future surveillance and intervention program targeted at specific respiratory virus outbreaks, and have implications for contingency planning for future coronavirus outbreaks.
Referências	ALTHOBAITY, Y.; WU, J.; TILDESLEY, M. J. A comparative analysis of epidemiological characteristics of MERS-CoV and SARS-CoV-2 in Saudi Arabia. **Infectious disease modelling**, [China], August 2, 2022. DOI: 10.1016/j.idm.2022.07.002. Disponível em: https://www.sciencedirect.com/science/article/pii/S2468042722000537. Acesso em: 5 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2468042722000537/pdf

Título	A study of SARS-CoV-2 delta variant breakthrough infections and side effects of the Oxford-AstraZeneca vaccine
Autor(es)	Nawfal R. Hussein, Bizav Naji Rasheed, Ibrahim A. Naqid, Arshed Mustafa Dirbaz, Zana Sidiq M. Saleem, Nashwan Ibrahim, Dildar H. Musa, Sulav Muslih Mohammed
Resumo	This study aimed to investigate the breakthrough infection rate and safety profile of the AstraZeneca vaccine. Methods: The breakthrough COVID-19 infection rate was defined as a positive polymerase chain reaction test 14 days after the vaccine dose. Safety was assessed as local reactions and systemic events that occurred within 14 days of receiving vaccine doses. Results: The average age of the 265 participants was 43.85 years and 169 (63.77%) were male. . After the second dose, 18 (6.71%) participants contracted the infection. The SARS-CoV-2 delta variant was responsible for all infections but no participants required hospitalisation. We found significant correlations between post-vaccination IgG levels and post-vaccination infection (P = 0.001; odds ratio [OR] = 0.959; 95% Confidence interval [CI]: 0.944–0.974), and between a history of previous infection and post-vaccination infection rates (P = 0.005; OR = 0.1; 95%CI:0.009–0.6). IgG levels were significantly higher in women than in men (P = 0.006) and in patients who developed side effects after vaccination than in those without side effects (P = 0.04). A significant association was found between a history of COVID-19 infection prior to vaccination and IgG levels (P = 0.001). Conclusions: The vaccine is effective in preventing severe disease, with few side effects.
Referências	HUSSEIN, N. R. *et al.* A study of SARS-CoV-2 delta variant breakthrough infections and side effects of the Oxford-AstraZeneca vaccine. **Public health in practice**, [United Kingdom], p. 100303, July 31, 2022. DOI: 10.1016/j.puhip.2022.100303. Disponível em: https://www.sciencedirect.com/science/article/pii/S2666535222000799. Acesso em: 5 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2666535222000799/pdf

Título	Tracking SARS-CoV-2 in rivers as a tool for epidemiological surveillance
Autor(es)	María Noel Maidana-Kulesza, Hugo Ramiro Poma, Diego Gastón Sanguino-Jorquera, Sarita Isabel Reyes, María del Milagro Said-Adamo, Juan Martín Mainardi-Remis, Dolores Gutiérrez-Cacciabue, Héctor Antonio Cristóbal, Mercedes Cecilia Cruz, Mónica Aparicio González, Verónica Beatriz Rajal
Resumo	The aim of this work was to evaluate if rivers could be used for SARS-CoV-2 surveillance. Five sampling points from three rivers (AR-1 and AR-2 in Arenales River, MR-1 and MR-2 in Mojotoro River, and CR in La Caldera River) from Salta (Argentina), two of them receiving discharges from wastewater plants (WWTP), were monitored from July to December 2020. Fifteen water samples from each point (75 in total) were collected and characterized physico-chemically and microbiologically and SARS-CoV-2 was quantified by RT-qPCR. Also, two targets linked to human contributions, human polyomavirus (HPyV) and RNase P, were quantified and used to normalize SARS-CoV-2 concentration, which was compared to reported COVID-19 cases. Statistical analyses allowed us to verify the correlation between SARS-CoV-2 and the concentration of fecal indicator bacteria (FIB), as well as to find similarities and differences between sampling points. La Caldera River showed the best water quality; FIBs were within acceptable limits for recreational activities. Mojotoro River's water quality was not affected by the northern WWTP of the city. Instead, Arenales River presented the poorest water quality; at AR-2 was negatively affected by the discharges of the southern WWTP, which contributed to significant increase of fecal contamination. SARS-CoV-2 was found in about half of samples in low concentrations in La Caldera and Mojotoro Rivers, while it was high and persistent in Arenales River. No human tracers were detected in CR, only HPyV was found in MR-1, MR-2 and AR-1, and both were quantified in AR-2. The experimental and normalized viral concentrations strongly correlated with reported COVID-19 cases; thus, Arenales River at AR-2 reflected the epidemiological situation of the city. This is the first study showing the dynamic of SARS-CoV-2 concentration in an urban river highly impacted by wastewater and proved that can be used for SARS-CoV-2 surveillance to support health authorities.
Referências	MAIDANA-KULESZA, M. N. *et al.* Tracking SARS-CoV-2 in rivers as a tool for epidemiological surveillance. **Science of the total environment**, [Netherlands], v. 848, p. 157707, November 20, 2022. DOI: 10.1016/j.scitotenv.2022.157707. Disponível em: https://www.sciencedirect.com/science/article/pii/S0048969722048069. Acesso em: 5 ago. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0048969722048069/pdf

Título	COVID-19 preventive measures coincided with a marked decline in other infectious diseases in Denmark, spring 2020
Autor(es)	Rikke Thoft Nielsen, Tine Dalby, Hanne-Dorthe Emborg, Anders Rhod Larsen, Andreas Petersen, Mia Torpdahl, Steen Hoffmann, Lasse Skafte Vestergaard, Palle Valentiner-Branth
Resumo	We aimed to descriptively analyse the possible impact of the national COVID-19 interventions on the incidence of common infectious diseases in Denmark during spring and summer 2020. This observational study focused on national register data on infections caused by 16 different bacterial and viral pathogens. We included new cases registered between 1 January 2016 and 31 July 2020. The weekly number of new cases were analysed with respect to the COVID-19-related interventions introduced during 2020. We found a marked decrease in infections associated with droplet transmission coinciding with the COVID-19 interventions in spring and summer 2020. These included decreases in both viral and bacterial airway infections and also decreases in invasive infections caused by Streptococcus pneumoniae, Haemophilus influenzae and Neisseria meningitidis. There was also a reduction in cases associated with foodborne transmission during the COVID-19 lockdown period. We found no effect of the lockdown on infections by invasive beta-haemolytic streptococci group B, C and G, Staphylococcus aureus bacteraemia, Neisseria gonorrhoeae or Clostridioides difficile. In conclusion, we found that the widespread interventions such as physical distancing, less travel, hygiene measures and lockdown of schools, restaurants and workplaces together coincided with a marked decline in respiratory infections

	and, to a smaller extent, some foodborne-transmitted infections.
Referências	NIELSEN, R. T. et al. COVID-19 preventive measures coincided with a marked decline in other infectious diseases in Denmark, spring 2020. Epidemiology and infection, [United Kingdom], v. 150, July 28, 2022. DOI: 10.1017/S0950268822001145. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/covid19-preventive-measures-coincided-with-a-marked-decline-in-other-infectious-diseases-in-denmark-spring-2020/714DC1157E67E25F3500892C388B4EEF. Acesso em: 29 jul. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/714DC1157E67E25F3500892C388B4EEF/S0950268822001145a.pdf

Título	Antibody titers after a third and fourth SARS-CoV-2 BNT162b2 vaccine dose in older adults
Autor(es)	Noa Eliakim-Raz, Amos Stemmer, Nassem Ghantous, Asaf Ness, Muhammad Awwad, Yaara Leibovici-WeismanSalomon M. Stemmer
Resumo	At the beginning of the fifth SARS-CoV-2 wave in Israel, with the B.1.1.529 (Omicron) variant, the effectiveness of the third SARS-CoV-2 BNT162b2 vaccine (Pfizer-BioNTech) against Omicron was questioned. During the fifth wave, in January 2022, the Israeli Ministry of Health authorized a fourth BNT162b2 dose for individuals aged 60 years or older (a third dose was authorized for such individuals in July 2021, during the fourth SARS-CoV-2 wave). This study, which is an extension of a prior study, compared the response to the third and fourth BNT162b2 vaccine doses among individuals aged 60 years or older by evaluating antispike (anti-S) immunoglobulin G (IgG) antibody titers before and after each dose. This population is at high risk of developing severe SARS-CoV-2 disease and was the first to receive authorization for a third and fourth vaccine dose. […]
Referências	ELIAKIM-RAZ, N. *et al.* Antibody titers after a third and fourth SARS-CoV-2 BNT162b2 vaccine dose in older adults. **JAMA network open**, [United States], v. 5, n. 7, p. e2223090, July 21, 2022. DOI: 10.1001/jamanetworkopen.2022.23090. Disponível em: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2794465. Acesso em: 29 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2794465

Título	Uncertainties about the optimal timing of fourth dose of COVID-19 vaccines
Autor(es)	Joshua Nealon, Benjamin J. Cowling
Resumo	Many people may wish to forget the level of societal and health care disruption, fear, and illness caused by SARS-CoV-2 before vaccines were available, when the only tools available to protect ourselves were incompatible with the lives we wished to lead. After effective vaccines became available, long lines formed in many countries of residents seeking their first and second doses, which protected the most vulnerable members of society from the most severe disease outcomes and thereby allowed social and professional activities to restart more freely without fear of those interactions causing unacceptable levels of societal harm. Subsequently, gradual reductions in observed vaccine-derived protection, particularly against milder end points of COVID-19, were observed approximately 5 to 6 months after the end of the vaccine primary series. In a bid to preserve effectiveness in the midst of emerging variants and waning immunity, third and even fourth “booster” dose vaccinations have been implemented in some countries. Booster doses restore protection against infection back to higher levels and incrementally improve protection against severe COVID-19, but frequent booster vaccinations are expensive, inconvenient, and possibly inefficient. The optimal timing of booster vaccinations is therefore a priority unanswered question for vaccine developers and policy makers alike, aiming to develop and implement vaccination programs that protect people most efficiently as we transition to endemic COVID-19. […]
Referências	NEALON, J.; COWLING, B. J. Uncertainties about the optimal timing of fourth dose of COVID-19 vaccines. **JAMA network open**, [United States], v. 5, n. 7, p. e2223096, July 21, 2022. DOI: 10.1001/jamanetworkopen.2022.23096. Disponível em: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2794466. Acesso em: 29 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2794466

Título	Vaccine effectiveness of one, two, and three doses of BNT162b2 and CoronaVac against COVID-19 in Hong Kong: a population-based observational study
Autor(es)	Martina E McMenamin, Joshua Nealon, Yun Lin, Jessica Y Wong, Justin K Cheung, Eric H Y Lau, Peng Wu, Gabriel M Leung, Benjamin J Cowling
Resumo	Hong Kong maintained low circulation of SARS-CoV-2 until a major community epidemic of the omicron (B.1.1.529) sublineage BA.2 began in January, 2022. Both mRNA (BNT162b2 [Fosun Pharma-BioNTech]) and inactivated CoronaVac (Sinovac, Beijing, China) vaccines are widely available; however, vaccination coverage has been low, particularly in older adults aged 70 years or older. We aimed to assess vaccine effectiveness in this predominantly infection-naive population. Methods: In this observational study, we used individual-level case data on mild or moderate, severe or fatal, and fatal disease in patients hospitalised with COVID-19 along with census information and coverage data of BNT162b2 and CoronaVac. We used a negative binomial model, adjusting for age, sex, and calendar day to estimate vaccine effectiveness of one, two, and three doses of both BNT162b2 and CoronaVac vaccines, and relative effectiveness by number of doses and vaccine type. Findings: Between Dec 31, 2020, and March 16, 2022, 13·2 million vaccine doses were administered in Hong Kong's 7·4-million population. We analysed data from confirmed cases with mild or moderate (n=5566), severe or fatal (n=8875), and fatal (n=6866) COVID-19. Two doses of either vaccine protected against severe disease and death within 28 days of a positive test, with higher effectiveness among adults aged 60 years or older with BNT162b2 (vaccine effectiveness 89·3% [95% CI 86·6–91·6]) compared with CoronaVac (69·9% [64·4–74·6]). Three doses of either vaccine offered very high levels of protection against severe or fatal outcomes (97·9% [97·3–98·4]). Interpretation Third doses of either BNT162b2 or CoronaVac provide substantial additional protection against severe COVID-19 and should be prioritised, particularly in older adults older than 60 years and others in high-risk populations who received CoronaVac primary schedules. Longer follow-up is

	needed to assess duration of protection across different vaccine platforms and schedules. Funding COVID-19 Vaccines Evaluation Program, Chinese Center for Disease Control and Prevention.
Referências	MCMENAMIN, M. E. *et al.* Vaccine effectiveness of one, two, and three doses of BNT162b2 and CoronaVac against COVID-19 in Hong Kong: a population-based observational study. **The Lancet Infectious diseases**, [United Kingdom], v. 0, n. 0, July 15, 2022. DOI: 10.1016/S1473-3099(22)00345-0. Disponível em: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00345-0/fulltext. Acesso em: 29 jul. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S1473-3099%2822%2900345-0

Título	Of masks and methylene blue: the use of methylene blue photochemical treatment to decontaminate surgical masks contaminated with a tenacious small nonenveloped norovirus
Autor(es)	Constance Wielic, Allyson Fries, Lorène Dams, Ravo M. Razafimahefa, Belinda Heyne, Brian H. Harcourt, Thomas S. Lendvay, Jean-François Willaert, Simon de Jaeger, Eric Haubruge, Etienne Thiry, Louisa F. Ludwig-Begall
Resumo	In the context of the SARS-CoV-2 pandemic, reuse of personal protective equipment, specifi- cally that of medical face coverings, has been recommended. The reuse of these typically single-use only items necessitates procedures to inactivate contaminating human respiratory and gastrointestinal pathogens. We previously demonstrated decontamination of surgical masks and respirators contaminated with infectious SARS-CoV-2 and various animal coronaviruses via low concentration- and short exposure methylene blue photochemical treatment (10 mM methylene blue, 30 minutes of 12,500-lux red light or 50,000 luxwhite light exposure). Methods: Here, we describe the adaptation of this protocol to the decontamination of a more resistant, nonenveloped gastrointestinal virus and demonstrate efficient photodynamic inactivation of murine norovirus, a human norovirus surrogate. Results: Methylene blue photochemical treatment (100 mM methylene blue, 30 minutes of 12,500-lux red light exposure) of murine norovirus-contaminated masks reduced infectious viral titers by over four orders of magnitude on surgical mask surfaces. Discussion and Conclusions: Inactivation of a norovirus, the most difficult to inactivate of the respiratory and gastrointestinal human viruses, can predict the inactivation of any less resistant viral mask contaminant. The protocol developed here thus solidifies the position of methylene blue photochemical decontamination as an important tool in the package of practical pandemic preparedness.
Referências	WIELICK, C. *et al.* Of masks and methylene blue: the use of methylene blue photochemical treatment to decontaminate surgical masks contaminated with a tenacious small nonenveloped norovirus. **American journal of infection control**, [United States], v. 50, n. 8, WHO Special issue: Personal protective equipment research and innovation in the context of the World Health Organization COVID-19 R&D Blueprint program, p. 871–877, August 1, 2022. DOI: 10.1016/j.ajic.2022.01.024. Disponível em: https://www.sciencedirect.com/science/article/pii/S019665532200061X. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S019665532200061X/pdf

Título	Methylene blue in combination with sunlight as a low cost and effective disinfection method for coronavirus-contaminated PPE
Autor(es)	Kevin A. Vos, Paul M.K. Gordon, Belinda Heyne
Resumo	Using the Murine Hepatitis Virus (MHV) A59 coronavirus as a SARS-CoV-2 animal surrogate, we validated that methylene blue (MB) in combination with sunlight exposure is a robust, fast, and low-cost decontamination method for PPE that should be added to the toolbox of practical pandemic preparedness.
Referências	VOS, K. A.; GORDON, P. M. K.; HEYNE, B. Methylene blue in combination with sunlight as a low cost and effective disinfection method for coronavirus-contaminated PPE. **American journal of infection control**, [United States], v. 50, n. 8, WHO Special issue: Personal protective equipment research and innovation in the context of the World Health Organization COVID-19 R&D Blueprint program, p. 906–908, August 1, 2022. DOI: 10.1016/j.ajic.2022.01.024. Disponível em: https://www.sciencedirect.com/science/article/pii/S0196655322001006. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0196655322001006/pdf

Título	Persistent symptoms, quality of life and risk factors in long COVID: a cross-sectional study of hospitalized patients in Brazil
Autor(es)	Jacqueline Ferreira de Oliveira, Renata Eliane de Ávila, Neimy Ramos de Oliveira, Natália da Cunha Severino Sampaio, Maiara Botelho, Fabíola Araújo Gonçalves, Cirilo Neto, Ana Carolina de Almeida Milagres, Tatiane Cristina Caldeira Gomes, Tássia Lopardi Pereira, Renan Pedra de Souza, Israel Molina Romero
Resumo	COVID-19 has been associated with long-term consequences to patient wellness and quality of life. Data on post-COVID conditions are scarce in developing countries. The aim of this study was to investigate long COVID in a cohort of hospitalized patients in Brazil. Methods: Survival patients discharged from hospital between July 1, 2020 to March 31 2021, were assessed between 2 and 12 months after acute onset of COVID-19. The outcomes were the prevalence of persistent symptoms, the risk factors associated with long COVID and quality of life applying the EuroQol 5D-3L questionnaire. Results: Of 439 participants, most (84%) reported at least one long COVID symptom, in a median of 138 days (IR:90-201) after disease onset. Fatigue (63.4%), dyspnea (53.7%), arthralgia (56.1%) and depression/anxiety (53.9%) were the most prevalent symptoms. In multivariate analysis, dysgeusia (OR:2.0; 95%CI: 1.18-3.44, p<0.001) and ICU admission (OR: 2.6; 95%CI:1.19-6.56, p 0.03) were independently associated with long COVID.50% of the patients reported a worse clinical condition and quality of life. Conclusions: Longer-term outcomes of SARS-CoV-2 in a low-middle-income country were relevant. Fatigue was the most common persistent symptom. ICU admission was an independent factor associated with long COVID. Dysgeusia could be a potential predictor of long COVID.
Referências	OLIVEIRA, J. F. de *et al.* Persistent symptoms, quality of life and risk factors in long COVID: a cross-sectional study of hospitalized patients in Brazil. **International journal of infectious diseases**, [Netherlands], July 28, 2022. DOI: 10.1016/j.ijid.2022.07.063. Disponível em: https://www.sciencedirect.com/science/article/pii/S1201971222004581. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1201971222004581/pdf

Título	COVID-19 and organisational resilience in Brazil's water sector
Autor(es)	Karen Tavares Zambrano, Maryam Imani, Davi Gasparini Fernandes Cunha
Resumo	The COVID-19 pandemic required a wide range of adaptations to the way that water sector operated globally. This paper looks into the impact of the COVID-19 pandemic on Brazilian water sector and evaluates the water sector's organisational resilience from the lens of water professionals. This study uses British Standard (BS 65000:2014)'s Resilience Maturity Scale method to evaluate organisational resilience in water sector under two defined scenarios of before and during the pandemic. For this purpose, the self-assessment framework developed by Southern Water in the United Kingdom (based on BS 65000:2014), comprising of the core resilience elements of Direction, Awareness, Alignment, Learning, Strengthening, and Assurance, are used for evaluations. A qualitative-quantitative surveying method is used for data collection. A total of 14 responses to the whole questionnaire were received from May 2021 to August 2021, each representing one water company in Brazil (four local companies and ten state-owned ones). The analyses identified COVID-19 as a threat multiplier particularly to already existing financial challenges due to the pre-existing threats in water sector. Bad debt and the COVID-19 emergency measures are recognised as the main challenges by 21 % and 14 % of the survey respondents. The state-owned and local companies scored an almost similar maturity level 3, 35 % and 34 % respectively, while the local companies scored much lower at maturity level 4 i.e., 26 % as opposed to 47 % in state-owned sector. This indicates that COVID-19 has a greater impact on local companies and the needs to increase preparedness. This study replicates an international experience to raise awareness on water sector's resiliency in Brazil and how it can be improved to withstand future external shocks. It sheds light on how and what existing challenges can be exacerbated facing a global shock and proposes opportunities for improvement of resilience maturity in water sector in Brazil.
Referências	ZAMBRANO, K. T.; IMANI, M.; CUNHA, D. G. F. COVID-19 and organisational resilience in Brazil's water sector. **Science of the total environment**, [Netherlands], p. 157637, July 26, 2022. DOI: 10.1016/j.scitotenv.2022.157637. Disponível em: https://www.sciencedirect.com/science/article/pii/S0048969722047350. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0048969722047350/pdf

Título	Safety and immunogenicity of a SARS-CoV-2 inactivated vaccine (CoronaVac) co-administered with an inactivated quadrivalent influenza vaccine: a randomized, open-label, controlled study in healthy adults aged 18 to 59 years in China
Autor(es)	Wang Shenyu, Duan Xiaoqian, Chen BoDeng Xuan, Wang Zeng, Zhang Hangjie, Zheng Qianhui, Liang Zhenzhen, Yan Chuanfu, Yang Juan, Zeng Gang, Lv Huakun
Resumo	Studies are needed for evidence of inactivated COVID-19 vaccine co-administered with influenza vaccine. Methods: A randomized, open-label, controlled study was conducted in Zhejiang Province, China. Eligible healthy adults aged 18–59 years underwent randomization at a ratio of 1:1:2 to receive inactivated quadrivalent influenza vaccine (IIV4) either concomitantly with the first (C1 subgroup) or the second (C2 subgroup) dose of CoronaVac, or 14 days after the first dose of CoronaVac (S group). The primary purpose of the study was to prove the non-inferiority in seroconversion rate of antibody against SARS-CoV-2. Results: Overall, 480 participants were enrolled, with 120, 120, and 240 randomly assigned to the C1, C2, and S groups, respectively. As lower bound of the two-sided 95% confidence interval (CI) of the difference for the seroconversion rate of antibodies against SARS-CoV-2 was over -10%, the immune response for CoronaVac in the C group (93.1% [89.0, 96.0]) was non-inferior to that in the S group (95.2% [91.5, 97.6]) in the per-protocol set. A lower GMT of antibody against SARS-CoV-2 was observed in the C group as compared to the S group (27.5 vs. 38.1, P=0.0001). Decrease of immune response to CoronaVac was mainly observed in participants received IIV4 concomitantly with their second dose of CoronaVac (C2 subgroup), with a seroconversion rate of 89.7% (95CI: 82.6%-94.5%) and a GMT of 23.3. The occurrences of vaccine related adverse reactions were no more than 20% and comparable among different groups. Most of the adverse reactions were mild and moderate. Conclusion: Co-administration of inactivated COVID-19 vaccine and seasonal influenza vaccine, especially the administration regimen that the seasonal influenza vaccine co-administered with the first dose of the inactivated COVID-19 vaccine, would be feasible.
Referências	SHENYU, W. *et al.* Safety and Immunogenicity of a SARS-CoV-2 inactivated vaccine (CoronaVac) co-administered with an inactivated quadrivalent influenza vaccine: a randomized, open-label, controlled study in healthy adults aged 18 to 59 years in China. **Vaccine**, [United Kingdom], July 26, 2022. DOI: 10.1016/j.vaccine.2022.07.021. Disponível em: https://www.sciencedirect.com/science/article/pii/S0264410X22009082. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0264410X22009082/pdf

Título	Investigating COVID-19 transmission and mortality differences among indigenous and non-indigenous populations in Mexico
Autor(es)	Sushma Dahal, Svenn-Erik Mamelund, Ruiyan Luo, Lisa Sattenspiel, Shannon Self-Brown, Gerardo Chowell
Resumo	Indigenous populations have been disproportionately affected during pandemics. We investigated COVID-19 mortality estimates among Indigenous and non-Indigenous populations at national and sub-national levels in Mexico. Methods: We obtained data from the Ministry of Health of Mexico on 2,173,036 laboratory-confirmed RT-PCR positive COVID-19 cases and 238,803 deaths. We estimated mortality per 1000-person weeks, mortality rate ratio among Indigenous vs. non-Indigenous groups (RR), and hazard ratio (HR) for COVID-19 deaths across four waves from February 2020 to March 2022. We also assessed differences in the reproduction number (Rt). Results: The mortality rate among Indigenous populations of Mexico was 68% higher than that of non-Indigenous groups. Out of 32 federal entities, 23 exhibited higher mortality rates among Indigenous groups (P<0.05 in 13 entities). The fourth wave showed the highest RR (2.40). The crude HR was 1.67 (95% CI: 1.62, 1.72), which decreased to 1.08 (95% CI: 1.04, 1.11) after controlling for other covariates. During the intense fourth wave, the Rt among the two groups was comparable. Conclusion: Indigenous status is a significant risk factor for COVID-19 mortality in Mexico. Our findings may reflect disparities in non-pharmaceutical (e.g., handwashing and using facemasks) and COVID-19 vaccination interventions among Indigenous and non-Indigenous populations in Mexico.
Referências	DAHAL, S. *et al.* Investigating COVID-19 transmission and mortality differences among indigenous and non-indigenous populations in Mexico. **International journal of infectious diseases**, [Netherlands], July 26, 2022. DOI: 10.1016/j.ijid.2022.07.052. Disponível em: https://www.sciencedirect.com/science/article/pii/S1201971222004477. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1201971222004477/pdf

Título	Assessment of best-selling respirators and masks: do we have acceptable respiratory protection for the next pandemic?
Autor(es)	Omar Chaaban, Jo Anne G. Balanay, Sinan Sousan
Resumo	COVID-19 pandemic caused a high demand for respiratory protection, caused a scarcity of approved respirators and the production of alternative respiratory protection. To raise public awareness through the scientific community, bestselling respirators and masks in the United States leading online retailer, Amazon.com, were evaluated. Methods: Ten respirators and masks, 5 Face Protective Equipment (FPE) and 5 Cloth Face Masks (CFMs), were evaluated compared to the N95 standard. Two groups were established with the intention of comparing all masks together. The fractional efficiency and pressure drop were measured and compared to the National Institute for Occupational Safety and Health (NIOSH) standards. In addition, grading factors for protection, comfort, and affordability were developed that can be used by the scientific community to readily disseminate to consumers for the selection of the appropriate respiratory protection. Results: Two FPE provided acceptable efficiency (>95%) similar to the N95, while the remaining products were below or extremely below NIOSH standards. All products provided pressure drops within NIOSH standards (≤35 mmH20) ranging from 2.3-10.3 mmH20. The grading factors show that the CFMs have minimal protection, and the N95 has average comfort and affordability compared to all the products. Conclusion: The N95 remains the best respiratory protection, and in the event of the next airborne pandemic, FPEs could serve as adequate alternative protection against the viral spread.
Referências	CHAABAN, O.; BALANAY, J. A. G.; SOUSAN, S. Assessment of best-selling respirators and masks: Do we have acceptable respiratory protection for the next pandemic?. **American journal of infection control**, [United States], July 25, 2022. DOI: 10.1016/j.ajic.2022.06.024. Disponível em: https://www.sciencedirect.com/science/article/pii/S0196655322005363. Acesso em: 29 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0196655322005363/pdf

Título	Innate immunity to SARS-CoV-2 infection: a review
Autor(es)	Marcos Jessé Abrahão Silva, Yan Corrêa Rodrigues, Karla Valéria Batista Lima, Luana Nepomuceno Gondim Costa Lima
Resumo	The SARS-CoV-2 virus pandemic, first notified in China, has spread around the world causing high morbidity and mortality, which is due to factors such as the subversion of the immune response. The aims of the study are to summarize and present the immunopathological relationship of COVID-19 with innate immunity. This is a systematic review conducted by the National Library of Medicine - National Institutes of Health, USA (PUBMED), Latin American and Caribbean Literature on Health Sciences (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Scientific Electronic Library Online (SCIELO) databases with clinical trials, in vitro assays, case-controls, cohort studies, systematic reviews and meta-analyses between February 2020 and July 2021. The version 2 of the Cochrane risk-of-bias tool for RCTs (RoB 2), Joana Briggs Institute (JBI) Critical Appraisal (for the review articles) and the Risk of Bias in Non-randomized Studies of Interventions (ROBINS-I) tools were used to evaluate the quality and the risk of bias of the studies included in this review. The innate immune response through the generation of interferons (IFNs), alternative pathways and complement system lectins and the joint action of innate immune cells and cytokines and chemokines lead to different clinical outcomes, taking into account the exacerbated inflammatory response and pathogenesis. Then, in addition to interacting as a bridge for adaptive immunity, the innate immune response plays an essential role in primary defense and is one of the starting points for immune evasion by SARS-CoV-2.
Referências	SILVA, M. J. A. et al. Innate immunity to SARS-CoV-2 infection: a review. Epidemiology and infection, [United Kingdom], p. 1–49, July 18, 2022. DOI: 10.1017/S095026882200125X. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/innate-immunity-to-sarscov2-infection-a-review/029C907BB6B3927A6AB00315707C4F59. Acesso em: 22 jul. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/029C907BB6B3927A6AB00315707C4F59/S095026882200125Xa.pdf/innate-immunity-to-sars-cov-2-infection-a-review.pdf

Título	Moraxella occupied the largest proportion in the nasal microbiome in healthy children, which potential protect them from COVID-19
Autor(es)	Xia Yu, Li Wang, XueMei Zheng, Yizhou Wen, Zhirong Zhang, Lingxia Fan, Qin Zhou, Xiao Yang, Binqian Xue, Yonghong Lin
Resumo	In the prevalence of COVID-19, infection symptoms are different in children and adults. In this study to investigate the differences in the upper respiratory tract microbiome profile between healthy children and adults and to explore which microbiome protect them from COVID-19. Methods: Thirty healthy children and 24 healthy adults were enrolled between October 2020 and January 2021. Nasal and throat swabs were obtained at enrollment, and DNA was extracted. We performed 16S rDNA sequencing to compare the alpha and beta diversity of the nasal and throat microbiomes between children and adults and assessed potential microbiome biomarkers. Results: In the nasal icrobiome, there were significant differences between healthy children and adults, and Moraxella occupied the largest proportion in healthy children. Notably, there was no significant difference between healthy children and adults in the throat microbiome, and it was predominated by Firmicutes. In the function analysis, compared with adults, there was increased enrichment in pathways related to amino acid metabolism and lipid metabolism, in children. Conclusions: In the upper respiratory tract microbiome profiles, Moraxella may be involved in protecting children from COVID-19 infections and may be involved the amino acid metabolism and lipid metabolism.
Referências	XIA, Y. *et al.* Moraxella occupied the largest proportion in the nasal microbiome in healthy children, which potential protect them from COVID-19. **Microbial pathogenesis**, [Netherlands], p. 105685, July 21, 2022. DOI: 10.1016/j.micpath.2022.105685. Disponível em: https://www.sciencedirect.com/science/article/pii/S0882401022002984. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0882401022002984/pdf

Título	SARS-CoV-2 incidence, signs and symptoms and main risk factors for COVID-19 infection in health care workers: a hospital-wide survey in Salvador, Brazil
Autor(es)	Iris Montanõ-Castellón, Liliane Lins-Kusterer, Estela Luz, Celia Pedroso, Márcia Paz, Carlos Brites
Resumo	Brazil is the third country most affected by Coronavirus Disease 2019 (COVID-19) in the world. Health care workers (HCWs) are at higher risk of infection. Despite the increasing numbers of studies on the topic, There are gaps in the knowledge of characteristics and risk factors for infection of HCWS. This information is important to design preventive strategies and to mitigate the disease impact. The objective of this study was to estimate the incidence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, to identify factors associated, and to describe symptoms reported by healthcare workers at a tertiary hospital in Salvador, Brazil. Methods: All HCWs were evaluated in a cross-sectional study conducted between May and September 2020, using self-administered questionnaires, and screening all participants for SARS-COV-2 IgG and IgM antibodies by rapid tests. Reactive IgG samples were retested by ELISA and IgM-positive test had a saliva sample retest by RT-PCR. Univariate associations were estimated by a non-adjusted incidence proportion ratio. Variables associated with COVID-19 incidence at $p < 0.20$ were selected for inclusion in a binary logistic regression model. Results: A total of 2083 HCWs were included, mean age 41±10 years, 71.8% women, and 77.8% non-white. Of these, 271 (13.0%) and 25 (1.2%) HCWs tested positive for IgG and IgM SARS-CoV-2 antibodies, respectively, and three had a positive RT-PCR. Ancillary work [Odds Ratio (OR): 4.96], elementary education (OR: 2.91), high school education (OR: 2.89), and catholic religion (OR: 2.16) were associated with an increased likelihood of a positive IgG antibodies against SARS-CoV-2. Anosmia [Incidence Proportion Ratio (IPR): 7.41] and ageusia (IPR:8.51) were the most frequent associated symptoms. Conclusion: HCWs with low mean family income, lower level of schooling or being black had a significantly higher likelihood of

	testing positive for SARS-CoV-2 antibodies. Social vulnerability was an important risk factor for COVID-19 infection.
Referências	MONTAÑO-CASTELLÓN, I. *et al.* SARS-CoV-2 incidence, signs and symptoms and main risk factors for COVID-19 infection in health care workers: a hospital-wide survey in Salvador, Brazil. **The Brazilian journal of infectious diseases**, [Brazil], p. 102387, July 21, 2022. DOI: 10.1016/j.bjid.2022.102387. Disponível em: https://www.sciencedirect.com/science/article/pii/S1413867022000745. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1413867022000745/pdf

Título	Gamma variant vertically transmitted from a mild symptomatic pregnant woman associated with fatal neonatal COVID
Autor(es)	Walusa Assad Goncalves-Ferri, Cristina Galdonyi Carvalheiro, Marisa Marcia Mussi-Pinhata, Bruna Pinto Dias Cavasin, Benedito Antonio Lopes da Fonseca
Resumo	Herein we describe a mild symptomatic real-time reverse transcriptase- polymerase chain reaction-confirmed coronavirus 2 (SARS-CoV-2) infection in a pregnant woman who gave birth to a preterm infant, 32 weeks gestational age. The neonate was immediately isolated after delivery and developed severe respiratory disease that progressed to multisystem inflammatory syndrome and death on the seventh day of life. Genome sequencing detected the P.1 (gamma) variant in samples obtained at hospital admission (mother) and on the first (10h) and 13th days of life (neonate). Complete homology (mother's and newborn's sequences) confirmed vertical transmission. To our knowledge, this is the first report of vertically-transmitted SARS-CoV-2 P.1 (gamma) variant in a mild symptomatic infection in pregnancy associated with fatal COVID in a neonate.
Referências	GONÇALVES-FERRI, W. A. *et al.* Gamma variant vertically transmitted from a mild symptomatic pregnant woman associated with fatal neonatal COVID. **The Brazilian journal of infectious diseases**, [Brazil], v. 26, n. 4, p. 102385, July 21, 2022. DOI: 10.1016/j.bjid.2022.102385. Disponível em: https://www.sciencedirect.com/science/article/pii/S1413867022000721. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1413867022000721/pdf

Título	Delineating COVID-19 immunological features using single-cell RNA sequencing
Autor(es)	Wendao Liu, Johnathan Jia, Yulin Daí, Wenhao Chen, Guangsheng Pei, Qiheng Yan, Zhongming Zhao
Resumo	Understanding the molecular mechanisms of COVID-19 pathogenesis and immune response is vital for developing therapies. Single-cell RNA sequencing has been applied to delineate the cellular heterogeneity of the host response towards COVID-19 in multiple tissues and organs. Here, we review the applications and findings from over 80 original COVID-19 single-cell RNA sequencing studies as well as many secondary analysis studies. We describe that single-cell RNA sequencing reveals multiple features of COVID-19 patients with different severity, including cell populations with proportional alteration, COVID-19 induced genes and pathways, SARS-CoV-2 infection in single cells, and adaptation of immune repertoire. We also collect published single-cell RNA sequencing datasets from original studies. Finally, we discuss the limitations in current studies and perspectives for future advance.
Referências	WENDAO, L. *et al.* Delineating COVID-19 immunological features using single-cell RNA sequencing. **The Innovation**, [United States], p. 100289, July 21, 2022. DOI: 10.1016/j.xinn.2022.100289. Disponível em: https://www.sciencedirect.com/science/article/pii/S2666675822000856. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2666675822000856/pdf

Título	Clinical comparison and agreement of pcr, antigen, and viral culture for the diagnosis of COVID-19: clinical agreement between diagnostics for COVID19
Autor(es)	Amanda Agard, Omar Elsheikh, Drew Bell, Ryan Relich, Bryan Schmitt, Josh Sadowski, William Fadel, Douglas H. Webb, Lana Dbeibo, Kristen Kelley, Mariel Carozza, Guang-Shen Lei, Paul Calkins, Cole Beeler
Resumo	The aim of this study is to compare the COVID-19 nasopharyngeal PCR (NP PCR) to antigen, nasal PCR, and viral culture. One-hundred-and-fourteen risk-stratified patients were tested by culture, nasal PCR, NP PCR, and Ag testing. Twenty (48%) of the high risk and 23 (32%) of the low risk were NP PCR positive. Compared with NP PCR, the sensitivity of nasal PCR, Sofia Ag, BinaxNOW Ag, and culture were 44%, 31%, 37%, and 15%. In the high risk group, the sensitivity of these tests improved to 71%, 37%, 50%, and 22%. Agreement between tests was highest between nasal PCR and both antigen tests. Patients who were NP PCR positive but antigen negative were more likely to have remote prior COVID-19 infection ($p<0.01$). Nasal PCR and antigen positive patients were more likely to have symptoms ($p = 0.01$).
Referências	AGARD, A. *et al.* Clinical comparison and agreement of pcr, antigen, and viral culture for the diagnosis of COVID-19: clinical agreement between diagnostics for COVID19. **Journal of clinical virology plus**, [United Kingdom], p. 100099, July 21, 2022. DOI: 10.1016/j.jcvp.2022.100099. Disponível em: https://www.sciencedirect.com/science/article/pii/S2667038022000382. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2667038022000382/pdf

Título	An assessment of post-COVID-19 infection pulmonary functions in healthcare professionals
Autor(es)	Pınar Yıldız Gülhan, Peri Meram Arbak, Ali Nihat Annakkaya, Ege Güleç Balbay, Öner Abidin Balbay
Resumo	The medium- and long-term effects of COVID-19 infection on pulmonary function are still unknown. The present study aimed to investigate the pulmonary functions in healthcare professionals who had persistent complaints after contracting COVID-19 and returning to work. Methods: The study included COVID-19-infected healthcare professionals from the Düzce University Medical Faculty Hospital who volunteered to participate. Medical histories, medical records, pulmonary function tests, the diffusing capacity of the lungs for carbon monoxide (DLCO) test, and the 6-minute walk test (6MWT) were used to collect data from all participants. Results: The study included 53 healthcare professionals, with an average age of 38 ± 10 years (min: 24 years and max: 71 years), including 29 female (54.7%) and 24 male (45.3%) participants. Of the participants, 22.6% were smokers, 35.8% (19 individuals) had comorbidities, and 17% (9 individuals) were hospitalized. The mean length of stay was 9 ± 4 days (mean ± standard deviation). The most prevalent symptoms were weakness (88.7%), muscle aches (67.9%), inability to smell/taste (60.4%), headache (54.7%), fever (45.3%), cough (41.5%), and shortness of breath (37.7%). The mean time to return to work after a positive polymerase chain reaction (PCR) test for COVID-19 was 18 ± 13 days. The average time among post-disease pulmonary function, 6MW, and DLCO tests was 89 ± 36 days (min: 15 and max: 205). The DLCO level decreased in 39.6% (21) of the participants. Female participants had a significantly higher rate of decreased DLCO levels than male participants (25% vs. 55.2%, p = 0.026). DLCO levels were significantly higher in participants with long-term persistent complaints (p = 0.043). The later the time to return to work, the lower the DLCO value (r = −0.290 and p = 0.035). The 6MWT distance was positively correlated with hemoglobin and lymphocyte levels at the time of the disease onset and negatively correlated with D-dimer levels. The most prevalent symptoms during the

	control visits were shortness of breath/effort dyspnea (24.6%), weakness (9.5%), and muscle aches (7.6%). Conclusion: Significant persistent complaints (47.2%) and low DLCO levels (39.6%) were observed in healthcare professionals during control visits at a mean time of 3 months after the COVID-19 infection. Symptoms and spirometry measurements, including DLCO, may be helpful in the follow-up of healthcare professionals who contracted COVID-19. Further comprehensive studies with long-term follow-up periods are required.
Referências	GÜLHAN, P. Y. *et al.* An assessment of post-COVID-19 infection pulmonary functions in healthcare professionals. **American journal of infection control**, [United States], July 20, 2022. DOI: 10.1016/j.ajic.2022.07.003. Disponível em: https://www.sciencedirect.com/science/article/pii/S019665532200534X. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S019665532200534X/pdf

Título	Gastrointestinal prophylaxis for COVID-19: an illustration of severe bias arising from inappropriate comparators in observational studies
Autor(es)	Kueiyu Joshua Lin, William B. Feldman, Shirley Wang, Siddhi Pramod Pramod Umarje, Elvira D'Andrea, Helen Tesfaye, Luke E. Zabotka, Jun Liu, Rishi J. Desai
Resumo	We aimed to use setting-appropriate comparisons to estimate effects of different gastrointestinal (GI) prophylaxis pharmacotherapies for patients hospitalized with COVID-19 and setting-inappropriate comparisons to illustrate how improper design choices could result in biased results. Study Design and Setting: We identified 3,804 hospitalized patients aged ≥18 years with COVID-19 from Mar-Nov 2020. We compared the effects of different gastroprotective agents on clinical improvement of COVID-19 measured by a published severity scale. We used propensity-score-based fine-stratification for confounding adjustment. Based on guidelines, we pre-specified comparisons between agents with clinical equipoise and inappropriate comparisons of users vs. non-users of GI prophylaxis in the intensive care unit (ICU). Results: No benefit was detected when comparing oral famotidine to omeprazole in patients treated in the general ward or ICUs. We also found no associations when comparing intravenous (IV) famotidine to IV pantoprazole. For inappropriate comparisons of users vs. non-users in the ICU, the probability of improvement was reduced by 34 to 43% in famotidine users and 18 to 47% in omeprazole or pantoprazole users. Conclusion: We found no evidence that GI prophylaxis improved outcomes for patients hospitalized with COVID-19 in setting-appropriate comparisons. Improper comparator choice can lead to spurious associations in critically ill patients.
Referências	LIN, K. J. *et al.* Gastrointestinal prophylaxis for COVID-19: an illustration of severe bias arising from inappropriate comparators in observational studies. **Journal of clinical epidemiology**, [United States], July 20, 2022. DOI: 10.1016/j.jclinepi.2022.07.009. Disponível em: https://www.sciencedirect.com/science/article/pii/S0895435622001822. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0895435622001822/pdf

Título	Inactivation methods for human coronavirus 229E on various food-contact surfaces and foods
Autor(es)	Eun Seo Choi, Sangha Han, Jeong won Son, Gyeong Bae Song, Sang-Do Ha
Resumo	Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), the cause of the COVID-19 outbreaks, is transmitted by respiratory droplets and has become a life-threatening viral pandemic worldwide. The aim of this study was to evaluate the effects of different chemical (chlorine dioxide [ClO2] and peroxyacetic acid [PAA]) and physical (ultraviolet [UV]-C irradiation) inactivation methods on various food-contact surfaces (stainless steel [SS] and polypropylene [PP]) and foods (lettuce, chicken breast, and salmon) contaminated with human coronavirus 229E (HCoV-229E). Treatments with the maximum concentration of ClO2 (500 ppm) and PAA (200 ppm) for 5 min achieved >99.9% inactivation on SS and PP. At 200 ppm ClO2 for 1 min on lettuce, chicken breast, and salmon, the HCoV-229E titers were 1.19, 3.54, and 3.97 log10 TCID50/mL, respectively. Exposure (5 min) to 80 ppm PAA achieved 1.68 log10 reduction on lettuce, and 2.03 and 1.43 log10 reductions on chicken breast and salmon, respectively, treated with 1500 ppm PAA. In the carrier tests, HCoV-229E titers on food-contact surfaces were significantly decreased ($p < 0.05$) with increased doses of UV-C (0–60 mJ/cm2) and not detected at the maximum UV-C dose (Detection limit: 1.0 log10 TCID50/coupon). The UV-C dose of 900 mJ/cm2 proved more effective on chicken breast (>2 log10 reduction) than on lettuce and salmon (>1 log10 reduction). However, there were no quality changes ($p > 0.05$) in food samples after inactivation treatments except the maximum PAA concentration (5 min) and the UV-C dose (1800 mJ/cm2).
Referências	EUN, S. C. *et al.* Inactivation methods for human coronavirus 229E on various food-contact surfaces and foods. **Food control**, [United Kingdom], p. 109271, 2022. DOI: 10.1016/j.foodcont.2022.109271. Disponível em: https://www.sciencedirect.com/science/article/pii/S0956713522004649. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0956713522004649/pdf

Título	Antibody responses and SARS-CoV-2 infection after BNT162b2 mRNA booster vaccination among healthcare workers in Japan
Autor(es)	Hidetoshi Igari, Haruna Asano, Shota Murata, Toshihiko Yoshida, Kenji Kawasaki, Takahiro Kageyama, Key Ikeda, Hiromi Koshikawa, Yoshio Okuda, Misao Urushihara, Hitoshi Chiba, Misuzu Yahaba, Toshibumi Taniguchi, Kazuyuki Matsushita, Ichiro Yoshino, Koutaro Yokote, Hiroshi Nakajima
Resumo	Vaccine effectiveness against SARS-CoV-2 infections decreases due to waning immunity, and booster vaccination was therefore introduced. We estimated the anti-spike antibody (AS-ab) recovery by booster vaccination and analyzed the risk factors for SARS-CoV-2 infections. Methods: The subjects were health care workers (HCWs) in a Chiba University Hospital vaccination cohort. They had received two doses of vaccine (BNT162b2) and a booster vaccine (BNT162b2). We retrospectively analyzed AS-ab titers and watched out for SARS-CoV-2 infection for 90 days following booster vaccination. Results: AS-ab titer eight months after two-dose vaccinations had decreased to as low as 587 U/mL (median, IQR (interquartile range) 360-896). AS-ab titer had then increased to 22471 U/mL (15761-32622) three weeks after booster vaccination. There were no significant differences among age groups. A total of 1708 HCWs were analyzed for SARS-CoV-2 infection, and 48 of them proved positive. SARS-CoV-2 infections in the booster-vaccinated and non-booster groups were 1.8% and 4.0%, respectively, and were not significant. However, when restricted to those 20–29 years old, SARS-CoV-2 infections in the booster-vaccinated and non-booster groups were 2.9% and 13.6%, respectively (p = 0.04). After multivariate logistic regression, COVID-19 wards (adjusted odds ratio (aOR):2.9, 95% confidence interval (CI) 1.5–5.6) and those aged 20–49 years (aOR:9.7, 95%CI 1.3–71.2) were risk factors for SARS-CoV-2 infection. Conclusions: Booster vaccination induced the recovery of AS-ab titers. Risk factors for SARS-CoV-2 infection were HCWs of COVID-19 wards and those aged 20–49 years. Increased vaccination coverage, together with implementing infection control, remains the primary means of preventing HCWs from SARS-CoV-2 infection.
Referências	IGARI, H. *et al.* Antibody responses and SARS-CoV-2 infection after BNT162b2 mRNA booster vaccination among healthcare workers in Japan. **Journal of infection and chemotherapy**, [Japan], July 20, 2022. DOI: 10.1016/j.jiac.2022.07.010. Disponível em: https://www.sciencedirect.com/science/article/pii/S1341321X22002069. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1341321X22002069/pdf

Título	Evidence in decision-making in the context of COVID-19 in Latin America
Autor(es)	Victoria Stanford, Lionel Gresh, Joao Toledo,Jairo Mendez, Sylvain Aldighieri, Ludovic Reveiz
Resumo	The pace of the COVID-19 pandemic poses an unprecedented challenge to the evidence-to-decision process. Latin American countries have responded to COVID-19 by introducing interventions to both mitigate the risk of infection and to treat cases. Understanding how evidence is used to inform government-level decision-making at a national scale is crucial for informing country and regional actors in ongoing response efforts. Objectives: This study was undertaken between February-May 2021 and aims to characterise the best available evidence (BAE) and assess the extent to which it was used to inform decision-making in 21 Latin American countries, in relation to pharmaceutical (PI) and non-pharmaceutical interventions (NPI) related to COVID-19, including the use of therapeutics (corticosteroids, hydroxychloroquine/chloroquine and ivermectin), facemask use in the community setting and the use of diagnostic tests as a requirement for international travel. Method: A three-phase methodology was used to; (i) characterise the BAE for each intervention using an umbrella review, (ii) identify government-level decisions for each intervention through a document review and (iii) assess the use of evidence to inform decisions using a novel adapted framework analysis. Findings: The BAE is characterized by 17 living and non-living systematic reviews as evolving, and particularly uncertain for NPIs. 107 country-level documents show variation in both content and timing of decision outcomes across intervention types, with the majority of decisions taken at a time of evidence uncertainty, with only 5 documents including BAE. Seven out of eight key indicators of an evidence-to-decision process were identified more frequently among PIs than either NPI of facemask use or testing prior to travel. Overall evidence use was reported more frequently among PIs than either NPI of facemask use or travel testing (92%, 28% and 29%, respectively). Interpretation: There are limitations in the extent to which evidence use in decision-making is

	reported across the Latin America region. Institutionalising this process and grounding it in existing and emerging methodologies can facilitate the rapid response in an emergency setting. Funding: No funding was sourced for this work.
Referências	STANFORD, V. *et al.* Evidence in decision-making in the context of COVID-19 in Latin America. **The Lancet regional health. Americas**, [United Kingdom], v. 14, p. 100322, October 2022. DOI: 10.1016/j.lana.2022.100322. Disponível em: https://www.sciencedirect.com/science/article/pii/S2667193X22001399. Acesso em: 22 jul. 2022.
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Título	COVID-19 and Indigenous health in the Brazilian Amazon
Autor(es)	Bruno Wichmann, Roberta Wichmann
Resumo	We test whether the COVID-19 pandemic has an ethnicity-differentiated (Indigenous vs non-Indigenous) effect on infant health in the Brazilian Amazon. Using vital statistics data we find that Indigenous infants born during the pandemic are 0.5% more likely to have very low birth weights. Access to health care contributes to health gaps. 13% of mothers travel to deliver their babies. For traveling mothers, having an Indigenous baby during the pandemic increases the probability of very low birth weight by 3%. Indigenous mothers are 7.5% less likely to receive adequate prenatal care. Mothers that travel long distances to deliver their babies and give birth during the pandemic are 35% less likely to receive proper prenatal care. We also find evidence that the pandemic shifts medical resources from rural to urban areas, which disproportionately benefits non-Indigenous mothers. These results highlight the need for policies to reduce health inequalities in the Amazon.
Referências	WICHMANN, B.; WICHMANN, R. COVID-19 and Indigenous health in the Brazilian Amazon. **Economic modelling**, [United Kingdom], p. 105962, July 18, 2022. DOI: 10.1016/j.econmod.2022.105962. Disponível em: https://www.sciencedirect.com/science/article/pii/S0264999322002085. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0264999322002085/pdf

Título	COVID-19 booster dose induces robust antibody response in pregnant, lactating, and nonpregnant women
Autor(es)	Caroline Atyeo, Lydia L. Shook, Nadege Nziza, Elizabeth A. Deriso, Cordelia Muir, Arantxa Medina Baez, Rosiane S. Lima, Stepan Demidkin, Sara Brigida, Rose M. De Guzman, Madeleine D. Burns, Alejandro B. Balazs, Alessio Fasano, Lael M. Yonker, Kathryn J. Gray, Galit Alter, Andrea G. Edlow
Resumo	While emerging data during the SARS-CoV-2 pandemic have demonstrated robust mRNA vaccine-induced immunogenicity across populations, including pregnant and lactating individuals, the rapid waning of vaccine-induced immunity and the emergence of variants of concern motivated the use of mRNA vaccine booster doses. Whether all populations, including pregnant and lactating individuals, will mount a comparable response to a booster dose is not known. OBJECTIVE: We sought to profile the humoral immune response to a COVID-19 mRNA booster dose in a cohort of pregnant, lactating, and age-matched nonpregnant women. STUDY DESIGN: We characterized the antibody response against ancestral Spike and Omicron in a cohort of 31 pregnant, 12 lactating and 20 nonpregnant age-matched controls who received a BNT162b2 or mRNA-1273 booster dose after primary COVID-19 vaccination. We also examined the vaccine-induced antibody profiles of 15 maternal:cord dyads at delivery. RESULTS: Receipt of a booster dose during pregnancy resulted in increased IgG1 against Omicron Spike (post-primary vaccination vs post-booster, p = 0.03). Pregnant and lactating individuals exhibited equivalent Spike-specific total IgG1, IgM and IgA levels and neutralizing titers against Omicron compared to nonpregnant women. Subtle differences in Fc-receptor binding and antibody subclass profiles were observed in the immune response to a booster dose in pregnant compared to nonpregnant individuals. Analysis of maternal and cord antibody profiles at delivery demonstrated equivalent total Spike-specific IgG1 in maternal and cord blood, yet higher Spike-specific FcγR3a-binding antibodies in the cord relative to maternal blood (p = 0.002), consistent with preferential transfer of highly functional IgG. Spike-specific IgG1 levels in the cord were positively correlated with time elapsed since receipt of the booster dose (Spearman R 0.574, p = 0.035). CONCLUSIONS: These data suggest that receipt of a booster dose during pregnancy induces a robust

	Spike-specific humoral immune response, including against Omicron. If boosting occurs in the third trimester, higher Spike-specific cord IgG1 levels are achieved with greater time elapsed between receipt of the booster and delivery. Receipt of a booster dose has the potential to augment maternal and neonatal immunity.
Referências	ATYEO, C. *et al.* COVID-19 booster dose induces robust antibody response in pregnant, lactating, and nonpregnant women. **American journal of obstetrics and gynecology**, [United States], July 19, 2022. DOI: 10.1016/j.ajog.2022.07.014. Disponível em: https://www.sciencedirect.com/science/article/pii/S0002937822005622. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0002937822005622/pdf

Título	Management of severe and critical COVID-19 infection with immunotherapies
Autor(es)	Janhavi Athal, Jolie Gallagher, Lindsay M. Busch
Resumo	Early in the COVID-19 pandemic, clinicians and researchers sought to rapidly repurpose available candidate therapies for SARS-CoV-2 infection pending the development of directed antivirals and novel vaccines. Slowly, anecdotal case series and single-arm observational trials gave way to randomized control trials (RCTs) as the global research community mobilized to design, implement, and analyze studies in the midst of unprecedented pressure on healthcare systems. Despite early controversy surrounding the Emergency Use Authorization (EUA) and politicization of hydroxychloroquine therapy, progress soon followed in the form of remdesivir and dexamethasone, which became standard of care following EUA by the Food and Drug Administration (FDA) in May 2020(1) and release of the RECOVERY trial results in June 2020(2). Propelled by the dramatic impact on mortality conferred by the nonspecific immunosuppression of steroids, earnest investigation into directed immunomodulation soon followed, with modest mortality benefit demonstrated with these agents and an on-going need for larger studies. […]
Referências	ATHALE, J.; GALLAGHER, J.; BUSCH, L. M. Management of severe and critical COVID-19 infection with immunotherapies. **Infectious disease clinics of North America**, [United States], July 19, 2022. DOI: 10.1016/j.idc.2022.07.002. Disponível em: https://www.sciencedirect.com/science/article/pii/S0891552022000538. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0891552022000538/pdf

Título	Vitamin D deficiency is associated with increased risk of delirium and mortality among critically ill, elderly COVID-19 patients
Autor(es)	Zahra Gholi, Davood Yadegarynia, Hassan Eini-Zeinab, Zahra Vahdat Shariatpanah
Resumo	Data on the associations of vitamin D levels with severe outcomes of coronavirus disease 2019 (COVID-19) among critically ill elderly patients are not conclusive and also no information is available about some outcomes such as delirium. Therefore, the current study was done to assess these associations in critically ill elderly COVID-19 patients. Methods: In total, 310 critically ill COVID-19 patients, aged ≥65 years, were included in the current single center prospective study. All patients were hospitalized in the intensive care unit (ICU). We collected data on demographic characteristics, laboratory parameters, blood pressure, comorbidities, medications, and types of mechanical ventilation at baseline (the first day of ICU admission). Patients were categorized based on serum 25(OH)D3 levels at the baseline [normal levels (>30 ng/mL), insufficiency (20-30 ng/mL), deficiency (<20 ng/mL)]. Data on delirium incidence, mortality, invasive mechanical ventilation (IMV) requirement during treatment, length of ICU and hospital admission, and re-hospitalization were recorded until 45 days after the baseline. Results: Vitamin D deficiency and insufficiency were prevalent among 12% and 37% of study participants, respectively. In terms of baseline differences, patients with vitamin D deficiency were more likely to be older, have organ failure, take propofol, need IMV, and were less likely to need face mask compared to patients with normal levels of vitamin D. A significant positive association was found between vitamin D deficiency and risk of delirium. After controlling for potential confounders, patients with vitamin D deficiency had a 54% higher risk of delirium compared to those with vitamin D sufficiency (HR: 1.54, 95% CI: 1.02-2.33). Such a positive association was also seen for 45-day COVID-19 mortality (HR: 3.95, 95% CI: 1.80-8.67). Also, each 10 ng/mL increase in vitamin D levels was associated with a 45% and 26% lower risk of 45-day mortality (HR: 0.55, 95% CI: 0.40-0.74) and ICU mortality due to COVID-19 (HR: 0.74, 95% CI:

	0.60-0.92), respectively. In terms of other COVID-19 outcomes including IMV requirement during treatment, prolonged hospitalization, and re-hospitalization, we found no significant association in relation to serum 25(OH)D3 levels either in crude or fully adjusted models. Conclusion: Vitamin D deficiency was associated with an increased risk of delirium and mortality among critically ill elderly COVID-19 patients.
Referências	GHOLI, Z. *et al.* Vitamin D deficiency is associated with increased risk of delirium and mortality among critically ill, elderly COVID-19 patients. **Complementary therapies in medicine**, [United Kingdom], p. 102855, July 19, 2022. DOI: 10.1016/j.ctim.2022.102855. Disponível em: https://www.sciencedirect.com/science/article/pii/S0965229922000577. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0965229922000577/pdf

Título	Wastewater-based epidemiology: a Brazilian SARS-COV-2 surveillance experience
Autor(es)	Rodrigo de Freitas Bueno, Ieda Carolina Mantovani Claro, Matheus Ribeiro Augusto, Adriana Feliciano Alves Duran, Lívia de Moraes Bomediano Camillo, Aline Diniz Cabral, Fernando Fabriz Sodré, Cristina Celia Silveira Brandão, Carla Simone Vizzotto, Rafaella Silveira, Geovana de Melo Mendes, Andrea Fernandes Arruda, Núbia Natália de Brito, Bruna Aparecida Souza Machado, Gabriela Rodrigues Mendes Duarte, Maria de Lourdes Aguiar-Oliveira
Resumo	Since 2020, developed countries have rapidly shared both publicly and academically relevant wastewater surveillance information. Data on SARS-CoV-2 circulation is pivotal for guiding public health policies and improving the COVID-19 pandemic response. Conversely, low- and middle-income countries, such as Latin America and the Caribbean, showed timid activities in the Wastewater-Based Epidemiology (WBE) context. In these countries, isolated groups perform viral wastewater monitoring, and the data are unevenly shared or accessible to health agencies and the scientific community. This manuscript aims to highlight the relevance of a multiparty effort involving research, public health, and governmental agencies to support usage of WBE methodology to its full potential during the COVID-19 pandemic as part of a joint One Health surveillance approach. Thus, in this study, we explored the results obtained from wastewater surveillance in different regions of Brazil as a part of the COVID-19 Wastewater Monitoring Network ANA (National Water Agency), MCTI (Ministry of Science, Technology, and Innovations) and MS (Ministry of Health). Over the epidemiological weeks of 2021 and early 2022, viral RNA concentrations in wastewater followed epidemiological trends and variations. The highest viral loads in wastewater samples were detected during the second Brazilian wave of COVID-19. Corroborating international reports, our experience demonstrated usefulness of the WBE approach in viral surveillance. Wastewater surveillance allows hotspot identification, and therefore, early public health interventions. In addition, this methodology allows tracking of asymptomatic and oligosymptomatic individuals, who are generally underreported, especially in emerging countries with limited clinical testing capacity. Therefore, WBE undoubtedly contributes to improving public health

	responses in the context of this pandemic, as well as other sanitary emergencies.
Referências	BUENO, R. de F. *et al.* Wastewater-based epidemiology: a Brazilian SARS-COV-2 surveillance experience. **Journal of environmental chemical engineering**, [Netherlands], v. 10, n. 5, p. 108298, October 2022. DOI: 10.1016/j.jece.2022.108298. Disponível em: https://www.sciencedirect.com/science/article/pii/S221334372201171X. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S221334372201171X/pdf

Título	COVID-19 vaccination, incidence, and mortality rates among indigenous populations compared to the general population in Brazil: Describing trends over time
Autor(es)	Fernanda Christina Gomes Machado, Mariana Maleronka Ferron, Maria Tereza da Matta Barddal, Laura Alves Nascimento, Juliana Rosalen, Vivian I. Avelino-Silva
Resumo	Chronic social and health inequities faced by indigenous peoples in Brazil foretell the detrimental impact of COVID-19. Methods: We use de-identified, publicly available data from the Ministry of Health from March/2020 - December/2021 to describe vaccination coverage, cumulative incidence, and cumulative mortality rates due to COVID-19 among indigenous peoples. We also compare vaccination coverage among indigenous peoples with that reported for older adults, who were simultaneously included as a priority group in the vaccination strategy. Finally, we compared COVID-19 incidence and mortality rates in the indigenous population with that reported for the general Brazilian population. Findings: We found important heterogeneities in vaccination coverage across the 34 indigenous districts, and a lower overall coverage among indigenous peoples compared to older adults. We observed higher COVID-19 cumulative incidence rates among indigenous populations compared to the general Brazilian population. Although mortality rates were seemingly lower, data should be interpreted with caution due to a younger age structure and more frequent underreporting of cases and deaths among indigenous populations. After the beginning of COVID-19 vaccination program, we observed a decrease in both incidence and mortality rates among indigenous peoples in all Brazilian regions. Interpretation: The COVID-19 pandemic has had a heavy toll on vulnerable populations. Although social and geographic isolation challenges the implementation of any vaccination program for indigenous populations, prior experience suggests that the COVID-19 vaccination strategy lacked effectiveness. The absence of a coordinated strategy to reinforce the importance of the vaccine and other prevention methods, to guarantee the access to trustworthy information, and to respond with the necessary resources in extreme situations, resulted in lower COVID-19 vaccination coverage, higher incidence rates, and preventable deaths

	due to COVID-19 among indigenous peoples in Brazil. Funding: This work was not supported by specific funding.
Referências	MACHADO, F. C. G. *et al.* COVID-19 vaccination, incidence, and mortality rates among indigenous populations compared to the general population in Brazil: Describing trends over time. **The Lancet regional health. Americas**, [United Kingdom], p. 100319, July 19, 2022. DOI: 10.1016/j.lana.2022.100319. Disponível em: https://www.sciencedirect.com/science/article/pii/S2667193X22001363. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2667193X22001363/pdf

Título	COVID-19: consequences on pregnant women and neonates
Autor(es)	Kritika S. Sharma, Rekha Sharma, Sapna Nehra, Naresh A. Rajpurohit, Kaushalya Bhakar, Dinesh Kumar
Resumo	Human species is confronting with a gigantic global COVID-19 pandemic. Initially, it was observed in Wuhan, China, that the COVID-19 cases spread across the globe with lightning speed and resulted in the 21st Century pandemic. If scientific reports are taken care of, it is noteworthy that this virus possesses more specific characteristics due to its structure. The distinctive structure has a higher binding affinity with angiotensin-converting enzyme 2 (ACE2) protein, and this is used as an access point to gain access to hosts. Methods: A complete literature search was conducted using PubMed, Google Scholar, SciFinder, and deep-diving Google Search using keywords such as "Pregnancy, COVID-19, Newborn, Fetus, Coronavirus 2019, Neonate, Pregnant women, and vertical transmission". Result & Discussion: The SARS-CoV-2 virus is unlike its former analogs: SARS-CoV, and MERS-CoV in 2002, 2012 respectively, or anything mankind has faced earlier concerning viciousness, global spread, and gravity of a causative agent. The current review has delved into articles published in various journals worldwide including the latest studies on the impact of COVID-19 on pregnant women and neonates and has discussed complications and challenges, psychological health, immunological response, vertical transmission, concurrent disorders, vaccine debate, management recommendations, recent news of the approval of COVID-19 vaccine for 6 months and older babies, and future perspectives.
Referências	SHARMA, K. S. *et al.* COVID-19: consequences on pregnant women and neonates. **Health sciences review**, [United Kingdom], p. 100044, July 19, 2022. DOI: 10.1016/j.hsr.2022.100044. Disponível em: https://www.sciencedirect.com/science/article/pii/S2772632022000332. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2772632022000332/pdf

Título	Duration of infectious shedding of SARS-CoV-2 omicron variant and its relation with symptoms
Autor(es)	Şiran Keske, Gülen Güney Esken, Cansel Vatansever, Yeşim Beşli, Zeynep Ece Kuloğlu, Zeliş Nergiz, Tayfun Barlas, Özgür Şencanlı, Mert Ahmet Kuşkucu, Erhan Palaoğlu, Füsun Can, Önder Ergönül
Resumo	SARS CoV-2 infections with omicron variants have a high capability of human-to-human transmission. Nevertheless, the duration of isolation for mild cases was shortened to 5-7 days. We aimed to detect the duration of viral shedding among healthcare workers (HCWs) with omicron by using viral culture. Methods: We prospectively included newly diagnosed non-severe, symptomatic SARS CoV-2 positive HCWs. Nasopharyngeal swab samples were obtained consecutively on days 5, 7,10, and 14 of onset of symptoms. The samples were examined by nucleic acid amplification test and viral culture. Results: In total 55 non-severe patients with SARS CoV-2 omicron variant were included. The mean age of the population was 34 (range 23 to 54) and 78% (43/55) were female. The PCR positivity rate on days 5, 7, 10, and 14 was 96.4% (53/55), 87.3% (48/55), 74.6% (41/55), and 41.8% (23/55) consecutively, while viral culture positivity rates were 83% (44/53), 52% (26/50), 13.5% (7/52), and 8% (4/50). Among the patients who became symptom-free, the viral culture positivity rates were 100% (4/4), 58% (7/12), 11% (3/27), and 5% (2/41). Conclusion: We showed that among the SARS-CoV-2 omicron variant infected patients, viral shedding continues for at least ten days in 13.5% of all cases and 11% in symptom-free cases. The decision for cessation of isolation according to the presence of symptoms could be re-considered until further studies disapprove of our results. Meanwhile, the infected HCWs who give care to the high-risk patients for severe COVID-19 might extend their isolations up to 10 days after the onset of symptoms, regardless of their symptoms.
Referências	KESKE, Ş. *et al.* Duration of infectious shedding of SARS-CoV-2 omicron variant and its relation with symptoms. **Clinical microbiology and infection**, [United Kingdom], July 16, 2022. DOI: 10.1016/j.cmi.2022.07.009. Disponível em: https://www.sciencedirect.com/science/article/pii/S1198743X22003731. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1198743X22003731/pdf

Título	Investigation of the diagnostic performance of the SARS-CoV-2 saliva antigen test: a meta-analysis
Autor(es)	Cheng-Chieh Chen, Ke-Yu Hsiao, Chyi-Huey Bai, Yuan-Hung Wang
Resumo	The COVID-19 pandemic is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Rapid identification and isolation of patients with COVID-19 are critical strategies to contain COVID-19. The saliva antigen test has the advantages of noninvasiveness and decreased transmission risk to health-care professionals. This meta-analysis investigated the diagnostic accuracy of the saliva antigen test for SARS-CoV-2. Methods: We searched for relevant studies in PubMed, Embase, Cochrane Library, and Biomed Central. Studies evaluating the diagnostic accuracy of saliva antigen tests for SARS-CoV-2 were included. The data of the included studies were used to construct a 2 × 2 table on a per patient basis. The overall sensitivity and specificity of saliva antigen tests were determined using a bivariate random-effects model. Results: Nine studies enrolling 9842 patients were included. The meta-analysis generated a pooled sensitivity of 65.3% and a pooled specificity of 99.7%. A subgroup analysis of the studies performing the chemiluminescent enzyme immunoassay (CLEIA) for participants from airports and public health centers revealed a pooled sensitivity of 93.6%. Conclusion: Our findings demonstrated that the saliva antigen test performed using CLEIA exhibited higher sensitivity for the detection of SARS-CoV-2. Therefore, the saliva antigen test performed using CLEIA might be an effective and noninvasive screening tool for SARS-CoV-2.
Referências	CHENG, C. C. *et al.* Investigation of the diagnostic performance of the SARS-CoV-2 saliva antigen test: a meta-analysis. **Journal of microbiology, immunology and infection**, [Hong Kong], July 16, 2022. DOI: 10.1016/j.jmii.2022.07.003. Disponível em: https://www.sciencedirect.com/science/article/pii/S1684118222001013. Acesso em: 22 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1684118222001013/pdf

Título	Persisting gastrointestinal symptoms and post-infectious irritable bowel syndrome following SARS-CoV-2 infection: results from the Arizona CoVHORT
Autor(es)	ErikaAusthof, Melanie L. Bell, Mark S. Riddle, Collin Catalfamo, Caitlyn McFadden, Kerry Cooper, Elaine Scallan Walter, Elizabeth Jacobs, Kristen Pogreba-Brown
Resumo	In this study we aimed to examine the association between gastrointestinal (GI) symptom presence during acute SARS-CoV-2 infection and the prevalence of GI symptoms and development of post-infectious irritable bowel syndrome (PI-IBS). We used data from a prospective cohort and logistic regression to examine the association between GI symptom status during confirmed SARS-CoV-2 infection and prevalence of persistent gastrointestinal symptoms at ≥45 days. We also report the incidence of PI-IBS following SARS-CoV-2 infection. Of the 1,475 participants in this study, 33.8% (n=499) had GI symptoms during acute infection. Cases with acute GI symptoms had an odds of persisting GI symptoms 4 times higher than cases without acute GI symptoms (OR=4.29, CI: 2.45, 7.53); symptoms lasted on average 8 months following infection. Of those with persisting GI symptoms, 67% sought care for their symptoms and incident PI-IBS occurred in 3.0% (n=15) of participants. Those with acute GI symptoms after SARS-CoV-2 infection are likely to have similar persistent symptoms 45 days and greater. These data indicate that attention to a potential increase in related healthcare needs is warranted.
Referências	AUSTHOF, E. et al. Persisting gastrointestinal symptoms and post-infectious irritable bowel syndrome following SARS-CoV-2 infection: results from the Arizona CoVHORT**. Epidemiology and infection**, [United Kingdom], p. 1–22, July 8, 2022. DOI: 10.1017/S0950268822001200. Disponível em: https://www.cambridge.org/core/journals/epidemiology-and-infection/article/persisting-gastrointestinal-symptoms-and-postinfectious-irritable-bowel-syndrome-following-sarscov2-infection-results-from-the-arizona-covhort/4074EB44B26516F4680171554F6C9CC8. Acesso em: 15 jul. 2022.
Fonte	https://www.cambridge.org/core/services/aop-cambridge-core/content/view/4074EB44B26516F4680171554F6C9CC8/S0950268822001200a.pdf/persisting-gastrointestinal-symptoms-and-post-infectious-irritable-bowel-syndrome-following-sars-cov-2-infection-results-from-the-arizona-covhort.pdf

Título	Emergence of immune escape at dominant SARS-CoV-2 killer T-cell epitope
Autor(es)	Garry Dolton, Cristina Rius, Md Samiul Hasan, Aaron Wall, Barbara Szomolay, Enas Behiry, Thomas Whalley, Joel Southgate, Anna Fuller, The COVID-19 Genomics UK (COG-UK) consortium, Théo Morin, Katie Topley, Li Rong Tan, Philip J.R. Goulder, Owen B. Spiller, Pierre J. Rizkallah, Lucy C. Jones, Thomas R. Connor, Andrew K. Sewell
Resumo	We studied the prevalent cytotoxic CD8 T-cell response mounted against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) Spike glycoprotein269-277 epitope (sequence YLQPRTFLL) via the most frequent Human Leukocyte Antigen (HLA) class I worldwide, HLA A∗02. The Spike P272L mutation that has arisen in at least 112 different SARS-CoV-2 lineages to date, including in lineages classified as 'variants of concern', was not recognised by the large CD8 T-cell response seen across cohorts of HLA A∗02+ convalescent patients and individuals vaccinated against SARS-CoV-2, despite these responses comprising of over 175 different individual T-cell receptors. Viral escape at prevalent T-cell epitopes restricted by high frequency HLAs may be particularly problematic when vaccine immunity is focussed on a single protein such as SARS-CoV-2 Spike providing a strong argument for inclusion of multiple viral proteins in next generation vaccines and highlighting the need for monitoring T-cell escape in new SARS-CoV-2 variants.
Referências	DOLTON, G. *et al.* Emergence of immune escape at dominant SARS-CoV-2 killer T-cell epitope. **Cell**, [United States], July 14, 2022. DOI: 10.1016/j.cell.2022.07.002. Disponível em: https://www.sciencedirect.com/science/article/pii/S0092867422008492. Acesso em: 15 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S0092867422008492/pdf

Título	Efficacy and safety of a single dose of casirivimab and imdevimab for the prevention of COVID-19 over an 8-month period: a randomised, double-blind, placebo-controlled trial
Autor(es)	Gary A. Herman, Meagan P. O'Brien, Eduardo Forleo-Neto, Neena Sarkar, Flonza Isa, Peijie Hou, Kuo-Chen Chan, Katharine J. Bar, Ruanne V. Barnabas, Dan H. Barouch, Myron S. Cohen, Christopher B. Hurt, Dale R. Burwen, Mary A. Marovich, Bret J. Musser, John D. Davis, Kenneth C. Turner, Adnan Mahmood, Andrea T. Hooper, Jennifer D. Hamilton, Janie Parrino, Danise Subramaniam, Alina Baum, Christos A. Kyratsous, A. Thomas DiCioccio, Neil Stahl, Ned Braunstein, George D. Yancopoulos, David M. Weinreich, for the COVID-19 Phase 3 Prevention Trial Team
Resumo	There is an unmet need for COVID-19 prevention in patient populations who have not mounted or are not expected to mount an adequate immune response to complete COVID-19 vaccination. We previously reported that a single subcutaneous 1200 mg dose of the monoclonal antibody combination casirivimab and imdevimab (CAS+IMD) prevented symptomatic SARS-CoV-2 infections by 81·4% in generally healthy household contacts of SARS-CoV-2-infected individuals over a 1-month efficacy assessment period. Here we present additional results, including the 7-month follow-up period (months 2–8), providing additional insights about the potential for efficacy in pre-exposure prophylaxis settings. Methods This was a randomised, double-blind, placebo-controlled trial done in the USA, Romania, and Moldova in 2020–2021, before the emergence of omicron (B.1.1.529) and omicron-lineage variants. Uninfected and unvaccinated household contacts of infected individuals, judged by the investigator to be in good health, were randomly assigned (1:1) to receive 1200 mg CAS+IMD or placebo by subcutaneous injection according to a central randomisation scheme provided by an interactive web response system; randomisation was stratified per site by the test results of a local diagnostic assay for SARS-CoV-2 and age group at baseline. COVID-19 vaccines were prohibited before randomisation, but participants were allowed to receive COVID-19 vaccination during the follow-up period. Participants who developed COVID-19 symptoms during the follow-up period underwent RT-PCR testing. Prespecified endpoints included the proportion of previously uninfected and baseline-seronegative participants (seronegative-modified full analysis set) who had RT-PCR-confirmed COVID-19 in the follow-up period (post-hoc for the timepoints of months 2–5 and 6–8 only) and underwent seroconversion (ie, became seropositive, considered a proxy for any SARS-CoV-2 infections [symptomatic and asymptomatic]; prespecified up to day 57, post-hoc for all timepoints thereafter). We also assessed the incidence of treatment-emergent adverse events. This study is registered with ClinicalTrials.gov, NCT04452318. Findings From July 13, 2020, to Oct 4, 2021,

	2317 participants who were RT-PCR-negative for SARS-CoV-2 were randomly assigned, of whom 1683 (841 assigned to CAS + IMD and 842 assigned to placebo) were seronegative at baseline. During the entirety of the 8-month study, CAS + IMD reduced the risk of COVID-19 by 81·2% (nominal p<0·0001) versus placebo (prespecified analysis). During the 7-month follow-up period, protection was greatest during months 2–5, with a 100% relative risk reduction in COVID-19 (nominal p<0·0001; post-hoc analysis). Efficacy waned during months 6–8 (post-hoc analysis). Seroconversion occurred in 38 (4·5%) of 841 participants in the CAS + IMD group and in 181 (21·5%) of 842 in the placebo group during the 8-month study (79·0% relative risk reduction vs placebo; nominal p<0·0001). Six participants in the placebo group were hospitalised due to COVID-19 versus none who received CAS + IMD. Serious treatment-emergent adverse events (including COVID-19) were reported in 24 (1·7%) of 1439 participants receiving CAS + IMD and in 23 (1·6%) of 1428 receiving placebo. Five deaths were reported, none of which were due to COVID-19 or related to the study drugs. Interpretation CAS+IMD is not authorised in any US region as of Jan 24, 2022, because data show that CAS+IMD is not active against omicron-lineage variants. In this study, done before the emergence of omicron-lineage variants, a single subcutaneous 1200 mg dose of CAS+IMD protected against COVID-19 for up to 5 months of community exposure to susceptible strains of SARS-CoV-2 in the pre-exposure prophylaxis setting, in addition to the postexposure prophylaxis setting that was previously shown.
Referências	HERMAN, G. A. *et al.* Efficacy and safety of a single dose of casirivimab and imdevimab for the prevention of COVID-19 over an 8-month period: a randomised, double-blind, placebo-controlled trial. **The Lancet. Infectious diseases**, [United Kingdom], July 5, 2022. DOI: 10.1016/S1473-3099(22)00416-9. Disponível em: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00416-9/fulltext. Acesso em: 15 jul. 2022.
Fonte	https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00416-9/fulltext

Título	Estimated number of COVID-19 infections, hospitalizations, and deaths prevented among vaccinated persons in the US, December 2020 to September 2021
Autor(es)	Molly K. Steele, Alexia Couture, Carrie Reed, Danielle Iuliano, Michael Whitaker, Hannah Fast, Aron J. Hall, Adam MacNeil, Betsy Cadwell, Kristin J. Marks, Benjamin J. Silk
Resumo	The number of SARS-CoV-2 infections and COVID-19–associated hospitalizations and deaths prevented among vaccinated persons, independent of the effect of reduced transmission, is a key measure of vaccine impact.To estimate the number of SARS-CoV-2 infections and COVID-19–associated hospitalizations and deaths prevented among vaccinated adults in the US.In this modeling study, a multiplier model was used to extrapolate the number of SARS-CoV-2 infections and COVID-19–associated deaths from data on the number of COVID-19–associated hospitalizations stratified by state, month, and age group (18-49, 50-64, and ≥65 years) in the US from December 1, 2020, to September 30, 2021. These estimates were combined with data on vaccine coverage and effectiveness to estimate the risks of infections, hospitalizations, and deaths. Risks were applied to the US population 18 years or older to estimate the expected burden in that population without vaccination. The estimated burden in the US population 18 years or older given observed levels of vaccination was subtracted from the expected burden in the US population 18 years or older without vaccination (ie, counterfactual) to estimate the impact of vaccination among vaccinated persons.Completion of the COVID-19 vaccination course, defined as 2 doses of messenger RNA (BNT162b2 or mRNA-1273) vaccines or 1 dose of JNJ-78436735 vaccine.Monthly numbers and percentages of SARS-CoV-2 infections and COVID-19–associated hospitalizations and deaths prevented were estimated among those who have been vaccinated in the US.COVID-19 vaccination was estimated to prevent approximately 27 million (95% uncertainty interval [UI], 22 million to 34 million) infections, 1.6 million (95% UI, 1.4 million to 1.8 million) hospitalizations, and 235 000 (95% UI, 175 000–305 000) deaths in the US from December 1, 2020, to September 30, 2021, among vaccinated adults 18 years or older. From September 1 to September 30, 2021, vaccination was estimated to prevent 52%

	(95% UI, 45%–62%) of expected infections, 56% (95% UI, 52%-62%) of expected hospitalizations, and 58% (95% UI, 53%-63%) of expected deaths in adults 18 years or older.These findings indicate that the US COVID-19 vaccination program prevented a substantial burden of morbidity and mortality through direct protection of vaccinated individuals.
Referências	STEELE, M. K. *et al.* Estimated number of COVID-19 infections, hospitalizations, and deaths prevented among vaccinated persons in the US, December 2020 to September 2021. **JAMA network open**, [United States], v. 5, n. 7, p. e2220385, July 6, 2022. DOI: 10.1001/jamanetworkopen.2022.20385. Disponível em: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2793913. Acesso em: 15 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2793913

Título	First nonprescription COVID-19 test that also detects flu and RSV
Autor(es)	Howard D. Larkin
Resumo	The FDA has authorized the first nonprescription diagnostic test that can identify multiple viruses that cause COVID-19–like respiratory symptoms, including respiratory syncytial virus (RSV). FDA officials see it as another step toward diagnostic testing at home for certain viruses. In addition to SARS-CoV-2 and RSV, the Labcorp Seasonal Respiratory Virus RT-PCR DTC Test can detect influenza A and B. Patients can self-collect a nasal swab sample at home and then send the sample to Labcorp for testing without consulting a clinician. Results are delivered through an online portal, and a health care professional follows up for positive or invalid test results. The home sample collection kit can be purchased online or in stores. Adults can collect their own nasal samples but teens aged 14 to 17 years should have adult supervision when they self-collect their samples. An adult should assist children aged 2 years or older in collecting samples. The multianalyte test will enable consumers to more easily determine whether they're infected with SARS-CoV-2, influenza, or RSV. Test results can help consumers determine whether they should self-isolate or take other health care steps after discussion with a medical professional, according to the FDA. "The rapid advances being made in consumer access to diagnostic tests, including the ability to collect your sample at home for flu and RSV without a prescription, brings us one step closer to tests for these viruses that could be performed entirely at home," Jeff Shuren, MD, JD, director of FDA's Center for Devices and Radiological Health, said in a statement.
Referências	LARKIN, H. D. First nonprescription COVID-19 test that also detects flu and RSV. **JAMA**, [United States], v. 328, n. 1, p. 11, July 5, 2022. DOI: 10.1001/jama.2022.11031. Disponível em: https://doi.org/10.1001/jama.2022.11031. Acesso em: 15 jul. 2022.
Fonte	https://jamanetwork.com/journals/jama/fullarticle/2793846

Título	Leading causes of death in the us during the COVID-19 pandemic, March 2020 to October 2021
Autor(es)	Meredith S. Shiels, Anika T. Haque, Amy Berrington de González, Neal D. Freedman
Resumo	In 2020, heart disease and cancer were the leading causes of death in the US, accounting for 1.29 million deaths, followed by COVID-19, accounting for 350 000 deaths. The pandemic may also have indirectly led to increases in other causes of death, including heart disease, diabetes, Alzheimer disease, and unintentional injuries. We examined the leading causes of death in the US, overall and in various age groups, from March 2020 to October 2021.
Referências	SHIELS, M. S. *et al.* Leading causes of death in the us during the covid-19 pandemic, march 2020 to october 2021. **JAMA internal medicine**, [United States], July 5, 2022. DOI: 10.1001/jamainternmed.2022.2476. Disponível em: https://doi.org/10.1001/jamainternmed.2022.2476. Acesso em: 15 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2794043

Título	Asymptomatic severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection in adults is uncommon using rigorous symptom characterization and follow-up in an acute care adult hospital Outbreak
Autor(es)	Heidi M. O'Grady, Devika Dixit, Zoha Khawaja, Kate Snedeker, Jennifer Ellison, Joyce Erebor, Peter Jamieson, Amanda Weiss, Daniel Salcedo, Kimberley Roberts, Karen Wiens, Nicholas Etches, Jenine Leal, John M. Conly
Resumo	Asymptomatic COVID-19 has been reported as a significant driver of COVID-19 outbreaks. Our hospital ward outbreak analysis suggests that comprehensive symptoms and signs assessment, in combination with adequate follow-up, allows for a more precise determination of COVID-19 symptoms and revealed asymptomatic infection was quite uncommon amongst adults in this setting.
Referências	O'GRADY, H. M. *et al.* Asymptomatic severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection in adults is uncommon using rigorous symptom characterization and follow-up in an acute care adult hospital Outbreak. **Infection control and hospital epidemiology**, [United Kingdom], p. 1–25, July 7, 2022. DOI: 10.1017/ice.2022.168. Disponível em: https://doi.org/10.1017/ice.2022.168. Acesso em: 15 jul. 2022.
Fonte	https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/asymptomatic-severe-acute-respiratory-syndrome-coronavirus2-sarscov2-infection-in-adults-is-uncommon-using-rigorous-symptom-characterization-and-followup-in-an-acute-care-adult-hospital-outbreak/15B8F8ED799EBCB622701455A32D8FD1

Título	SARS-CoV-2 brain regional detection, histopathology, gene expression, and immunomodulatory changes in decedents with COVID-19
Autor(es)	Geidy E. Serrano, Jessica E. Walker, Cecilia Tremblay, Ignazio S. Piras, Matthew J. Huentelman, Christine M. Belden, Danielle Goldfarb, David Shprecher, Alireza Atri, Charles H. Adler, Holly A. Shill, Erika Driver-Dunckley, Shyamal H. Mehta, Richard Caselli, Bryan K. Woodruff, Chadwick F. Haarer, Thomas Ruhlen, Maria Torres, Steve Nguyen, Dasan Schmitt, Steven Z. Rapscak, Christian Bime, Joseph L. Peters, Ellie Alevritis, Richard A. Arce, Michael J. Glass, Daisy Vargas, Lucia I. Sue, Anthony J. Intorcia, Courtney M. Nelson, Javon Oliver, Aryck Russell, Katsuko E. Suszczewicz, Claryssa I. Borja, Madison P. Cline, Spencer J. Hemmingsen, Sanaria Qiji, Holly M. Hobgood, Joseph P. Mizgerd, Malaya K. Sahoo, Haiyu Zhang, Daniel Solis, Thomas J. Montine, Gerald J. Berry, Eric M. Reiman, Katharina Ro¨ltgen, Scott D. Boyd, Benjamin A. Pinsky, James L. Zehnder, Pierre Talbot, Marc Desforges, Michael DeTure, Dennis W. Dickson, Thomas G. Beach
Resumo	Brains of 42 COVID-19 decedents and 107 non-COVID-19 controls were studied. RT-PCR screening of 16 regions from 20 COVID-19 autopsies found SARS-CoV-2 E gene viral sequences in 7 regions (2.5% of 320 samples), concentrated in 4/20 subjects (20%). Additional screening of olfactory bulb (OB), amygdala (AMY) and entorhinal area for E, N1, N2, RNA-dependent RNA polymerase, and S gene sequences detected one or more of these in OB in 8/21 subjects (38%). It is uncertain whether these RNA sequences represent viable virus. Significant histopathology was limited to 2/42 cases (4.8%), one with a large acute cerebral infarct and one with hemorrhagic encephalitis. Case-control RNAseq in OB and AMY found more than 5000 and 700 differentially expressed genes, respectively, unrelated to RT-PCR results; these involved immune response, neuronal constituents, and olfactory/taste receptor genes. Olfactory marker protein-1 reduction indicated COVID-19-related loss of OB olfactory mucosa afferents. Iba-1-immunoreactive microglia had reduced area fractions in cerebellar cortex and AMY, and cytokine arrays showed generalized downregulation in AMY and upregulation in blood serum in COVID-19 cases. Although OB is a major brain portal for SARS-CoV-2, COVID-19 brain changes are more likely due to blood-borne immune mediators and trans-synaptic gene expression changes arising from OB deafferentation.

Referências	SERRANO, G. E. *et al.* SARS-CoV-2 brain regional detection, histopathology, gene expression, and immunomodulatory changes in decedents with COVID-19. **Journal of neuropathology and experimental neurology**, [United States], p. nlac056, July 11, 2022. DOI: 10.1093/jnen/nlac056. Disponível em: https://academic.oup.com/jnen/advance-article/doi/10.1093/jnen/nlac056/6639867. Acesso em: 15 jul. 2022.
Fonte	https://academic.oup.com/jnen/advance-article-pdf/doi/10.1093/jnen/nlac056/44828349/nlac056.pdf

Título	Delivering an mRNA vaccine using a lymphatic drug delivery device improves humoral and cellular immunity against SARS-CoV-2
Autor(es)	Runqiang Chen, Hui Xie, Sahba Khorsandzadeh, Madison Smith, Namir Shaabani, Qidong Hu, Xiaoxuan Lyu, Hua Wang, Wan-lin Lim, Haotian Sun, Henry Ji, Brian Cooley, Russell Ross, David M Francis
Resumo	The exploration and identification of safe and effective vaccines for the SARS-CoV-2 pandemic has captured the world's attention and remains an ongoing issue due to concerns of balancing protection against emerging variants of concern (VoCs) while also generating long lasting immunity. Here, we report the synthesis of a novel messenger ribonucleic acid encoding the spike protein in a lipid nanoparticle formulation (STI-7264) that generates robust humoral and cellular immunity following immunization of C57Bl6 mice. In an effort to improve immunity, a clinically-focused lymphatic drug delivery device (MuVaxx) was engineered to modulate immune cells at the injection site (epidermis and dermis) and draining lymph node (LN) and tested to measure adaptive immunity. Using MuVaxx, immune responses were elicited and maintained at a 10-fold dose reduction compared to traditional intramuscular (IM) administration as measured by anti-spike antibodies, cytokine-producing CD8 T cells, neutralizing antibodies against the Washington (wild type) strain and South African (Beta) variants, and LN-resident spike-specific memory B cells. Remarkably, a 4-fold elevated T cell response was observed in MuVaxx administered vaccination compared to that of IM administered vaccination. Thus, these data support further investigation into STI-7264 and lymphatics-mediated delivery using MuVaxx for SARS-CoV-2 and VoC vaccines.
Referências	CHEN, R. *et al.* Delivering an mRNA vaccine using a lymphatic drug delivery device improves humoral and cellular immunity against SARS-CoV-2. **Journal of Molecular Cell Biology**, [United Kingdom], p. mjac041, July 8, 2022. DOI: 10.1093/jmcb/mjac041. Disponível em: https://academic.oup.com/jmcb/advance-article/doi/10.1093/jmcb/mjac041/6634240. Acesso em: 15 jul. 2022.
Fonte	https://academic.oup.com/jmcb/advance-article-pdf/doi/10.1093/jmcb/mjac041/44686042/mjac041.pdf

Título	Epidemiological analysis of the first 1000 cases of SARS-CoV-2 lineage BA.1 (B.1.1.529, Omicron) compared with co-circulating Delta in Wales, UK
Autor(es)	Nicole Pacchiarini, Clare Sawyer, Christopher Williams, Daryn Sutton, Christopher Roberts, Felicity Simkin, Grace King, Victoria McClure, Simon Cottrell, Helen Clayton, Andrew Beazer, Catie Williams, Sara M. Rey, Thomas R. Connor, Catherine Moore
Resumo	The Omicron (lineage B.1.1.529) variant of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first reported in Wales, UK, on 3 December 2021. The aim of the study was to describe the first 1000 cases of the Omicron variant by demographic, vaccination status, travel and severe outcome status and compare this to contemporaneous cases of the Delta variant. Methods Testing, typing and contact tracing data were collected by Public Health Wales and analysis undertaken by the Communicable Disease Surveillance Centre (CDSC). Risk ratios for demographic factors and symptoms were calculated comparing Omicron cases to Delta cases identified over the same time period. Results By 14 December 2021, 1000 cases of the Omicron variant had been identified in Wales. Of the first 1000, just 3% of cases had a prior history of travel revealing rapid community transmission. A higher proportion of Omicron cases were identified in individuals aged 20–39, and most cases were double vaccinated (65.9%) or boosted (15.7%). Age-adjusted analysis also revealed that Omicron cases were less likely to be hospitalised (0.4%) or report symptoms (60.8%). Specifically a significant reduction was observed in the proportion of Omicron cases reporting anosmia (8.9%). Conclusion Key findings include a lower risk of anosmia and a reduced risk of hospitalisation in the first 1000 Omicron cases compared with co-circulating Delta cases. We also identify that existing measures for travel restrictions to control importations of new variants identified outside the United Kingdom did not prevent the rapid ingress of Omicron within Wales.
Referências	PACCHIARINI, N. *et al.* Epidemiological analysis of the first 1000 cases of SARS-CoV-2 lineage BA.1 (B.1.1.529, Omicron) compared with co-circulating Delta in Wales, UK. **Influenza and other respiratory viruses**, [United Kingdom], v. n/a, n. n/a, DOI: 10.1111/irv.13021. Disponível em: https://onlinelibrary.wiley.com/doi/abs/10.1111/irv.13021. Acesso em: 15 jul. 2022.

Fonte	https://onlinelibrary.wiley.com/doi/epdf/10.1111/irv.13021

Título	Analysis of COVID-19–related croup and SARS-CoV-2 variant predominance in the US
Autor(es)	Brian Lefchak, Amanda Nickel, Shea Lammers, Dave Watson, Gabrielle Z. Hester, Kelly R. Bergmann
Resumo	Introduction...Recent reports have found an association between SARS-CoV-2 and croup.[1-3] We aimed to investigate whether SARS-CoV-2 variants were associated with the proportion of children with croup, as well as hospital and intensive care unit (ICU) admissions and racemic epinephrine (RE) treatment.
Referências	LEFCHAK, B. *et al.* Analysis of COVID-19–related croup and SARS-CoV-2 variant predominance in the US. **JAMA network open**, [United States], v. 5, n. 7, p. e2220060, July 1, 2022. DOI: 10.1001/jamanetworkopen.2022.20060. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.20060. Acesso em: 8 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2793808

Título	Persistent SARS-CoV-2 infection with accumulation of mutations in a patient with poorly controlled HIV infection
Autor(es)	Tongai G Maponga, Montenique Jeffries, Houriiyah Tegally, Andrew Sutherland, Eduan Wilkinson, Richard J Lessells, Nokukhanya Msomi, Gert van Zyl, Tulio de Oliveira, Wolfgang Preiser
Resumo	A 22-year-old female with uncontrolled advanced HIV infection was persistently infected with SARS-CoV-2 beta variant for 9 months, the virus accumulating >20 additional mutations. Antiretroviral therapy suppressed HIV and cleared SARS-CoV-2 within 6-9 weeks. Increased vigilance is warranted to benefit affected individuals and prevent the emergence of novel SARS-CoV-2 variants.
Referências	MAPONGA, T. G. *et al.* Persistent SARS-CoV-2 infection with accumulation of mutations in a patient with poorly controlled HIV infection. **Clinical infectious diseases**, [United States], p. ciac548, July 6, 2022. DOI: 10.1093/cid/ciac548. Disponível em: https://doi.org/10.1093/cid/ciac548. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac548/6632801?searchresult=1

Título	Magnitude and determinants of SARS-CoV-2 household transmission: a longitudinal cohort study
Autor(es)	J Daniel Kelly, Scott Lu, Khamal Anglin, Miguel Garcia-Knight, Jesus Pineda-Ramirez, Sarah A Goldberg, Michel Tassetto, Amethyst Zhang, Kevin Donohue, Michelle C Davidson, Mariela Romero, Ruth Diaz Sanchez, Manuella Djomaleu, Sujata Mathur, Jessica Y Chen, Carrie A Forman, Venice Servellita, Rubi D Montejano, Joshua R Shak, George W Rutherford, Steven G Deeks, Glen R Abedi, (CDC), Melissa A Rolfes, (CDC), Sharon Saydah, (CDC), Melissa Briggs-Hagen, (CDC), Michael J Peluso, Charles Chiu, Claire M Midgley, (CDC), Raul Andino, Jeffrey N Martin
Resumo	Households have emerged as important venues for SARS-CoV-2 transmission. Little is known, however, regarding the magnitude and determinants of household transmission in increasingly vaccinated populations.From September 2020 to January 2022, symptomatic non-hospitalized individuals with SARS-CoV-2 infection by RNA detection were identified within 5 days of symptom onset; all individuals resided with at least one other SARS-CoV-2-uninfected household member. These infected persons (cases) and their household members (contacts) were subsequently followed with questionnaire-based measurement and serial nasal specimen collection. The primary outcome was SARS-CoV-2 infection among contacts.We evaluated 42 cases and their 74 household contacts. Among the contacts, 32 (43%) became infected, of whom 5/32 (16%) were asymptomatic; 81% of transmissions occurred by 5 days after the case's symptom onset. From 21 unvaccinated cases, 14-day cumulative incidence of SARS-CoV-2 infection among contacts was 18/40 (45%; 95% CI: 29, 62), most of whom were unvaccinated. From 21 vaccinated cases, 14-day cumulative incidence of SARS-CoV-2 infection was 14/34 (41%; 95% CI: 25, 59) among all contacts and 12/29 (41%; 95% CI: 24, 61) among vaccinated contacts. At least one co-morbid condition among cases and 10 or more days of RNA detection in cases were associated with increased risk of infection among contacts.Among households including individuals with symptomatic SARS-CoV-2 infection, both vaccinated-to-vaccinated and unvaccinated-to-unvaccinated transmission of SARS-CoV-2 to household contacts was common. Because vaccination alone did not notably reduce risk of infection, household contacts will need to employ additional interventions to avoid infection.
Referências	DANIEL KELLY, J. *et al.* Magnitude and determinants of SARS-CoV-2 household transmission: a longitudinal cohort study. **Clinical infectious diseases**, [United States], p. ciac545, July 5, 2022. DOI: 10.1093/cid/ciac545. Disponível em: https://doi.org/10.1093/cid/ciac545. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac545/6631204?searchresult=1

Título	Fifteen-Month Follow-Up of Anti-Spike Receptor-Binding Domain SARS-CoV-2 Antibodies among Healthcare Workers in Boston, MA
Autor(es)	Maura C Dodge, Manisha Cole, Elizabeth R Duffy, Martha M Werler, Yachana Kataria
Resumo	Boston Medical Center (BMC) is a safety net hospital in Boston, and from the initial wave of COVID-19 there has been an overwhelming concern about the exposure of healthcare workers (HCWs) to SARS-CoV-2.We conceived a study to follow a cohort of BMC HCWs, beginning in July 2020 and continuing for 15 months, collecting survey data and serum samples at approximately 3-month intervals. Serum samples were analyzed using the Abbott Architect i2000 for SARS-CoV-2 antibodies (anti-spike1-Receptor Binding Domain IgG and anti-nucleoprotein IgG). Positive anti-n IgG results were used, in addition to reverse transcription-PCR results, for identifying cases of infection. History of COVID-19 and vaccination status were confirmed, where possible, using electronic medical records. Participants were grouped according to vaccination and infection status in September 2021 for analysis of anti-s IgG trends.A majority of HCWs remain well above the positivity threshold for anti-spike IgG antibodies for up to 11 months post-vaccination and 15 months post-infection, regardless of combinations and permutations of vaccination and infection. Those with COVID-19 infection before vaccination had significantly higher median serum antibody concentrations in comparison to HCWs with no prior infection at each follow-up time point.These findings further support what is known regarding the decline in serum antibody concentrations following natural infection and vaccination, adding knowledge of serum antibody levels for up to 15 months post- infection and 11 months post-vaccination.
Referências	DODGE, M. C. *et al.* Fifteen-Month Follow-Up of Anti-Spike Receptor-Binding Domain SARS-CoV-2 Antibodies among Healthcare Workers in Boston, MA. **The journal of applied laboratory medicine**, [United States], p. jfac056, July 6, 2022. DOI: 10.1093/jalm/jfac056. Disponível em: https://doi.org/10.1093/jalm/jfac056. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/jalm/advance-article-abstract/doi/10.1093/jalm/jfac056/6632765?redirectedFrom=fulltext

Título	Breakthrough SARS-CoV-2 infections in immune mediated disease patients undergoing B cell depleting therapy: a retrospective cohort analysis
Autor(es)	Cassandra M Calabrese,Elizabeth Kirchner, Elaine M Husni, Brandon P Moss, Anthony P Fernandez, Yuxuan Jin, Leonard H Calabrese
Resumo	Objectives Patients with immune mediated inflammatory diseases (IMIDs) receiving B cell depleting therapy (BCDT) are among the most vulnerable to severe COVID-19 as well as the most likely to respond sub-optimally to SARS-CoV-2 vaccines. However, little is known about the frequency or severity of breakthrough infection in this population. We retrospectively analyzed a large group of vaccinated IMIDs patients undergoing BCDT in order to identify the presence of breakthrough COVID-19 infections and assess their outcomes. Methods In this retrospective cohort study, the pharmacy records and COVID-19 registry at the Cleveland Clinic were searched using specific ICD-10 codes to identify IMIDs patients who (1) were treated with BCDT, (2) were vaccinated against SARS-CoV-2, and (3) experienced breakthrough infections. Each EMR was reviewed to extract clinical data and outcomes. Univariate and multivariable logistic/proportional-odds regression models were used to examine the risk factors for severe outcomes. Results Of 1696 IMIDs patients on BCDT, 74 developed breakthrough COVID-19 prior to December 16th, 2021. Outcomes were severe with 29(39.2%) hospitalized, 11(14.9%) requiring critical care, and 6(8.1%) deaths. Outpatient anti-SARS-CoV-2 monoclonal antibodies were used to treat 21 with 1 hospitalization and no deaths. A comparator analysis examining 1437 unvaccinated IMIDs patients on BCDT over the same time period identified 57(3.9%) COVID-19 cases with 28(49.1%) requiring hospitalization including 7(12.3%) deaths. Conclusions IMIDs patients on BCDT regardless of vaccine status appear vulnerable to infection with SARS-CoV-2 and are frequently associated with severe outcomes. Outpatient use of anti-SARS-CoV-2 monoclonal antibody therapy appeared to be associated with enhanced clinical outcomes.
Referências	CALABRESE, C. M. *et al.* Breakthrough SARS-CoV-2 infections in immune mediated disease patients undergoing B cell depleting therapy: a retrospective cohort analysis. **Arthritis & rheumatology**, [United States], July 6, Disponível em: https://onlinelibrary.wiley.com/doi/abs/10.1002/art.42287. Acesso em: 8 jul. 2022.
Fonte	https://onlinelibrary.wiley.com/doi/epdf/10.1002/art.42287

Título	How long does SARS-CoV-2 stay in the body?
Autor(es)	Chris Stokel-Walker
Resumo	There is no definitive answer. The reality of 6.2 million deaths with covid-19 means that many people die from the effects of the virus within their body before the virus itself does, so it's difficult to know how long they would have continued to shed the virus if they'd survived. Also, different people clear viruses quicker than others, depending on underlying health conditions. For example, says Paul Hunter, professor in medicine at the University of East Anglia, "Even before covid, we've known that people who have certain immune deficiencies can struggle to clear viruses." [...]
Referências	STOKEL-WALKER, C. How long does SARS-CoV-2 stay in the body?. **BMJ**, [United Kingdom], v. 377, p. o1555, June 28, 2022. DOI: 10.1136/bmj.o1555. Disponível em: https://www.bmj.com/content/377/bmj.o1555. Acesso em: 8 jul. 2022.
Fonte	https://www.bmj.com/content/377/bmj.o1555

Título	Immune response to SARS-CoV-2 in severe disease and long COVID-19
Autor(es)	Tomonari Sumi, Kouji Harada
Resumo	COVID-19 is mild to moderate in otherwise healthy individuals but may nonetheless cause life-threatening disease and/or a wide range of persistent symptoms. The general determinant of disease severity is age mainly because the immune response declines in aging patients. Here, we developed a mathematical model of the immune response to SARSCoV-2 and revealed that typical age-related risk factors such as only a several 10 % decrease in innate immune cell activity and inhibition of type-I interferon signaling by autoantibodies drastically increased the viral load. It was reported that the numbers of certain dendritic cell subsets remained less than half those in healthy donors even seven months after infection. Hence, the inflammatory response was ongoing. Our model predicted the persistent DC reduction and showed that certain patients with severe and even mild symptoms could not effectively eliminate the virus and could potentially develop long COVID.
Referências	SUMI, T.; HARADA, K. Immune response to SARS-CoV-2 in severe disease and long COVID-19. **iScience**, [Netherlands], p. 104723, July 4, 2022. DOI: 10.1016/j.isci.2022.104723. Disponível em: https://linkinghub.elsevier.com/retrieve/pii/S2589004222009956. Acesso em: 8 jul. 2022.
Fonte	https://www.cell.com/action/showPdf?pii=S2589-0042%2822%2900995-6

Título	How different COVID-19 recovery paths affect human health, environmental sustainability, and food affordability: a modelling study
Autor(es)	Juliette Maire, Aimen Sattar, Roslyn Henry, Frances Warren, Magnus Merkle, Mark Rounsevell, Peter Alexander
Resumo	The COVID-19 pandemic arrived at a time of faltering global poverty reduction and increasing levels of diet-related diseases, both of which have a strong link to poor outcomes for those with COVID-19. Governments responded to the pandemic by placing unprecedented restrictions on internal and external movements, which have resulted in an economic contraction. In response to the economic shock, G20 governments have committed to providing US$14 trillion stimuli to support economic recovery. We aimed to assess the impact of different COVID-19 recovery paths on human health, environmental sustainability, and food sustainability.
Referências	MAIRE, J. *et al.* How different COVID-19 recovery paths affect human health, environmental sustainability, and food affordability: a modelling study. **The Lancet Planetary Health**, [United Kingdom], v. 6, n. 7, p. e565–e576, July 2022. DOI: 10.1016/S2542-5196(22)00144-9. Disponível em: https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(22)00144-9/fulltext. Acesso em: 8 jul. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2542-5196%2822%2900144-9

Título	Characteristics associated with the residual risk of severe COVID-19 after a complete vaccination schedule: A cohort study of 28 million people in France
Autor(es)	Laura Semenzato, Jérémie Botton, Jérôme Drouin, Bérangère Baricault, Marion Bertrand, Marie-Joëlle Jabagi, François Cuenot, Stéphane Le Vu, Rosemary Dray-Spira, Alain Weill, Mahmoud Zureik
Resumo	Prior to the availability of vaccines, the risk factors for developing severe forms of COVID-19 were mostly older age and various comorbidities such as diabetes, cardiovascular diseases, mental disorders, transplantations, and kidney disease. Although vaccines have been shown to be highly effective in preventing severe forms of COVID-19, a residual risk may persist, despite vaccination, for certain population groups.
Referências	SEMENZATO, L. *et al.* Characteristics associated with the residual risk of severe COVID-19 after a complete vaccination schedule: A cohort study of 28 million people in France. **The Lancet regional health. Europe**, [United Kingdom], v. 19, june 30, 2022. Disponível em: https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00135-1/fulltext. Acesso em: 8 jul. 2022.
Fonte	https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00135-1/fulltext

Título	Risk and severity of SARS-CoV-2 reinfections during 2020–2022 in Vojvodina, Serbia: a population-level observational study
Autor(es)	Snežana Medić, Cleo Anastassopoulou, Zagorka Lozanov-Crvenković, Vladimir Vuković, Nataša Dragnić, Vladimir Petrović, Mioljub Ristić, Tatjana Pustahija, Zoran Gojković, Athanasios Tsakris, John P.A. Ioannidis
Resumo	Data on the rate and severity of SARS-CoV-2 reinfections in real-world settings are scarce and the effects of vaccine boosters on reinfection risk are unknown.
Referências	MEDIĆ, S. *et al.* Risk and severity of SARS-CoV-2 reinfections during 2020–2022 in Vojvodina, Serbia: a population-level observational study. **The Lancet regional health. Europe**, [United Kingdom], v. 20, June 30. 2022. Disponível em: https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00147-8/fulltext. Acesso em: 8 jul. 2022.
Fonte	https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00147-8/fulltext

Título	Severity of SARS-CoV-2 infection in pregnancy in Ontario: a matched cohort analysis
Autor(es)	Kiera R Murison, Alicia A Grima, Alison E Simmons, Ashleigh R Tuite, David N Fisman
Resumo	Pregnancy represents a physiological state associated with increased vulnerability to severe outcomes from infectious diseases, both for the pregnant person and developing infant. The SARS-CoV-2 pandemic may have important health consequences for pregnant individuals, who may also be more reluctant than non-pregnant people to accept vaccination.We sought to estimate the degree to which increased severity of SARS-CoV-2 outcomes can be attributed to pregnancy using a population-based SARS-CoV-2 case file from Ontario, Canada. Due to varying propensity to receive vaccination, and changes in dominant circulating viral strains over time, a time-matched cohort study was performed to evaluate the relative risk of severe illness in pregnant women with SARS-CoV-2 compared to other SARS-CoV-2 infected women of childbearing age (10 to 49 years old). Risk of severe SARS-CoV-2 outcomes was evaluated in pregnant women and time-matched non-pregnant controls using multivariable conditional logistic regression.Compared to the rest of the population, non-pregnant women of childbearing age had an elevated risk of infection (standardized morbidity ratio (SMR) 1.28), while risk of infection was reduced among pregnant women (SMR 0.43). After adjustment for confounding pregnant women had a markedly elevated risk of hospitalization (adjusted OR 4.96, 95% CI 3.86 to 6.37) and ICU admission (adjusted OR 6.58, 95% CI 3.29 to 13.18). The relative increase in hospitalization risk associated with pregnancy was greater in women without comorbidities than in those with comorbidities (P for heterogeneity 0.004).Given the safety of SARS-CoV-2 vaccines in pregnancy, risk-benefit calculus strongly favours SARS-CoV-2 vaccination in pregnant women.
Referências	MURISON, K. R. *et al.* Severity of SARS-CoV-2 infection in pregnancy in Ontario: a matched cohort analysis. **Clinical infectious diseases**, [United States], p. ciac544, July 6, 2022. DOI: 10.1093/cid/ciac544. Disponível em: https://doi.org/10.1093/cid/ciac544. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac544/6632524?searchresult=1

Título	Predicting progression to severe COVID-19 using the PAINT score
Autor(es)	Ming Wang, Dongbo Wu, Chang-Hai Liu, Yan Li, Jianghong Hu, Wei Wang, Wei Jiang, Qifan Zhang, Zhixin Huang, Lang Ba, Hong Tang
Resumo	One of the major challenges in treating patients with coronavirus disease 2019 (COVID-19) is predicting the severity of disease. We aimed to develop a new score for predicting progression from mild/moderate to severe COVID-19.
Referências	WANG, M. *et al.* Predicting progression to severe COVID-19 using the PAINT score. **BMC infectious diseases**, [United Kingdom], v. 22, n. 1, p. 498, 26 May, 2022. DOI: 10.1186/s12879-022-07466-4. Disponível em: https://doi.org/10.1186/s12879-022-07466-4. Acesso em: 8 jul. 2022.
Fonte	https://bmcinfectdis.biomedcentral.com/track/pdf/10.1186/s12879-022-07466-4.pdf

Título	Limited cross-variant immunity from SARS-CoV-2 Omicron without vaccination
Autor(es)	Rahul K. Suryawanshi, Irene P. Chen, Tongcui Ma, Abdullah M. Syed, Noah Brazer, Prachi Saldhi, Camille R. Simoneau, Alison Ciling, Mir M. Khalid, Bharath Sreekumar, Pei-Yi Chen, G. Renuka Kumar, Mauricio Montano, Ronne Gascon, Chia-Lin Tsou, Miguel A. Garcia-Knight, Alicia Sotomayor-Gonzalez, Venice Servellita, Amelia Gliwa, Jenny Nguyen, Ines Silva, Bilal Milbes, Noah Kojima, Victoria Hess, Maria Shacreaw, Lauren Lopez, Matthew Brobeck, Fred Turner, Frank W. Soveg, Ashley F. George, Xiaohui Fang, Mazharul Maishan, Michael Matthay, Mary Kate Morris, Debra Wadford, Carl Hanson, Warner C. Greene, Raul Andino, Lee Spraggon, Nadia R. Roan, Charles Y. Chiu, Jennifer A. Doudna, Melanie Ott
Resumo	SARS-CoV-2 Delta and Omicron are globally relevant variants of concern. Although individuals infected with Delta are at risk of developing severe lung disease, infection with Omicron often causes milder symptoms, especially in vaccinated individuals1,2. The question arises of whether widespread Omicron infections could lead to future cross-variant protection, accelerating the end of the pandemic. Here we show that without vaccination, infection with Omicron induces a limited humoral immune response in mice and humans. Sera from mice overexpressing the human ACE2 receptor and infected with Omicron neutralize only Omicron, but not other variants of concern, whereas broader cross-variant neutralization was observed after WA1 and Delta infections. Unlike WA1 and Delta, Omicron replicates to low levels in the lungs and brains of infected animals, leading to mild disease with reduced expression of pro-inflammatory cytokines and diminished activation of lung-resident T cells. Sera from individuals who were unvaccinated and infected with Omicron show the same limited neutralization of only Omicron itself. By contrast, Omicron breakthrough infections induce overall higher neutralization titres against all variants of concern. Our results demonstrate that Omicron infection enhances pre-existing immunity elicited by vaccines but, on its own, may not confer broad protection against non-Omicron variants in unvaccinated individuals.
Referências	SURYAWANSHI, R. K. *et al.* Limited cross-variant immunity from SARS-CoV-2 Omicron without vaccination. **Nature**, [United Kingdom], p. 1–5, May 18, 2022. DOI: 10.1038/s41586-022-04865-0. Disponível em: https://www.nature.com/articles/s41586-022-04865-0. Acesso em: 8 jul. 2022.
Fonte	https://www.nature.com/articles/s41586-022-04865-0.pdf

Título	Omicron BA.1 and BA.2 sub-lineages show reduced pathogenicity and transmission potential than the early SARS-CoV-2 D614G variant in Syrian hamsters
Autor(es)	Wen Su, Ka Tim Choy, Haogao Gu, Sin Fun Sia, Ka Man Cheng, Sarea Islam Nuha Nizami, Pavithra Krishnan, Yuet Mai Ng, Lydia Dai Jia Chang, Yingzhi Liu, Samuel MS Cheng, Malik Peiris, Leo LM Poon, John M Nicholls, Hui Ling Yen
Resumo	The epidemiological advantage of Omicron variant is evidenced by its rapid spread and the ability to outcompete prior variants. Among Omicron sub-lineages, early outbreaks were dominated by BA.1 while BA.2 has gained dominance since February 2022. The relative pathogenicity and transmissibility of BA.1 and BA.2 have not been fully defined.We compared viral loads and clinical signs in Syrian hamsters after infection with BA.1, BA.2, or D614G variant. A competitive transmission model and next generation sequencing were used to compare the relative transmission potential of BA.1 and BA.2.BA.1 and BA.2 caused no apparent clinical signs while D614G caused more than 10% weight loss. Higher viral loads were detected from the nasal washes, nasal turbinate and lungs of BA.1 than BA.2 inoculated hamsters. No aerosol transmission was observed for BA.1 or BA.2 under the experimental condition that D614G transmitted efficiently. BA.1 and BA.2 were able to transmit among hamsters via direct contact; however, BA.1 transmitted more efficiently than BA.2 under the competitive transmission model. No recombination was detected from direct contacts exposed simultaneously to BA.1 and BA.2.Omicron BA.1 and BA.2 demonstrated attenuated pathogenicity and reduced transmission potential in hamsters when compared to early SARS-CoV-2 strains.
Referências	SU, W. *et al.* Omicron BA.1 and BA.2 sub-lineages show reduced pathogenicity and transmission potential than the early SARS-CoV-2 D614G variant in Syrian hamsters. **The journal of infectious diseases**, [United States], p. jiac276, July 5, 2022. DOI: 10.1093/infdis/jiac276. Disponível em: https://doi.org/10.1093/infdis/jiac276. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/pnasnexus/advance-article/doi/10.1093/pnasnexus/pgac071/6628667?searchresult=1

Título	SARS-CoV-2 and influenza co-infection throughout the COVID-19 pandemic: An assessment of co-infection rates, cohort characteristics, and clinical outcomes
Autor(es)	Colin Pawlowski, Eli Silvert, John C O'Horo, Patrick J Lenehan, Doug Challener, Esteban Gnass, Karthik Murugadoss, Jason Ross, Leigh Speicher, Holly Geyer, A J Venkatakrishnan, Andrew D Badley, Venky Soundararajan
Resumo	Case reports of patients infected with COVID-19 and influenza virus (“flurona”) have raised questions around the prevalence and severity of co-infection. Using data from HHS Protect Public Data Hub, NCBI Virus, and CDC FluView, we analyzed trends in SARS-CoV-2 and influenza hospitalized co-infection cases and strain prevalences. We also characterized co-infection cases across the Mayo Clinic Enterprise from January 2020 to April 2022. We compared expected and observed co-infection case counts across different waves of the pandemic and assessed symptoms and outcomes of co-infection and COVID-19 mono-infection cases after propensity score matching on clinically-relevant baseline characteristics. From both Mayo Clinic and nationwide datasets, the observed co-infection rate for SARS-CoV-2 and influenza has been higher during the Omicron era (December 14, 2021 to April 2, 2022) compared to previous waves, but no higher than expected assuming infection rates are independent. At Mayo Clinic, only 120 co-infection cases were observed among 197,364 SARS-CoV-2 cases. Co-infected patients were relatively young (mean age: 26.7 years) and had fewer serious comorbidities compared to mono-infected patients. While there were no significant differences in 30-day hospitalization, ICU admission, or mortality rates between co-infected and matched COVID-19 mono-infection cases, co-infection cases reported higher rates of symptoms including congestion, cough, fever/chills, headache, myalgia/arthralgia, pharyngitis, and rhinitis. While most co-infection cases observed at Mayo Clinic occurred among relatively healthy individuals, further observation is needed to assess outcomes among subpopulations with risk factors for severe COVID-19 such as older age, obesity, and immunocompromised status.Reports of COVID-19 and influenza co-infections (“flurona”) have raised concern in recent months as both COVID-19 and influenza cases have increased to significant levels in the US. Here, we analyze trends in co-infection cases over the course of the pandemic to show that these co-infection cases are expected given the background prevalences of COVID-19 and influenza independently. In addition, from an initial analysis of these co-infection cases which have been observed at the Mayo Clinic, we find that these co-infection cases are extremely rare, have mostly been observed in relatively young, healthy patients, and do not have an increased risk of hospitalization, ICU admission, or death while they do

	have more emblematic viral symptoms.
Referências	PAWLOWSKI, C. et al. SARS-CoV-2 and influenza co-infection throughout the COVID-19 pandemic: An assessment of co-infection rates, cohort characteristics, and clinical outcomes. PNAS nexus, [United Kingdom], p. pgac071, July 4, 2022. DOI: 10.1093/pnasnexus/pgac071. Disponível em: https://doi.org/10.1093/pnasnexus/pgac071. Acesso em: 8 jul. 2022.
Fonte	https://academic.oup.com/pnasnexus/advance-article-pdf/doi/10.1093/pnasnexus/pgac071/44395868/pgac071.pdf

Título	Mortality and renal long-term outcome of critically ill COVID-19 patients with acute kidney failure, continuous renal replacement therapy and invasive mechanical ventilation
Autor(es)	Rosa Melero, Antonia Mijaylova, Patrocinio Rodr´ıguez-Ben´ıtez, Ana Garc´ıa-Prieto, Jamil Cedeno, Marian Goicoechea
Resumo	There are limited data describing the long-term renal outcomes of critically ill COVID-19 patients with acute kidney injury (AKI) and continuous renal replacement therapy (CRRT) and invasive mechanical ventilation. Methods: In this retrospective observational study we analyzed the long-term clinical course and outcomes of 30 critically ill patients hospitalized with COVID-19 during the peak of highest incidence in the first wave, with acute respiratory distress syndrome (ARDS) and AKI that required CRRT. Baseline features, clinical course, laboratory data, therapies and filters used in CRRT were compared between survivors and non-survivors to identify risk factors associated with in-hospital death. Renal parameters: glomerular filtration rate, proteinuria and microhematuria were collected at 6 months after discharge.Results: 19 patients (63%) died and 11 were discharged. Mean time to death was 48 days (7-206) after admission. Patients with worse baseline renal function had higher mortality (P = .009). Patients were treated with CRRT for an average of 18.4 days. Filters with adsorptive capacity (43%) did not offer survival benefits. Regarding long-term renal outcomes, survivor patients did not receive any additional dialysis, but 9 out of 11 patients had an important loss of renal function (median of eGF of 44 (13-76) ml/min/1.73 m2) after 6 months. Conclusion: Mortality among critically ill hospitalized patients diagnosed with COVID-19 on CRRT is extremely high (63%). Baseline renal function is a predictor factor of mortality. Filters with adsorption capacity did not modify survival. None survivor patients required long-term dialysis, but an important loss of renal function occurred after AKI episode related to COVID-19 infection.
Referências	MELERO, R. *et al.* Mortality and renal long-term outcome of critically ill COVID-19 patients with acute kidney failure, continuous renal replacement therapy and invasive mechanical ventilation. **Medicina clínica (English Edition)**, [Spain], July 7, 2022. DOI: 10.1016/j.medcle.2022.02.015. Disponível em: https://www.sciencedirect.com/science/article/pii/S2387020622003126. Acesso em: 8 jul. 2022.
Fonte	https://www.sciencedirect.com/science/article/pii/S2387020622003126/pdf?md5=5f61d64cc72f0ccb8ddd50a2552d1022&pid=1-s2.0-S2387020622003126-main.pdf

Título	Validity of at-home rapid antigen lateral flow assay and artificial intelligence read to detect SARS-CoV-2
Autor(es)	Shannon Richardson , Michael A. Kohn , Jenna Bollyky , Julie Parsonnet
Resumo	The gold standard for COVID-19 diagnosis–reverse-transcriptase polymerase chain reaction (RT-PCR)– is expensive and often slow to yield results whereas lateral flow tests can lack sensitivity. Methods: We tested a rapid, lateral flow antigen (LFA) assay with artificial intelligence read (LFAIR) in subjects from COVID-19 treatment trials (N=37; daily tests for five days) and from a population-based study (N=88; single test). LFAIR was compared to RT-PCR from same-day samples. Results: Using each participant's first sample, LFAIR showed 86.2% sensitivity (95% CI 73.6% - 98.8) and 94.3% specificity (88.8% - 99.7%) compared to RT-PCR. Adjusting for days since symptom onset and repeat testing, sensitivity was 97.8% (89.9% - 99.5%) on the first symptomatic day and decreased with each additional day. Sensitivity improved with artificial intelligence (AI) read (86.2%) compared to the human eye (71.4%). Conclusion: LFAIR showed improved accuracy compared to LFA alone. particularly early in infection.
Referências	RICHARDSON, S. *et al.* Validity of at-home rapid antigen lateral flow assay and artificial intelligence read to detect SARS-CoV-2. **Diagnostic microbiology and infectious disease**, [United States], p. 115763, July 7, 2022. DOI: 10.1016/j.diagmicrobio.2022.115763. Disponível em: https://www.sciencedirect.com/science/article/pii/S0732889322001298. Acesso em: 8 jul. 2022.
Fonte	https://www.sciencedirect.com/science/article/pii/S0732889322001298/pdfft?md5=7b0b4285fb7b340e67b9370f8f20b475&pid=1-s2.0-S0732889322001298-main.pdf

Título	Diabetes as a cause of death across different COVID-19 epidemic waves
Autor(es)	Ugo Fedeli, Veronica Casotto, Elena Schievano, Enzo Bonora, Giacomo Zoppini
Resumo	The aim of this study is to assess the role of diabetes as a cause of death through different epidemic waves of COVID-19. Methods: The annual percentage change in age-standardized rates (APC) was estimated for diabetes as the underlying (UCOD) and as multiple causes of death (MCOD) in 2008-2019. Diabetes-related deaths in 2020 were compared to the 2018-2019 average. SARIMA models were applied to monthly excess in mortality considering seasonality and long-term trends. Results: 2018-2019-Age-standardized mortality rates decreased, especially among females (MCOD: APC -2.49, 95%CI -3.01/-1.97%). In 2020, deaths increased by 19% (95%CI 13-25%) for UCOD, and by 27% (95%CI 24-30%) for MCOD. Diabetes and COVID-19 accounted for 74% of such excess. During the first epidemic wave, the increase in observed rates vs predicted by the model was larger in males (March +39%, April +46%) than in females (+30% and +32%). In the second wave, a huge excess of similar magnitude was observed in the two sexes; rates in December exceeded those predicted by more than 100%.Conclusions: The COVID-19 pandemic abruptly interrupted a long-term declining trend in mortality associated to diabetes. MCOD analyses are warranted to fully estimate the impact of epidemic waves on diabetes-related mortality.
Referências	FEDELI, U. *et al.* Diabetes as a cause of death across different COVID-19 epidemic waves. **Diabetes Research and Clinical Practice**, [Netherlands], p. 109984, July 6, 2022. DOI: 10.1016/j.diabres.2022.109984. Disponível em: https://www.sciencedirect.com/science/article/pii/S0168822722007987. Acesso em: 8 jul. 2022.
Fonte	https://www.sciencedirect.com/science/article/pii/S0168822722007987

Título	Clinical and epidemiological characteristics of SARS-CoV-2 Infection in Los Angeles County youth during the first year of the pandemic
Autor(es)	Tawny Saleh , Tara Kerin , Trevon Fuller , Sophia Paiola , Mary C. Cambou , Yash Motwani , Caitlin N. Newhouse , Shangxin Yang , Edwin Kamau , Omai B. Garner , Sukantha Chandrasekaran , Karin Nielsen-Saines
Resumo	Objective: To characterize SARS-CoV-2 infection patterns in Los Angeles (L.A.) County youth followed at our institution during the first pandemic year.Design and Methods: A prospective cohort of patients aged < 25 years with positive SARS-CoV-2 RT-PCR between 03/13/2020 to 03/31/2021 was evaluated at a large L.A. County health network. Demographics, age distribution and disease severity were analyzed.Results: There were 28,088 youth < 25 years of age tested for SARS-CoV-2 by RT-PCR, with 1,849 positives identified (7%). Among the positive, 475 of 11,922 (4%) were identified at the pandemic onset (03-09/2020) (Cohort 1) and 1,374 of 16,166 (9%) between 10/2020 to 03/2021 (Cohort 2), p < 0.001. When disease severity was compared across cohorts, Cohort 2 had a greater proportion of asymptomatic, and mild/moderate disease categories than Cohort 1 (98% vs. 80%,respectively); conversely, Cohort 1 had a near 10-fold higher proportion of severe disease than cohort 2 (17% vs. 1.8%). Cohort 2 was comprised by younger individuals with a mean age of 13.7 vs. 17.3 years in Cohort 1. Older age was associated with a higher percentage of infection, 63% of 19-25 year olds in cohort 1 vs. 38% in Cohort 2. Age increase was also associated with greater disease severity by linear regression modeling. (p< 0.001).Conclusions: COVID-19 disease severity in youth decreased over time in L.A. County during the first pandemic year, likely a reflection of changing demographics with younger children infected. A higher infection rate in youth did not lead to higher disease severity over time.
Referências	SALEH, T. *et al.* Clinical and epidemiological characteristics of SARS-CoV-2 Infection in Los Angeles County youth during the first year of the pandemic. **International journal of infectious diseases**, [Netherlands], July 6, 2022. DOI: 10.1016/j.ijid.2022.06.040. Disponível em: https://www.sciencedirect.com/science/article/pii/S1201971222003745. Acesso em: 8 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S1201971222003745/pdf

Título	First case of within-host co-infection of different SARS-CoV-2 variants in Ecuador
Autor(es)	Juan Carlos Fernandez-Cadena, Mateo Carvajal, Erika Muñoz, Belén Prado-Vivar, Sully Marquez, Stefanie Proaño, Rosa Bayas, Juan José Guadalupe, Mónica Becerra-Wong, Bernardo Gutierrez, Gabriel Morey-Leon, Gabriel Trueba, Michelle Grunauer, Verónica Barragán, Patricio Rojas-Silva, Derly Andrade-Molina, Paúl Cárdenas
Resumo	COVID-19 infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can cause mild symptoms to severe illness and death. Co-infections of SARS-CoV-2 with other respiratory viruses has been described. However, two SARS-CoV-2 lineage co-infection have been rarely reported. Methodology: A genotyping analysis and two different types of whole genome sequencing were performed (Illumina MiniSeq and ONT MinION). When examining the phylogenetic analysis in NextClade and Pangolin webservers, and considering the genotyping findings, conflicting results were obtained. Results: The raw data of the sequencing was analyzed, and nucleotide variants were identified between different reads of the virus genome. B.1 and P.1 lineages were identified within the same sample. Conclusions: We concluded that this is a co-infection case with two SARS-CoV-2 lineages, the first one reported in Ecuador.
Referências	FERNANDEZ-CADENA, J. C. *et al.* First case of within-host co-infection of different SARS-CoV-2 variants in Ecuador. **New Microbes and New Infections**, [United Kingdom], p. 101001, July 6, 2022. DOI: 10.1016/j.nmni.2022.101001. Disponível em: https://www.sciencedirect.com/science/article/pii/S2052297522000531. Acesso em: 8 jul. 2022.
Fonte	https://www.sciencedirect.com/sdfe/reader/pii/S2052297522000531/pdf

Título	Controlling SARS-CoV-2 in schools using repetitive testing strategies
Autor(es)	Andrea Torneri, Lander Willem, Vittoria Colizza, Cécile Kremer, Christelle Meuris, Gilles Darcis, Niel Hens, Pieter JK Libin
Resumo	SARS-CoV-2 remains a worldwide emergency. While vaccines have been approved and are widely administered, there is an ongoing debate whether children should be vaccinated or prioritized for vaccination. Therefore, in order to mitigate the spread of more transmissible SARS-CoV-2 variants among children, the use of non-pharmaceutical interventions is still warranted. We investigate the impact of different testing strategies on the SARS-CoV-2 infection dynamics in a primary school environment, using an individual-based modelling approach. Specifically, we consider three testing strategies: (1) symptomatic isolation, where we test symptomatic individuals and isolate them when they test positive, (2) reactive screening, where a class is screened once one symptomatic individual was identified, and (3) repetitive screening, where the school in its entirety is screened on regular time intervals. Through this analysis, we demonstrate that repetitive testing strategies can significantly reduce the attack rate in schools, contrary to a reactive screening or a symptomatic isolation approach. However, when a repetitive testing strategy is in place, more cases will be detected and class and school closures are more easily triggered, leading to a higher number of school days lost per child. While maintaining the epidemic under control with a repetitive testing strategy, we show that absenteeism can be reduced by relaxing class and school closure thresholds.
Referências	TORNERI, A. *et al.* Controlling SARS-CoV-2 in schools using repetitive testing strategies. **eLife**, [United Kingdom], v. 11, p. e75593, July 5, 2022. DOI: 10.7554/eLife.75593. Disponível em: https://doi.org/10.7554/eLife.75593. Acesso em: 8 jul. 2022.
Fonte	https://elifesciences.org/articles/75593

Título	Effectiveness of BNT162b2 vaccine against SARS-CoV-2 infection and severe COVID-19 in children aged 5–11 years in Italy: a retrospective analysis of January–April, 2022
Autor(es)	Chiara Sacco, Martina Del Manso, Alberto Mateo-Urdiales, Maria Cristina Rota, Daniele Petrone, Flavia Riccardo, Antonino Bella, Andrea Siddu, Serena Battilomo, Valeria Proietti, Patrizia Popoli, Francesca Menniti Ippolito, Anna Teresa Palamara, Silvio Brusaferro, Giovanni Rezza, Patrizio Pezzotti, Massimo Fabiani
Resumo	By April 13, 2022, more than 4 months after the approval of BNT162b2 (Pfizer–BioNTech) for children, less than 40% of 5–11-year-olds in Italy had been vaccinated against COVID-19. Estimating how effective vaccination is in 5–11-year-olds in the current epidemiological context dominated by the omicron variant (B.1.1.529) is important to inform public health bodies in defining vaccination policies and strategies.
Referências	SACCO, C. *et al.* Effectiveness of BNT162b2 vaccine against SARS-CoV-2 infection and severe COVID-19 in children aged 5–11 years in Italy: a retrospective analysis of January–April, 2022. **Lancet**, [United Kingdom], June 30, 2022. DOI: 10.1016/S0140-6736(22)01185-0. Disponível em: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01185-0/fulltext. Acesso em: 1 jul. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S0140-6736%2822%2901185-0

Título	Associations of BMI with COVID-19 vaccine uptake, vaccine effectiveness, and risk of severe COVID-19 outcomes after vaccination in England: a population-based cohort study
Autor(es)	Carmen Piernas, Martina Patone, Nerys M Astbury, Min Gao, Aziz Sheikh, Kamlesh Khunti, Manu Shankar-Hari, Sharon Dixon, Carol Coupland, Paul Aveyard, Julia Hippisley-Cox, Susan A Jebb
Resumo	A high BMI has been associated with a reduced immune response to vaccination against influenza. We aimed to investigate the association between BMI and COVID-19 vaccine uptake, vaccine effectiveness, and risk of severe COVID-19 outcomes after vaccination by using a large, representative population-based cohort from England.
Referências	PIERNAS, C. *et al.* Associations of BMI with COVID-19 vaccine uptake, vaccine effectiveness, and risk of severe COVID-19 outcomes after vaccination in England: a population-based cohort study. **The Lancet. Diabetes & endocrinology**, [Netherlands], June 30, 2022. DOI: 10.1016/S2213-8587(22)00158-9. Disponível em: https://www.thelancet.com/journals/landia/article/PIIS2213-8587(22)00158-9/fulltext. Acesso em: 1 jul. 2022.
Fonte	https://www.thelancet.com/action/showPdf?pii=S2213-8587%2822%2900158-9

Atualizado em: 28 de outubro de 2022

Título	Comparison of trends in Clostridioides difficile infections in hospitalised patients during the first and second waves of the COVID-19 pandemic: A retrospective sentinel surveillance study
Autor(es)	Karuna E.W. Vendrik, Amoe Baktash, Jelle J. Goeman, Celine Harmanus, Daan W. Notermans, Sabine C. de Greeff, Ed J. Kuijper, On behalf of the C. difficile surveillance study group
Resumo	During the COVID-19 pandemic, several factors, such as improved hand hygiene, social distancing, and restricted hospital referral, may have had an influence on the epidemiology of Clostridioides difficile infections (CDI).
Referências	VENDRIK, K. E. W. *et al.* Comparison of trends in Clostridioides difficile infections in hospitalised patients during the first and second waves of the COVID-19 pandemic: A retrospective sentinel surveillance study. **The Lancet regional health. Europe**, [United Kingdom], p. 100424, June 27, 2022. DOI: 10.1016/j.lanepe.2022.100424. Disponíve em: https://linkinghub.elsevier.com/retrieve/pii/S2666776222001181. Acesso em: 1 jul. 2022.
Fonte	https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(22)00118-1/fulltext

Título	Olfactory Dysfunction in Patients With Mild COVID-19 During Gamma, Delta, and Omicron Waves in Rio de Janeiro, Brazil
Autor(es)	Cynthia Chester Cardoso, Átila Duque Rossi, Rafael Mello Galliez, Débora Souza Faffe, Amilcar Tanuri, Terezinha Marta Pereira Pinto Castiñeiras
Resumo	Olfactory dysfunction is a common symptom of COVID-19, with reported rates as high as 70%. This symptom can be associated with mild COVID-19, mostly occurs within 5 days after symptom onset, and can persist for a few days to several months after infection resolution. The mechanism of SARS-CoV-2–related olfactory dysfunction is not completely understood.Host genetics, acute inflammation in the olfactory epithelium, local ACE2 expression, and downregulation of olfactory receptors seem to play a role; however, the viral contribution remains to be explored. We conducted a retrospective analysis of individuals with mild COVID-19 during different SARS-CoV-2 variant waves to assess the prevalence of self-reported olfactory dysfunction.
Referências	CARDOSO, C. C. *et al.* Olfactory Dysfunction in Patients With Mild COVID-19 During Gamma, Delta, and Omicron Waves in Rio de Janeiro, Brazil. **JAMA**, [United States], June 24, 2022. DOI: 10.1001/jama.2022.11006. Disponível em: https://doi.org/10.1001/jama.2022.11006. Acesso em: 1 jul. 2022.
Fonte	https://jamanetwork.com/journals/jama/fullarticle/2793811

Título	Association of receipt of the fourth BNT162b2 Dose With Omicron infection and COVID-19 hospitalizations among residents of long-term care facilities
Autor(es)	Khitam Muhsen, Boris Boltyansky, Omri Bodenheimer, Zafrira Hillel Diamant, Lea Gaon, Dani Cohen, Ron Dagan
Resumo	The administration of a fourth BNT162b2 COVID-19 vaccine dose was approved in Israel in December 2021 for individuals 60 years or older who were vaccinated with a third dose 4 months previously or earlier to control the substantial surge of the SARS-CoV-2 Omicron variant. Nonetheless, the association between receipt of the fourth dose and protection against infection remains elusive.To determine the association of the fourth BNT162b2 dose with protection against SARS-CoV-2–related infections, hospitalizations, and deaths during the Omicron surge in long-term care facility (LTCF) residents.This prospective cohort study was conducted in Israel between January 10 and March 31, 2022 and included LTCF residents 60 years or older.Vaccination with the fourth dose of BNT162b2 vs 3 doses that were administered 4 months previously or earlier.Cumulative incidences of SARS-CoV-2 infections, hospitalizations, and deaths during the Omicron surge. The follow-up was initiated more than 7 days after receipt of the fourth dose, which was matched to the follow-up initiation date of those who had received 3 doses of vaccine in each facility. We obtained hazard ratios and 95% confidence intervals from multivariable Cox regression models.The data of 43 775 residents (mean [SD] age, 80.1 [9.4] years; 29 679 women [67.8%]) were analyzed, of whom 24 088 (55.0%) and 19 687 (45.0%) received the fourth and third dose (4 months previously or earlier), respectively. The median follow-up time was 73 days (4-dose group: IQR, 6 days; 3-dose group: IQR, 56 days). More than 7 days postvaccination with the fourth dose, SARS-CoV-2 infection was detected among 4058 fourth-dose vs 4370 third-dose recipients (cumulative incidence, 17.6% vs 24.9%). The corresponding incidences of hospitalizations for mild-to-moderate COVID-19, severe illness, and mortality were 0.9% and 2.8%, 0.5% and 1.5%, and 0.2% and 0.5%, respectively. The adjusted protections were 34% (95% CI, 30%-37%), 64% (95% CI, 56%-71%), and 67% (95% CI, 57%-75%) against overall

	infection, hospitalizations for mild-to-moderate illness, and severe illness, respectively, and 72% (95% CI, 57%-83%) against related deaths.The results of this cohort study suggest that receipt of a fourth BNT162b2 dose conferred high protection against COVID-19 hospitalizations and deaths among LTCF residents during a substantial Omicron variant surge, but protection was modest against infection. These findings are relevant to the control of COVID-19 pandemic globally, especially among the population of LTCFs.
Referências	MUHSEN, K. *et al.* Association of receipt of the fourth BNT162b2 Dose With Omicron infection and COVID-19 hospitalizations among residents of long-term care facilities. **JAMA internal medicine**, [United States], June 23, 2022. DOI: 10.1001/jamainternmed.2022.2658. Disponível em: https://doi.org/10.1001/jamainternmed.2022.2658. Acesso em: 1 jul. 2022.
Fonte	https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2793699

Título	Assessment of ethnic inequities and subpopulation estimates in COVID-19 vaccination in New Zealand
Autor(es)	Andrew Anglemyer, Corina Grey, Collin Tukuitonga, Andrew Sporle, Gerard J. B. Sonder
Resumo	Introduction... COVID-19 has exposed inequities in access to care, baseline health, and economic standing.[1,2] In Aotearoa New Zealand, Pacific peoples and Māori have disproportionately experienced poor SARS-CoV-2 outcomes. To ensure prevention and care equity, the COVID-19 vaccination program targeted high-risk people first. In October 2021, the Ministry of Health (MoH) announced 90% vaccine coverage targets among eligible populations, obviating the need for future lockdowns.[3] Beginning December 2021, vaccination proof was required for everyone aged at least 12 years to access certain venues (eg, hospitality services); Pfizer-BioNTech (BNT162b2) booster vaccines were required for specific occupations (eg, health care). We highlight the outcome of different population estimate methodologies on relative gaps in vaccination between ethnic groups and the resulting population risk.
Referências	ANGLEMYER, A. *et al.* Assessment of ethnic inequities and subpopulation estimates in COVID-19 vaccination in New Zealand. **JAMA network open**, [United States], v. 5, n. 6, p. e2217653, June 21, 2022. DOI: 10.1001/jamanetworkopen.2022.17653 . Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.17653. Acesso em: 01 Jul. 2022.
Fonte	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2793

Título	Modeling pandemic to endemic patterns of SARS-CoV-2 transmission using parameters estimated from animal model data
Autor(es)	Sarah Mullin, Brent Vander Wyk, Jennifer L Asher, Susan R Compton, Heather G Allore, Caroline J Zeiss
Resumo	The contours of endemic coronaviral disease in humans and other animals are shaped by the tendency of coronaviruses to generate new variants superimposed upon non-sterilizing immunity. Consequently, patterns of coronaviral reinfection in animals can inform the emerging endemic state of the SARS-CoV-2 pandemic. We generated controlled reinfection data after high and low risk natural exposure or heterologous vaccination to sialodacryoadenitis (SDAV) in rats. Using deterministic compartmental models, we utilized in vivo estimates from these experiments to model the combined effects of variable transmission rates, variable duration of immunity, successive waves of variants and vaccination on patterns of viral transmission. Using rat experiment-derived estimates, an endemic state achieved by natural infection alone occurred after a median of 724 days with approximately 41.3% of the population susceptible to reinfection. After accounting for translationally altered parameters between rat-derived data and human SARS-CoV-2 transmission, and after introducing vaccination, we arrived at a median time to endemic stability of 1437 (IQR = 749.25) days with a median 15.4% of the population remaining susceptible. We extended the models to introduce successive variants with increasing transmissibility and included the effect of varying duration of immunity. As seen with endemic coronaviral infections in other animals, transmission states are altered by introduction of new variants, even with vaccination. However, vaccination combined with natural immunity maintains a lower prevalence of infection than natural infection alone and provides greater resilience against the effects of transmissible variants.The pandemic to endemic trajectory of SARS-CoV-2 transmission will be shaped by the tendency of coronaviruses to elicit non-sterilizing immunity and generate new variants. We utilized estimates

	from controlled rat coronaviral infection in deterministic compartmental models to inform routes to endemic stability in SARS-CoV-2. We introduced translationally altered parameters to explore the effects of waning immunity, exposure to increasingly transmissible variants and successive vaccination. We arrived at an endemic state in which 15% of the population remains susceptible to reinfection. Similar to endemic coronaviral infections in other animals, transmission states are altered by introduction of new variants, even with vaccination. Accumulating and maintaining evolving immunity through vaccination and inevitable natural exposure is essential to achieving a stable endemic state.
Referências	MULLIN, S. *et al.* Modeling pandemic to endemic patterns of SARS-CoV-2 transmission using parameters estimated from animal model data. **PNAS nexus**, [United Kingdom], p. pgac096, Jul. 1, 2022. DOI: 10.1093/pnasnexus/pgac096 . Disponível em: https://doi.org/10.1093/pnasnexus/pgac096. Acesso em: 01 Jul. 2022.
Fonte	https://academic.oup.com/pnasnexus/advance-article/doi/10.1093/pnasnexus/pgac096/6625054?searchresult=1

Título	Data-driven commentary on SARS-CoV-2 infection, vaccination, and fertility
Autor(es)	Sigal Klipstein, Jodie A Dionne, Eve C Feinberg, Jennifer F Kawwass, Samantha M Pfeifer, Peter N Schlegel, Catherine Racowsky
Resumo	A recent study by Wesselink et al. (Am J Epidemiol. 2022;191(XX):XXXX–XXXX) adds to the growing body of research finding that vaccination for coronavirus disease 2019 (COVID-19) is safe for individuals either seeking pregnancy or who are pregnant. The study's authors found no effect of COVID-19 vaccination on fecundity in a population of individuals with no known infertility who were attempting conception. The finding reinforces the messaging of the American Society for Reproductive Medicine COVID-19 Task Force, the aim of which is to provide data-driven recommendations to individuals contemplating pregnancy in the face of the COVID-19 pandemic. As safe and effective COVID-19 vaccines became available, and with an increasing number of studies showing a heightened risk of severe disease during pregnancy, an important role of the Task Force is to encourage vaccination during the preconceptual window and in early pregnancy. The Task Force supports ongoing research to address gaps in knowledge about safe and effective therapies and preventive measures for individuals contemplating pregnancy and during pregnancy. Such research will help optimize care for reproductive-age individuals in the face of current and future health crises.
Referências	KLIPSTEIN, S. *et al.* Data-Driven Commentary on SARS-CoV-2 Infection, Vaccination, and Fertility. **American journal of epidemiology**, [United States], p. kwac073, 2022. DOI: 10.1093/aje/kwac073. Disponível em: https://doi.org/10.1093/aje/kwac073. Acesso em: 1 jul. 2022.
Fonte	https://academic.oup.com/aje/advance-article/doi/10.1093/aje/kwac073/6613467?searchresult=1

Título	SARS-CoV-2 seroprevalence at urban and rural sites in Kaduna State, Nigeria, during October/November 2021, immediately prior to detection of the Omicron variant
Autor(es)	Gloria D Chechet, Jacob K P Kwaga, Joseph Yahaya, Harry Noyes, Annette MacLeod, Walt E Adamson
Resumo	Nigeria is Africa's most populated country. By November 2021 it had experienced three waves of SARS-CoV-2 infection. Peer-reviewed seroprevalence data assessing the proportion of the Nigerian population that have been infected were extremely limited.We conducted a serosurvey in one urban site (n = 400) and one rural site (n = 402) in Kaduna State, Nigeria between 11 October 2021 and 8 November 2021. Z-tests were used to compare seroprevalence across age groups, locations and sexes. T tests were used to determine whether age or household size are associated with seropositivity. Associations between seropositivity and recent history of common Covid-19 symptoms were tested using logistic regression.SARS-CoV-2 antibodies were detected in 42.5% an 53.5% of participants at the urban and rural sites, respectively The overall age- and sex- stratified seroprevalence was 43.7% (42.2% for unvaccinated individuals). The data indicate an infection rate in Kaduna State ≥359-fold the rate derived from polymerase chain reaction-confirmed cases. In the urban site, seroprevalence among females and participants aged <20 was lower than other groups. Reporting loss of sense of taste and/or smell was strongly associated with seropositive status. Associations with seropositivity were also found for the reporting of dry cough, fever, headache, nausea and sore throat.This study provides baseline SARS-CoV-2 seroprevalence in Kaduna State, Nigeria, immediately prior to the spread of the Omicron variant. It indicates that in October/November 2021, approximately 56% of the population did not have detectable antibodies, and population subgroups with particularly low seroprevalence remain. It highlights limitations in using PCR-confirmed cases to estimate infection rates. The data will inform public health strategies in Nigeria and other sub-Saharan African countries with limited SARS-CoV-2 seroprevalence data.

Referências	CHECHET, G. D. *et al.* SARS-CoV-2 seroprevalence at urban and rural sites in Kaduna State, Nigeria, during October/November 2021, immediately prior to detection of the Omicron variant. **International journal of epidemiology**, [United Kingdom], p. dyac141, June 28, 2022. DOI: 10.1093/ije/dyac141. Disponível em: https://doi.org/10.1093/ije/dyac141. Acesso em: 1 jul. 2022.
Fonte	https://academic.oup.com/ije/advance-article/doi/10.1093/ije/dyac141/6623538?searchresult=1

Título	What the harm principle says about vaccination and healthcare rationing
Autor(es)	Christopher Robertson
Resumo	Clinical ethicists hold near consensus on the view that healthcare should be provided regardless of patients' past behaviors. In classic cases, the consensus can be explained by two key rationales—a lack of acute scarcity and the intractability of the facts around those behaviors, which make discrimination on past behavior gratuitous and infeasible to do fairly. Healthcare providers have a duty to help those who can be helped. In contrast, the COVID-19 pandemic suggests the possible recurrence of a very different situation, where a foreseeable acute shortage of healthcare resources means that some cannot be helped. And that shortage is exacerbated by the discrete decision of some to decline a free, safe, and highly effective vaccine, where the facts are clear. In such a future case, if healthcare must be denied to some patients, rationers who ignore vaccination status will become complicit in externalizing the consequences of refusing vaccination onto those who did not refuse. I argue that giving the unvaccinated person healthcare resources that would have otherwise gone to other patients is to wrongfully set back the interests of, or harm, those patients. The article considers rejoinders around the voluntariness of the vaccination choice, which impinges both access and information, and how to scale this criterion proportionally with other rationing criteria that serve utility. Ultimately, the article speculates on why there will be some cognitive dissonance under this approach, while upholding a more general solidarity with and concern for all those seeking healthcare.
Referências	ROBERTSON, C. What the harm principle says about vaccination and healthcare rationing. **Journal of law and the biosciences**, [United Kingdom], v. 9, n. 1, p. lsac017, June 25, 2022. DOI: 10.1093/jlb/lsac017. Disponível em: https://doi.org/10.1093/jlb/lsac017. Acesso em: 1 jul. 2022.
Fonte	https://academic.oup.com/jlb/article/9/1/lsac017/6617804?searchresult=1

Título	Advancing precision vaccinology by molecular and genomic surveillance of SARS-CoV-2 in Germany, 2021
Autor(es)	Djin-Ye Oh, Martin Hölzer, Sofia Paraskevopoulou, Maria Trofimova, Felix Hartkopf, Matthias Budt, Marianne Wedde, Hugues Richard, Berit Haldemann, Teresa Domaszewska, Janine Reiche, Kathrin Keeren, Aleksandar Radonić, Julia Patricia Ramos Calderón, Maureen Rebecca Smith, Annika Brinkmann, Kathrin Trappe, Oliver Drechsel, Kathleen Klaper, Sascha Hein, Eberhard Hildt, Walter Haas, Sébastien Calvignac-Spencer, Torsten Semmler, Ralf Dürrwald, Andrea Thürmer, Christian Drosten, Stephan Fuchs, Stefan Kröger, Max von Kleist, Thorsten Wolff on behalf of The IMS-SC2 Laboratory Network
Resumo	Comprehensive pathogen genomic surveillance represents a powerful tool to complement and advance precision vaccinology. The emergence of the Alpha variant in December 2020 and the resulting efforts to track the spread of this and other SARS-CoV-2 variants of concern led to an expansion of genomic sequencing activities in Germany.At Robert Koch Institute (RKI), the German National Institute of Public Health, we established the "Integrated Molecular Surveillance for SARS-CoV-2" (IMS-SC2) network to perform SARS-CoV-2 genomic surveillance at the national scale, SARS-CoV-2 positive samples from laboratories distributed across Germany regularly undergo whole-genome sequencing at RKI.We report analyses of 3,623 SARS-CoV-2 genomes collected between December 2020 and December 2021, of which 3,282 were randomly sampled. All variants of concern were identified in the sequenced sample set, at ratios equivalent to those in the 100-fold larger German GISAID sequence dataset from the same time period. Phylogenetic analysis confirmed variant assignments. Multiple mutations of concern emerged during the observation period. To model vaccine effectiveness in vitro, we employed authentic-virus neutralization assays, confirming that both the Beta and Zeta variants are capable of immune evasion. The IMS-SC2 sequence dataset facilitated an estimate of the SARS-CoV-2 incidence based on genetic evolution rates. Together with modelled vaccine efficacies, Delta-specific incidence estimation indicated that the German vaccination campaign contributed substantially to a deceleration of the nascent German Delta wave.SARS-CoV-2 molecular and genomic surveillance may inform public health policies including vaccination strategies and enable a proactive approach to controlling COVID-19 spread as the virus evolves.
Referências	OH, D.-Y. *et al.* Advancing precision vaccinology by molecular and genomic surveillance of SARS-CoV-2 in Germany, 2021. **Clinical infectious diseases**, [United States], p. ciac399, June 25, 2022. DOI: 10.1093/cid/ciac399. Disponível em: https://doi.org/10.1093/cid/ciac399. Acesso em: 1 jul. 2022.
Fonte	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac399/6617635?searchresult=1

Atualizado em: 28 de outubro de 2022