

Top 50 Highly Cited Papers (defined as top 1% by citations for field and year of publication) ranked by Times Cited for subject of COVID-19 with ARIZONA Author Affiliations

From Clarivate's Web of Science database

Search string used was:

TS=("Wuhan coronavirus" OR "COVID19\*" OR "COVID-19\*" OR "COVID-2019\*" OR "coronavirus disease 2019" OR "SARS-CoV-2" OR "2019-nCoV" OR "2019 novel coronavirus" OR "severe acute respiratory syndrome coronavirus 2" OR "2019 novel coronavirus infection" OR "coronavirus disease 2019" OR "coronavirus disease-19" OR "SARS-CoV-2019" OR "SARS-CoV-19")

And publication over last five years.

### Record 1 of 50

**Title:** REGN-COV2, a Neutralizing Antibody Cocktail, in Outpatients with Covid-19

**Author(s):** Weinreich, DM (Weinreich, D. M.); Sivapalasingam, S (Sivapalasingam, S.); Norton, T (Norton, T.); Ali, S (Ali, S.); Gao, H (Gao, H.); Bhore, R (Bhore, R.); Musser, BJ (Musser, B. J.); Soo, Y (Soo, Y.); Rofail, D (Rofail, D.); Im, J (Im, J.); Perry, C (Perry, C.); Pan, C (Pan, C.); Hosain, R (Hosain, R.); Mahmood, A (Mahmood, A.); Davis, JD (Davis, J. D.); Turner, KC (Turner, K. C.); Hooper, AT (Hooper, A. T.); Hamilton, JD (Hamilton, J. D.); Baum, A (Baum, A.); Kyratsous, CA (Kyratsous, C. A.); Kim, Y (Kim, Y.); Cook, A (Cook, A.); Kampman, W (Kampman, W.); Kohli, A (Kohli, A.); Sachdeva, Y (Sachdeva, Y.); Graber, X (Graber, X.); Kowal, B (Kowal, B.); DiCioccio, T (DiCioccio, T.); Stahl, N (Stahl, N.); Lipsich, L (Lipsich, L.); Braunstein, N (Braunstein, N.); Herman, G (Herman, G.); Yancopoulos, GD (Yancopoulos, G. D.)

**Group Author(s):** Trial Investigators

**Source:** NEW ENGLAND JOURNAL OF MEDICINE **Volume:** 384 **Issue:** 3 **Pages:** 238-251 **DOI:** 10.1056/NEJMoa2035002 **Published:** JAN 21 2021

**Times Cited in Web of Science Core Collection:** 742

**Total Times Cited:** 753

#### **Abstract:** BACKGROUND

Recent data suggest that complications and death from coronavirus disease 2019 (Covid-19) may be related to high viral loads.

#### METHODS

In this ongoing, double-blind, phase 1-3 trial involving nonhospitalized patients with Covid-19, we investigated two fully human, neutralizing monoclonal antibodies against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike protein, used in a combined cocktail (REGN-COV2) to reduce the risk of the emergence of treatment-resistant mutant virus. Patients were randomly assigned (1:1:1) to receive placebo, 2.4 g of REGN-COV2, or 8.0 g of REGN-COV2 and were prospectively characterized at baseline for endogenous immune response against SARS-CoV-2 (serum antibody-positive or serum antibody-negative). Key end points included the time-weighted average change in viral load from baseline (day 1) through day 7 and the percentage of patients with at least one Covid-19-related medically attended visit through day 29. Safety was assessed in all patients.

## RESULTS

Data from 275 patients are reported. The least-squares mean difference (combined REGN-COV2 dose groups vs. placebo group) in the time-weighted average change in viral load from day 1 through day 7 was -0.56 log(10), copies per milliliter (95% confidence interval (CI), -1.02 to -0.11) among patients who were serum antibody-negative at baseline and -0.41 log(10), copies per milliliter (95% CI, -0.71 to -0.10) in the overall trial population. In the overall trial population, 6% of the patients in the placebo group and 3% of the patients in the combined REGN-COV2 dose groups reported at least one medically attended visit; among patients who were serum antibody-negative at baseline, the corresponding percentages were 15% and 6% (difference, -9 percentage points; 95% CI, -29 to 11). The percentages of patients with hypersensitivity reactions, infusion-related reactions, and other adverse events were similar in the combined REGN-COV2 dose groups and the placebo group.

## CONCLUSIONS

In this interim analysis, the REGN-COV2 antibody cocktail reduced viral load, with a greater effect in patients whose immune response had not yet been initiated or who had a high viral load at baseline. Safety outcomes were similar in the combined REGN-COV2 dose groups and the placebo group.

**Accession Number:** WOS:000613533100009

**Document Type:** Article

**Addresses:** [Weinreich, D. M.; Sivapalasingam, S.; Norton, T.; Ali, S.; Gao, H.; Bhore, R.; Musser, B. J.; Soo, Y.; Rofail, D.; Im, J.; Perry, C.; Pan, C.; Hosain, R.; Mahmood, A.; Davis, J. D.; Turner, K. C.; Hooper, A. T.; Hamilton, J. D.; Baum, A.; Kyratsous, C. A.; Kim, Y.; Cook, A.; Kampman, W.; Kowal, B.; DiCioccio, T.; Stahl, N.; Lipsich, L.; Braunstein, N.; Herman, G.; Yancopoulos, G. D.] Regeneron Pharmaceut, 777 Old Saw Mill River Rd, Tarrytown, NY 10591 USA.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** Y

**Output Date:** 2023-05-04

## Record 2 of 50

**Title:** Stress and parenting during the global COVID-19 pandemic

**Author(s):** Brown, SM (Brown, Samantha M.); Doom, JR (Doom, Jenalee R.); Lechuga-Pena, S (Lechuga-Pena, Stephanie); Watamura, SE (Watamura, Sarah Enos); Koppels, T (Koppels, Tiffany)

**Source:** CHILD ABUSE & NEGLECT **Volume:** 110 **Special Issue:** SI **Article Number:** 104699 **DOI:** 10.1016/j.chiabu.2020.104699 **Part:** 2 **Published:** DEC 2020

**Times Cited in Web of Science Core Collection:** 566

**Total Times Cited:** 573

**Abstract:** Background: Stress and compromised parenting often place children at risk of abuse and neglect. Child maltreatment has generally been viewed as a highly individualistic problem by focusing on stressors and parenting behaviors that impact individual families. However, because of the global coronavirus disease 2019 (COVID-19), families across the world are experiencing a new range of stressors that threaten their health, safety, and economic well-being.

Objective: This study examined the impacts of the COVID-19 pandemic in relation to parental perceived stress and child abuse potential.

Participants and Setting: Participants included parents (N = 183) with a child under the age of 18 years in the western United States.

Method: Tests of group differences and hierarchical multiple regression analyses were employed to assess the relationships among demographic characteristics, COVID-19 risk factors, mental health risk factors, protective factors, parental perceived stress, and child abuse potential.

Results: Greater COVID-19 related stressors and high anxiety and depressive symptoms are associated with higher parental perceived stress. Receipt of financial assistance and high anxiety and depressive symptoms are associated with higher child abuse potential. Conversely, greater parental support and perceived control during the pandemic are associated with lower perceived stress and child abuse potential. Results also indicate racial and ethnic differences in COVID-19 related stressors, but not in mental health risk, protective factors, perceived stress, or child abuse potential.

Conclusion: Findings suggest that although families experience elevated stressors from COVID-19, providing parental support and increasing perceived control may be promising intervention targets.

**Accession Number:** WOS:000600720500009

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 3 of 50**

**Title:** Coronavirus disease (COVID-19): The need to maintain regular physical activity while taking precautions

**Author(s):** Chen, PJ (Chen, Peijie); Mao, LJ (Mao, Lijuan); Nassis, GP (Nassis, George P.);

Harmer, P (Harmer, Peter); Ainsworth, BE (Ainsworth, Barbara E.); Li, FZ (Li, Fuzhong)

**Source:** JOURNAL OF SPORT AND HEALTH SCIENCE **Volume:** 9 **Issue:** 2 **Pages:** 103-104 **DOI:** 10.1016/j.jshs.2020.02.001 **Published:** MAR 2020

**Times Cited in Web of Science Core Collection:** 547

**Total Times Cited:** 562

**Accession Number:** WOS:000514839200001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

#### **Record 4 of 50**

**Title:** Boceprevir, GC-376, and calpain inhibitors II, XII inhibit SARS-CoV-2 viral replication by targeting the viral main protease

**Author(s):** Ma, CL (Ma, Chunlong); Sacco, MD (Sacco, Michael Dominic); Hurst, B (Hurst, Brett); Townsend, JA (Townsend, Julia Alma); Hu, YM (Hu, Yanmei); Szeto, T (Szeto, Tommy); Zhang, XJ (Zhang, Xiujun); Tarbet, B (Tarbet, Bart); Marty, MT (Marty, Michael Thomas); Chen, Y (Chen, Yu); Wang, J (Wang, Jun)

**Source:** CELL RESEARCH **Volume:** 30 **Issue:** 8 **Pages:** 678-692 **DOI:** 10.1038/s41422-020-0356-z **Early Access Date:** JUN 2020  
**Published:** AUG 2020

**Times Cited in Web of Science Core Collection:** 413

**Total Times Cited:** 422

**Abstract:** A new coronavirus SARS-CoV-2, also called novel coronavirus 2019 (2019-nCoV), started to circulate among humans around December 2019, and it is now widespread as a global pandemic. The disease caused by SARS-CoV-2 virus is called COVID-19, which is highly contagious and has an overall mortality rate of 6.35% as of May 26, 2020. There is no vaccine or antiviral available for SARS-CoV-2. In this study, we report our discovery of inhibitors targeting the SARS-CoV-2 main protease (M-pro). Using

the FRET-based enzymatic assay, several inhibitors including boceprevir, GC-376, and calpain inhibitors II, and XII were identified to have potent activity with single-digit to submicromolar IC(50) values in the enzymatic assay. The mechanism of action of the hits was further characterized using enzyme kinetic studies, thermal shift binding assays, and native mass spectrometry. Significantly, four compounds (boceprevir, GC-376, calpain inhibitors II and XII) inhibit SARS-CoV-2 viral replication in cell culture with EC(50) values ranging from 0.49 to 3.37  $\mu$  M. Notably, boceprevir, calpain inhibitors II and XII represent novel chemotypes that are distinct from known substrate-based peptidomimetic M(pro) inhibitors. A complex crystal structure of SARS-CoV-2 M(pro) with GC-376, determined at 2.15 angstrom resolution with three protomers per asymmetric unit, revealed two unique binding configurations, shedding light on the molecular interactions and protein conformational flexibility underlying substrate and inhibitor binding by M-pro. Overall, the compounds identified herein provide promising starting points for the further development of SARS-CoV-2 therapeutics.

**Accession Number:** WOS:000540389900001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 5 of 50

**Title:** Interim Estimates of Vaccine Effectiveness of BNT162b2 and mRNA-1273 COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Health Care Personnel, First Responders, and Other Essential and Frontline Workers - Eight US Locations, December 2020-March 2021

**Author(s):** Thompson, MG (Thompson, Mark G.); Burgess, JL (Burgess, Jefferey L.); Naleway, AL (Naleway, Allison L.); Tyner, HL (Tyner, Harmony L.); Yoon, SK (Yoon, Sarang K.); Meece, J (Meece, Jennifer); Olsho, LEW (Olsho, Lauren E. W.); Caban-Martinez, AJ (Caban-Martinez, Alberto J.); Fowlkes, A (Fowlkes, Ashley); Lutrick, K (Lutrick, Karen); Kuntz, JL (Kuntz, Jennifer L.); Dunnigan, K (Dunnigan, Kayan); Odean, MJ (Odean, Marilyn J.); Hegmann, KT (Hegmann, Kurt T.); Stefanski, E (Stefanski, Elisha); Edwards, LJ (Edwards, Laura J.); Schaefer-Solle, N (Schaefer-Solle, Natasha); Grant, L (Grant, Lauren);

Ellingson, K (Ellingson, Katherine); Groom, HC (Groom, Holly C.); Zunie, T (Zunie, Tnelda); Thiese, MS (Thiese, Matthew S.); Ivacic, L (Ivacic, Lynn); Wesley, MG (Wesley, Meredith G.); Lamberte, JM (Lamberte, Julie Mayo); Sun, XX (Sun, Xiaoxiao); Smith, ME (Smith, Michael E.); Phillips, AL (Phillips, Andrew L.); Groover, KD (Groover, Kimberly D.); Yoo, YM (Yoo, Young M.); Gerald, J (Gerald, Joe); Brown, RT (Brown, Rachel T.); Herring, MK (Herring, Meghan K.); Joseph, G (Joseph, Gregory); Beitel, S (Beitel, Shawn); Morrill, TC (Morrill, Tyler C.); Mak, J (Mak, Josephine); Rivers, P (Rivers, Patrick); Harris, KM (Harris, Katherine M.); Hunt, DR (Hunt, Danielle R.); Arvay, ML (Arvay, Melissa L.); Kutty, P (Kutty, Preeta); Fry, AM (Fry, Alicia M.); Gaglani, M (Gaglani, Manjusha)

**Source:** MMWR-MORBIDITY AND MORTALITY WEEKLY  
**REPORT Volume:** 70 **Issue:** 13 **Pages:** 495-500 **DOI:** 10.15585/mmwr.mm7013e3 **Published:** APR 2 2021

**Times Cited in Web of Science Core Collection:** 406

**Total Times Cited:** 415

**Accession Number:** WOS:000636784900007

**Document Type:** Article

**Addresses:** [Thompson, Mark G.; Fowlkes, Ashley; Grant, Lauren; Lamberte, Julie Mayo; Yoo, Young M.; Joseph, Gregory; Mak, Josephine; Arvay, Melissa L.; Kutty, Preeta; Fry, Alicia M.] CDC COVID 19 Response Team, Atlanta, GA 30329 USA.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 6 of 50****Title:** SARS-CoV-2 in wastewater: State of the knowledge and research needs**Author(s):** Kitajima, M (Kitajima, Masaaki); Ahmed, W (Ahmed, Warish); Bibby, K (Bibby, Kyle); Carducci, A (Carducci, Annalaura); Gerba, CP (Gerba, Charles P.); Hamilton, KA (Hamilton, Kerry A.); Haramoto, E (Haramoto, Eiji); Rose, JB (Rose, Joan B.)**Source:** SCIENCE OF THE TOTAL ENVIRONMENT **Volume:** 739 **Article Number:** 139076 **DOI:** 10.1016/j.scitotenv.2020.139076 **Published:** OCT 15 2020**Times Cited in Web of Science Core Collection:** 380**Total Times Cited:** 388

**Abstract:** The ongoing global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been a Public Health Emergency of International Concern, which was officially declared by the World Health Organization. SARS-CoV-2 is a member of the family Coronaviridae that consists of a group of enveloped viruses with single-stranded RNA genome, which cause diseases ranging from common colds to acute respiratory distress syndrome. Although the major transmission routes of SARS-CoV-2 are inhalation of aerosol/droplet and person-to-person contact, currently available evidence indicates that the viral RNA is present in wastewater, suggesting the need to better understand wastewater as potential sources of epidemiological data and human health risks. Here, we review the current knowledge related to the potential of wastewater surveillance to understand the epidemiology of COVID-19, methodologies for the detection and quantification of SARS-CoV-2 in wastewater, and information relevant for human health risk assessment of SARS-CoV-2. There has been growing evidence of gastrointestinal symptoms caused by SARS-CoV-2 infections and the presence of viral RNA not only in feces of infected individuals but also in wastewater. One of the major challenges in SARS-CoV-2 detection/quantification in wastewater samples is the lack of an optimized and standardized protocol. Currently available data are also limited for conducting a quantitative microbial risk assessment (QMRA) for SARS-CoV-2 exposure pathways. However, modeling-based approaches have a potential role to play in reducing the impact of the ongoing COVID-19 outbreak. Furthermore, QMRA parameters obtained from previous studies on relevant respiratory viruses help to inform risk assessments of SARS-CoV-2. Our understanding on the potential role of wastewater in SARS-CoV-2 transmission is largely limited by knowledge gaps in its occurrence, persistence, and removal in wastewater. There is an urgent need for further research to establish methodologies for wastewater surveillance and understand the implications of the presence of SARS-CoV-2 in wastewater. (C) 2020 The Author(s). Published by Elsevier B.V.

**Accession Number:** WOS:000561797500019**Document Type:** Review**Addresses:** [Kitajima, Masaaki] Hokkaido Univ, Fac Engn, Div Environm Engr, Kita Ku, North 13 West 8, Sapporo, Hokkaido 0608628, Japan.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 7 of 50

**Title:** The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Pfizer-BioNTech COVID-19 Vaccine - United States, December 2020

**Author(s):** Oliver, SE (Oliver, Sara E.); Gargano, JW (Gargano, Julia W.); Marin, M (Marin, Mona); Wallace, M (Wallace, Megan); Curran, KG (Curran, Kathryn G.); Chamberland, M (Chamberland, Mary); McClung, N (McClung, Nancy); Campos-Outcalt, D (Campos-Outcalt, Doug); Morgan, RL (Morgan, Rebecca L.); Mbaeyi, S (Mbaeyi, Sarah); Romero, JR (Romero, Jose R.); Talbot, HK (Talbot, H. Keipp); Lee, GM (Lee, Grace M.); Bell, BP (Bell, Beth P.); Dooling, K (Dooling, Kathleen)

**Source:** MMWR-MORBIDITY AND MORTALITY WEEKLY

REPORT **Volume:** 69 **Issue:** 50 **Pages:** 1922-1924 **Published:** DEC 18 2020

**Times Cited in Web of Science Core Collection:** 325

**Total Times Cited:** 329

**Accession Number:** WOS:000600946300008

**Document Type:** Article

**Addresses:** [Oliver, Sara E.; Gargano, Julia W.; Marin, Mona; Wallace, Megan; Curran, Kathryn G.; Chamberland, Mary; McClung, Nancy; Mbaeyi, Sarah; Dooling, Kathleen] CDC, CDC COVID 19 Response Team, Falls Church, VA 22046 USA.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## **Record 8 of 50**

**Title:** SARS-CoV-2 and COVID-19 in older adults: what we may expect regarding pathogenesis, immune responses, and outcomes

**Author(s):** Nikolich-Zugich, J (Nikolich-Zugich, Janko); Knox, KS (Knox, Kenneth S.); Rios, CT (Rios, Carlos Tafich); Natt, B (Natt, Bhupinder); Bhattacharya, D (Bhattacharya, Deepta); Fain, MJ (Fain, Mindy J.)

**Source:** GEROSCIENCE **Volume:** 42 **Issue:** 2 **Special Issue:** SI **Pages:** 505-514 **DOI:** 10.1007/s11357-020-00186-0 **Published:** APR 2020

**Times Cited in Web of Science Core Collection:** 310

**Total Times Cited:** 328

**Abstract:** SARS-CoV-2 virus, the causative agent of the coronavirus infectious disease-19 (COVID-19), is taking the globe by storm, approaching 500,000 confirmed cases and over 21,000 deaths as of March 25, 2020. While under control in some affected Asian countries (Taiwan, Singapore, Vietnam), the virus demonstrated an exponential phase of infectivity in several large countries (China in late January and February and many European countries and the USA in March), with cases exploding by 30-50,000/day in the third and fourth weeks of March, 2020. SARS-CoV-2 has proven to be particularly deadly to older adults and those with certain underlying medical conditions, many of whom are of advanced age. Here, we briefly review the virus, its structure and evolution, epidemiology and pathogenesis, immunogenicity and immune, and clinical response in older adults, using available knowledge on SARS-CoV-2 and its highly pathogenic relatives MERS-CoV and SARS-CoV-1. We conclude by discussing clinical and basic science approaches to protect older adults against this disease.

**Accession Number:** WOS:000531041500009

**Document Type:** Review

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 9 of 50**

**Title:** Airborne or Droplet Precautions for Health Workers Treating Coronavirus Disease 2019?

**Author(s):** Bahl, P (Bahl, Prateek); Doolan, C (Doolan, Con); de Silva, C (de Silva, Charitha); Chughtai, AA (Chughtai, Abrar Ahmad); Bourouiba, L (Bourouiba, Lydia); MacIntyre, CR (MacIntyre, C. Raina)

**Source:** JOURNAL OF INFECTIOUS DISEASES **Volume:** 225 **Issue:** 9 **Pages:** 1561-1568 **DOI:** 10.1093/infdis/jiaa189 **Published:** MAY 4 2022

**Times Cited in Web of Science Core Collection:** 293

**Total Times Cited:** 304

**Abstract:** Cases of coronavirus disease 2019 (COVID-19) have been reported in more than 200 countries. Thousands of health workers have been infected, and outbreaks have occurred in hospitals, aged care facilities, and prisons. The World Health Organization (WHO) has issued guidelines for contact and droplet precautions for healthcare workers caring for suspected COVID-19 patients, whereas the US Centers for Disease Control and Prevention (CDC) has initially recommended airborne precautions. The 1- to 2-meter (approximate to 3-6 feet) rule of spatial separation is central to droplet precautions and assumes that large droplets do not travel further than 2 meters (approximate to 6 feet). We aimed to review the evidence for horizontal distance traveled by droplets and the guidelines issued by the WHO, CDC, and European Centre for Disease Prevention and Control on respiratory protection for COVID-19. We found that the evidence base for current guidelines is sparse, and the available data do not support the 1- to 2-meter (approximate to 3-6 feet) rule of spatial separation. Of 10 studies on horizontal droplet distance, 8 showed droplets travel more than 2 meters (approximate to 6 feet), in some cases up to 8 meters (approximate to 26 feet). Several studies of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) support aerosol transmission, and 1 study documented virus at a distance of 4 meters (approximate to 13 feet) from the patient. Moreover, evidence suggests that infections cannot neatly be separated into the dichotomy of droplet versus airborne transmission routes. Available studies also show that SARS-CoV-2 can be detected in the air, and remain viable 3 hours after aerosolization. The weight of combined evidence supports airborne precautions for the occupational health and safety of health workers treating patients with COVID-19. At present, the limited available evidence does not support droplet precautions and 1- to 2-meter (approximate to 3-6 feet) rule of special separation being adequate for occupational health and safety of health workers treating patients with COVID-19.

**Accession Number:** WOS:000791518400009

**Document Type:** Review

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 10 of 50

**Title:** Aerosol transmission of SARS-CoV-2? Evidence, prevention and control

**Author(s):** Tang, S (Tang, Song); Mao, YX (Mao, Yixin); Jones, RM (Jones, Rachael M.); Tan, QY (Tan, Qiyue); Ji, JS (Ji, John S.); Li, N (Li, Na); Shen, J (Shen, Jin); Lv, YB (Lv, Yuebin); Pan, LJ (Pan, Lijun); Ding, P (Ding, Pei); Wang, XC (Wang, Xiaochen); Wang, YB (Wang, Youbin); MacIntyre, CR (MacIntyre, C. Raina); Shi, XM (Shi, Xiaoming)

**Source:** ENVIRONMENT INTERNATIONAL **Volume:** 144 **Article Number:** 106039 **DOI:** 10.1016/j.envint.2020.106039 **Published:** NOV 2020

**Times Cited in Web of Science Core Collection:** 292

**Total Times Cited:** 297

**Abstract:** As public health teams respond to the pandemic of coronavirus disease 2019 (COVID-19), containment and understanding of the modes of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission is of utmost importance for policy making. During this time, governmental agencies have been instructing the community on handwashing and physical distancing measures. However, there is no agreement on the role of aerosol transmission for SARS-CoV-2. To this end, we aimed to review the evidence of aerosol transmission of SARS-CoV-2. Several studies support that aerosol transmission of SARS-CoV-2 is plausible, and the plausibility score (weight of combined evidence) is 8 out of 9. Precautionary control strategies should consider aerosol transmission for effective mitigation of SARS-CoV-2.

**Accession Number:** WOS:000580630100047

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 11 of 50

**Title:** Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States

**Author(s):** Browning, MHEM (Browning, Matthew H. E. M.); Larson, LR (Larson, Lincoln R.); Sharaievska, I (Sharaievska, Iryna); Rigolon, A (Rigolon, Alessandro); McAnirlin, O (McAnirlin, Olivia); Mullenbach, L (Mullenbach, Lauren); Cloutier, S (Cloutier, Scott); Vu, TM (Vu, Tue M.); Thomsen, J (Thomsen, Jennifer); Reigner, N (Reigner, Nathan); Metcalf, EC (Metcalf, Elizabeth Covelli); D'Antonio, A (D'Antonio, Ashley); Helbich, M (Helbich, Marco); Bratman, GN (Bratman, Gregory N.); Alvarez, HO (Alvarez, Hector Olvera)

**Source:** PLOS ONE **Volume:** 16 **Issue:** 1 **Article**

**Number:** e0245327 **DOI:** 10.1371/journal.pone.0245327 **Published:** JAN 7 2021

**Times Cited in Web of Science Core Collection:** 287

**Total Times Cited:** 292

### **Abstract:** Background

University students are increasingly recognized as a vulnerable population, suffering from higher levels of anxiety, depression, substance abuse, and disordered eating compared to the general population. Therefore, when the nature of their educational experience radically changes—such as sheltering in place during the COVID-19 pandemic—the burden on the mental health of this vulnerable population is amplified. The objectives of this study are to 1) identify the array of psychological impacts COVID-19 has on students, 2) develop profiles to characterize students' anticipated levels of psychological impact during the pandemic, and 3) evaluate potential sociodemographic, lifestyle-related, and awareness of people infected with COVID-19 risk factors that could make students more likely to experience these impacts.

### Methods

Cross-sectional data were collected through web-based questionnaires from seven U.S. universities. Representative and convenience sampling was used to invite students to complete the questionnaires in mid-March to early-May 2020, when most coronavirus-

related sheltering in place orders were in effect. We received 2,534 completed responses, of which 61% were from women, 79% from non-Hispanic Whites, and 20% from graduate students.

#### Results

Exploratory factor analysis on close-ended responses resulted in two latent constructs, which we used to identify profiles of students with latent profile analysis, including high (45% of sample), moderate (40%), and low (14%) levels of psychological impact. Bivariate associations showed students who were women, were non-Hispanic Asian, in fair/poor health, of below-average relative family income, or who knew someone infected with COVID-19 experienced higher levels of psychological impact. Students who were non-Hispanic White, above-average social class, spent at least two hours outside, or less than eight hours on electronic screens were likely to experience lower levels of psychological impact. Multivariate modeling (mixed-effects logistic regression) showed that being a woman, having fair/poor general health status, being 18 to 24 years old, spending 8 or more hours on screens daily, and knowing someone infected predicted higher levels of psychological impact when risk factors were considered simultaneously.

#### Conclusion

Inadequate efforts to recognize and address college students' mental health challenges, especially during a pandemic, could have long-term consequences on their health and education.

**Accession Number:** WOS:000608044300004

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** Y

**Output Date:** 2023-05-04

**Record 12 of 50**

**Title:** COVID-19-related Genes in Sputum Cells in Asthma Relationship to Demographic Features and Corticosteroids

**Author(s):** Peters, MC (Peters, Michael C.); Sajuthi, S (Sajuthi, Satria); Deford, P (Deford, Peter); Christenson, S (Christenson, Stephanie); Rios, CL (Rios, Cydney L.); Montgomery, MT (Montgomery, Michael T.); Woodruff, PG (Woodruff, Prescott G.); Mauger, DT (Mauger, David T.); Erzurum, SC (Erzurum, Serpil C.); Johansson, MW (Johansson, Mats W.); Denlinger, LC (Denlinger, Loren C.); Jarjour, NN (Jarjour, Nizar N.); Castro, M (Castro, Mario); Hastie, AT (Hastie, Annette T.); Moore, W (Moore, Wendy); Ortega, VE (Ortega, Victor E.); Bleecker, ER (Bleecker, Eugene R.); Wenzel, SE (Wenzel, Sally E.); Israel, E (Israel, Elliot); Levy, BD (Levy, Bruce D.); Seibold, MA (Seibold, Max A.); Fahy, JV (Fahy, John, V)

**Group Author(s):** NHLBI Severe Asthma Res Program-3

**Source:** AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE **Volume:** 202 **Issue:** 1 **Pages:** 83-90 **DOI:** 10.1164/rccm.202003-0821OC  
**Published:** JUL 1 2020

**Times Cited in Web of Science Core Collection:** 285

**Total Times Cited:** 296

**Abstract:** Rationale: Coronavirus disease (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). ACE2 (angiotensin-converting enzyme 2), and TMPRSS2(transmembrane protease serine 2) mediate viral infection of host cells. We reasoned that differences in ACE2 or TMPRSS2 gene expression in sputum cells among patients with asthma may identify subgroups at risk for COVID-19 morbidity.

**Objectives:** To determine the relationship between demographic features and sputum ACE2 and TMPRSS2 gene expression in asthma.

**Methods:** We analyzed gene expression for ACE2 and TMPRSS2, and for ICAM-1 (intercellular adhesion molecule 1) (rhinovirus receptor as a comparator) in sputum cells from 330 participants in SARP3 (Severe Asthma Research Program-3) and 79 healthy control subjects.

**Measurements and Main Results:** Gene expression of ACE2 was lower than TMPRSS2, and expression levels of both genes were similar in asthma and health. Among patients with asthma, male sex, African American race, and history of diabetes mellitus were associated with higher expression of ACE2 and TMPRSS2. Use of inhaled corticosteroids (ICS) was associated with lower expression of ACE2 and TMPRSS2, but treatment with triamcinolone acetonide did not decrease expression of either gene. These findings differed from those for ICAM-1, where gene expression was increased in asthma and less consistent differences were observed related to sex, race, and use of ICS.

**Conclusions:** Higher expression of ACE2 and TMPRSS2 in males, African Americans, and patients with diabetes mellitus provides rationale for monitoring these asthma subgroups for poor COVID-19 outcomes. The lower expression of ACE2 and TMPRSS2 with ICS use warrants prospective study of ICS use as a predictor of decreased susceptibility to SARS-CoV-2 infection and decreased COVID-19 morbidity.

**Accession Number:** WOS:000546619900017

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 13 of 50**

**Title:** The impact of COVID-19 on student experiences and expectations: Evidence from a survey

**Author(s):** Aucejo, EM (Aucejo, Esteban M.); French, J (French, Jacob); Araya, MPU (Araya, Maria Paola Ugalde); Zafar, B (Zafar, Basit)

**Source:** JOURNAL OF PUBLIC ECONOMICS **Volume:** 191 **Article**

**Number:** 104271 **DOI:** 10.1016/j.jpube.2020.104271 **Published:** NOV 2020

**Times Cited in Web of Science Core Collection:** 281

**Total Times Cited:** 281

**Abstract:** In order to understand the impact of the COVID-19 pandemic on higher education, we surveyed approximately 1500 students at one of the largest public institutions in the United States using an instrument designed to recover the causal impact of the pandemic on students' current and expected outcomes. Results show large negative effects across many dimensions. Due to COVID-19: 13% of students have delayed graduation, 40% have lost a job, internship, or job offer, and 29% expect to earn less at age 35. Moreover, these effects have been highly heterogeneous. One quarter of students increased their study time by more than 4 hours per week due to COVID-19, while another quarter decreased their study time by more than 5 hours per week. This heterogeneity often followed existing socioeconomic divides. Lower-income students are 55% more likely than their higher-income peers to have delayed graduation due to COVID-19. Finally, we show that the economic and health related shocks induced by COVID-19 vary systematically by socioeconomic factors and constitute key mediators in explaining the large (and heterogeneous) effects of the pandemic. (c) 2020 Elsevier B.V. All rights reserved.

**Accession Number:** WOS:000579860600013

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 14 of 50**

**Title:** Mathematical assessment of the impact of non-pharmaceutical interventions on curtailing the 2019 novel Coronavirus

**Author(s):** Ngonghala, CN (Ngonghala, Calistus N.); Iboi, E (Iboi, Enahoro); Eikenberry, S (Eikenberry, Steffen); Scotch, M (Scotch, Matthew); MacIntyre, CR (MacIntyre, Chandini Raina); Bonds, MH (Bonds, Matthew H.); Gumel, AB (Gumel, Abba B.)

**Source:** MATHEMATICAL BIOSCIENCES **Volume:** 325 **Article**

**Number:** 108364 **DOI:** 10.1016/j.mbs.2020.108364 **Published:** JUL 2020

**Times Cited in Web of Science Core Collection:** 261

**Total Times Cited:** 262

**Abstract:** A pandemic of a novel Coronavirus emerged in December of 2019 (COVID-



19), causing devastating public health impact across the world. In the absence of a safe and effective vaccine or antivirals, strategies for controlling and mitigating the burden of the pandemic are focused on non-pharmaceutical interventions, such as social-distancing, contact-tracing, quarantine, isolation, and the use of face-masks in public. We develop a new mathematical model for assessing the population-level impact of the aforementioned control and mitigation strategies. Rigorous analysis of the model shows that the disease-free equilibrium is locally-asymptotically stable if a certain epidemiological threshold, known as the reproduction number (denoted by  $R_c$ ), is less than unity. Simulations of the model, using data relevant to COVID-19 transmission dynamics in the US state of New York and the entire US, show that the pandemic burden will peak in mid and late April, respectively. The worst-case scenario projections for cumulative mortality (based on the baseline levels of anti-COVID non-pharmaceutical interventions considered in the study) decrease dramatically by 80% and 64%, respectively, if the strict social-distancing measures implemented are maintained until the end of May or June, 2020. The duration and timing of the relaxation or termination of the strict social-distancing measures are crucially-important in determining the future trajectory of the COVID-19 pandemic. This study shows that early termination of the strict social-distancing measures could trigger a devastating second wave with burden similar to those projected before the onset of the strict social-distancing measures were implemented. The use of efficacious face-masks (such as surgical masks, with estimated efficacy  $\geq 70\%$ ) in public could lead to the elimination of the pandemic if at least 70% of the residents of New York state use such masks in public consistently (nationwide, a compliance of at least 80% will be required using such masks). The use of low efficacy masks, such as cloth masks (of estimated efficacy less than 30%), could also lead to significant reduction of COVID-19 burden (albeit, they are not able to lead to elimination). Combining low efficacy masks with improved levels of the other anti-COVID-19 intervention strategies can lead to the elimination of the pandemic. This study emphasizes the important role social-distancing plays in curtailing the burden of COVID19. Increases in the adherence level of social-distancing protocols result in dramatic reduction of the burden of the pandemic, and the timely implementation of social-distancing measures in numerous states of the US may have averted a catastrophic outcome with respect to the burden of COVID-19. Using face-masks in public (including the low efficacy cloth masks) is very useful in minimizing community transmission and burden of COVID-19, provided their coverage level is high. The masks coverage needed to eliminate COVID-19 decreases if the masks-based intervention is combined with the strict social-distancing strategy.

**Accession Number:** WOS:000541263900004

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

### Record 15 of 50

**Title:** Self-quarantine and weight gain related risk factors during the COVID-19 pandemic

**Author(s):** Zachary, Z (Zachary, Zeigler); Forbes, B (Forbes, Brianna); Lopez, B (Lopez, Brianna); Pedersen, G (Pedersen, Garrett); Welty, J (Welty, Jade); Deyo, A (Deyo, Alyssa); Kerekes, M (Kerekes, Mikayla)

**Source:** OBESITY RESEARCH & CLINICAL PRACTICE **Volume:** 14 **Issue:** 3 **Pages:** 210-216 **DOI:** 10.1016/j.orcp.2020.05.004 **Published:** MAY-JUN 2020

**Times Cited in Web of Science Core Collection:** 257

**Total Times Cited:** 261

**Abstract:** Objective: The purpose of this study was to quantify the impact that self-quarantine has on behaviors associated with weight gain. Methods: This was a quantitative descriptive/correlational research design. Research announcement was sent out via Facebook to 1200 possible participants. Six surveys were condensed into a single Survey Monkey questionnaire for participants to complete. Surveys asked questions relating to risk factors linked to weight gain. Results: Ninety-one percent of our sample stated they spend more time at home now than before COVID19. Twenty-two percent of the sample stated they gained 5-10 pounds. Within those who gained 5-10 pounds, there was a significantly higher percentage of the total sample who reported they increased eating in response to sight and smell ( $p = .048$ ), eating in response to stress ( $p = .041$ ), and snacking after dinner ( $p = .016$ ) compared to those who stated they did not change those behaviors at all. There were significant relationships between predictor variables hours of sleep per night and physical activity time on reported weight gain ( $r = -.195$ ,  $p = .021$ ,  $r = -.155$ ,  $p = .034$ , respectively). Conclusion: Risk factors for weight gain during self-quarantine are inadequate sleep, snacking after dinner, lack of dietary restraint, eating in response to stress, and reduced physical activity. (c) 2020 Asia Oceania Association for the Study of Obesity. Published by Elsevier Ltd. All rights reserved.

**Accession Number:** WOS:000547437200004

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 16 of 50**

**Title:** Prevention and Attenuation of Covid-19 with the BNT162b2 and mRNA-1273 Vaccines

**Author(s):** Thompson, MG (Thompson, Mark G.); Burgess, JL (Burgess, Jefferey L.); Naleway, AL (Naleway, Allison L.); Tyner, H (Tyner, Harmony); Yoon, SK (Yoon, Sarang K.); Meece, J (Meece, Jennifer); Olsho, LEW (Olsho, Lauren E. W.); Caban-Martinez, AJ (Caban-Martinez, Alberto J.); Fowlkes, AL (Fowlkes, Ashley L.); Lutrick, K (Lutrick, Karen); Groom, HC (Groom, Holly C.); Dunnigan, K (Dunnigan, Kayan); Odean, MJ (Odean, Marilyn J.); Hegmann, K (Hegmann, Kurt); Stefanski, E (Stefanski, Elisha); Edwards, LJ (Edwards, Laura J.); Schaefer-Solle, N (Schaefer-Solle, Natasha); Grant, L (Grant, Lauren); Ellingson, K (Ellingson, Katherine); Kuntz, JL (Kuntz, Jennifer L.); Zunie, T (Zunie, Tnelda); Thiese, MS (Thiese, Matthew S.); Ivacic, L (Ivacic, Lynn); Wesley, MG (Wesley, Meredith G.); Lamberte, JM (Mayo Lamberte, Julie); Sun, XX (Sun, Xiaoxiao); Smith, ME (Smith, Michael E.); Phillips, AL (Phillips, Andrew L.); Groover, KD (Groover, Kimberly D.); Yoo, YM (Yoo, Young M.); Gerald, J (Gerald, Joseph); Brown, RT (Brown, Rachel T.); Herring, MK (Herring, Meghan K.); Joseph, G (Joseph, Gregory); Beitel, S (Beitel, Shawn); Morrill, TC (Morrill, Tyler C.); Mak, J (Mak, Josephine); Rivers, P (Rivers, Patrick); Poe, BP (Poe, Brandon P.); Lynch, B (Lynch, Brian); Zhou, YT (Zhou, Yingtao); Zhang, J (Zhang, Jing); Kelleher, A (Kelleher, Anna); Li, Y (Li, Yan); Dickerson, M (Dickerson, Monica); Hanson, E (Hanson, Erika); Guenther, K (Guenther, Kyley); Tong, SX (Tong, Suxiang); Bateman, A (Bateman, Allen); Reisdorf, E (Reisdorf, Erik); Barnes, J (Barnes, John); Azziz-Baumgartner, E (Azziz-Baumgartner, Eduardo); Hunt, DR (Hunt, Danielle R.); Arvay, ML (Arvay, Melissa L.); Kutty, P (Kutty, Preeta); Fry, AM (Fry, Alicia M.); Gaglani, M (Gaglani, Manjusha)

**Source:** NEW ENGLAND JOURNAL OF MEDICINE **Volume:** 385 **Issue:** 4 **Pages:** 320-329 **DOI:** 10.1056/NEJMoa2107058 **Early Access Date:** JUN 2021 **Published:** JUL 22 2021

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**Abstract:** Background Information is limited regarding the effectiveness of the two-dose messenger RNA (mRNA) vaccines BNT162b2 (Pfizer-BioNTech) and mRNA-1273 (Moderna) in preventing infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and in attenuating coronavirus disease 2019 (Covid-19) when administered in real-world conditions. Methods We conducted a prospective cohort study involving 3975 health care personnel, first responders, and other essential and frontline workers. From December 14, 2020, to April 10, 2021, the participants completed weekly SARS-CoV-2 testing by providing mid-turbinate nasal swabs for qualitative and quantitative reverse-transcriptase-polymerase-chain-reaction (RT-PCR) analysis. The formula for calculating vaccine effectiveness was  $100\% \times (1 - \text{hazard ratio for SARS-CoV-2 infection in vaccinated vs. unvaccinated participants})$ , with adjustments for the propensity to be vaccinated, study site, occupation, and local viral circulation. Results SARS-CoV-2 was detected in 204 participants (5%), of whom 5 were fully vaccinated ( $\geq 14$  days after dose 2), 11 partially vaccinated ( $\geq 14$  days after dose 1 and  $< 14$  days

after dose 2), and 156 unvaccinated; the 32 participants with indeterminate vaccination status (<14 days after dose 1) were excluded. Adjusted vaccine effectiveness was 91% (95% confidence interval [CI], 76 to 97) with full vaccination and 81% (95% CI, 64 to 90) with partial vaccination. Among participants with SARS-CoV-2 infection, the mean viral RNA load was 40% lower (95% CI, 16 to 57) in partially or fully vaccinated participants than in unvaccinated participants. In addition, the risk of febrile symptoms was 58% lower (relative risk, 0.42; 95% CI, 0.18 to 0.98) and the duration of illness was shorter, with 2.3 fewer days spent sick in bed (95% CI, 0.8 to 3.7). Conclusions Authorized mRNA vaccines were highly effective among working-age adults in preventing SARS-CoV-2 infection when administered in real-world conditions, and the vaccines attenuated the viral RNA load, risk of febrile symptoms, and duration of illness among those who had breakthrough infection despite vaccination. (Funded by the National Center for Immunization and Respiratory Diseases and the Centers for Disease Control and Prevention.)

**Covid-19 Prevention and Attenuation with mRNA Vaccines** In a study involving 3975 health care personnel, first responders, and other essential workers, the effectiveness of mRNA vaccines against SARS-CoV-2 infection was 91% with full vaccination. The vaccines attenuated the viral RNA load, febrile symptoms, and illness duration among those who became infected despite vaccination.

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**Record 17 of 50**

**Title:** More Than Smell - COVID-19 Is Associated With Severe Impairment of Smell, Taste, and Chemesthesis

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**Abstract:** Recent anecdotal and scientific reports have provided evidence of a link between COVID-19 and chemosensory impairments, such as anosmia. However, these reports have downplayed or failed to distinguish potential effects on taste, ignored chemesthesis, and generally lacked quantitative measurements. Here, we report the development, implementation, and initial results of a multilingual, international questionnaire to assess self-reported quantity and quality of perception in 3 distinct chemosensory modalities (smell, taste, and chemesthesis) before and during COVID-19. In the first 11 days after questionnaire launch, 4039 participants (2913 women, 1118 men, and 8 others, aged 19-79) reported a COVID-19 diagnosis either via laboratory tests or clinical assessment. Importantly, smell, taste, and chemesthetic function were each significantly reduced compared to their status before the disease. Difference scores (maximum possible change +/- 100) revealed a mean reduction of smell (-79.7 +/- 28.7, mean +/- standard deviation), taste (-69.0 +/- 32.6), and chemesthetic (-37.3 +/- 36.2) function during COVID-19. Qualitative changes in olfactory ability (parosmia and phantosmia) were relatively rare and correlated with smell loss. Importantly, perceived nasal obstruction did not account for smell loss. Furthermore, chemosensory impairments were similar between participants in the laboratory test and clinical assessment groups. These results show that COVID-19-associated chemosensory impairment is not limited to smell but also affects taste and chemesthesis. The multimodal impact of COVID-19 and the lack of perceived nasal obstruction suggest that severe acute respiratory syndrome coronavirus strain 2 (SARS-CoV-2) infection may disrupt sensory-neural mechanisms.

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## Record 18 of 50

**Title:** Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: a cohort study in Beijing, China

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**Abstract:** Introduction Transmission of COVID-19 within families and close contacts accounts for the majority of epidemic growth. Community mask wearing, hand washing and social distancing are thought to be effective but there is little evidence to inform or support community members on COVID-19 risk reduction within families.

Methods A retrospective cohort study of 335 people in 124 families and with at least one laboratory confirmed COVID-19 case was conducted from 28 February to 27 March 2020, in Beijing, China. The outcome of interest was secondary transmission of severe acute

respiratory syndrome coronavirus 2 (SARS-CoV-2) within the family. Characteristics and practices of primary cases, of well family contacts and household hygiene practices were analysed as predictors of secondary transmission.

Results The secondary attack rate in families was 23.0% (77/335). Face mask use by the primary case and family contacts before the primary case developed symptoms was 79% effective in reducing transmission (OR=0.21, 95% CI 0.06 to 0.79). Daily use of chlorine or ethanol based disinfectant in households was 77% effective (OR=0.23, 95% CI 0.07 to 0.84). Wearing a mask after illness onset of the primary case was not significantly protective. The risk of household transmission was 18 times higher with frequent daily close contact with the primary case (OR=18.26, 95% CI 3.93 to 84.79), and four times higher if the primary case had diarrhoea (OR=4.10, 95% CI 1.08 to 15.60). Household crowding was not significant.

Conclusion The study confirms the highest risk of transmission prior to symptom onset, and provides the first evidence of the effectiveness of mask use, disinfection and social distancing in preventing COVID-19. We also found evidence of faecal transmission. This can inform guidelines for community prevention in settings of intense COVID-19 epidemics.

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**Record 19 of 50**

**Title:** From high-touch to high-tech: COVID-19 drives robotics adoption

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**Source:** TOURISM GEOGRAPHIES **Volume:** 22 **Issue:** 3 **Special Issue:** SI **Pages:** 724-734 **DOI:** 10.1080/14616688.2020.1762118 **Early Access Date:** MAY 2020 **Published:** MAY 26 2020

**Times Cited in Web of Science Core Collection:** 235

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**Abstract:** Global economic and social life has been severely challenged since the World Health Organization (WHO) declared the COVID-19 disease a pandemic. Travel, tourism and hospitality, in particular, has been massively impacted by the lockdowns used to maintain social distance to manage the disease. Robotics, artificial intelligence, and human-robot interactions have gained an increased presence to help manage the spread of COVID-19 in hospitals, airports, transportation systems, recreation and scenic areas, hotels, restaurants, and communities in general. Humanoid robots, autonomous vehicles, drones, and other intelligent robots are used in many different ways to reduce human contact and the potential spread of the SARS-CoV-2 virus, including delivering materials, disinfecting and sterilizing public spaces, detecting or measuring body temperature, providing safety or security, and comforting and entertaining patients. While controversial in the past due to concerns over job losses and data privacy, the adoption of robotics and artificial intelligence in travel and tourism will likely continue after the COVID-19 pandemic becomes less serious. Tourism scholars should seize this opportunity to develop robotic applications that enhance tourist experiences, the protection of natural and cultural resources, citizen participation in tourism development decision making, and the emergence of new 'high-touch' employment opportunities for travel, tourism and hospitality workers.

**Accession Number:** WOS:000534121800001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 20 of 50**

**Title:** Orthogonal SARS-CoV-2 Serological Assays Enable Surveillance of Low-Prevalence

## Communities and Reveal Durable Humoral Immunity

**Author(s):** Ripperger, TJ (Ripperger, Tyler J.); Uhrlaub, JL (Uhrlaub, Jennifer L.); Watanabe, M (Watanabe, Makiko); Wong, R (Wong, Rachel); Castaneda, Y (Castaneda, Yvonne); Pizzato, HA (Pizzato, Hannah A.); Thompson, MR (Thompson, Mallory R.); Bradshaw, C (Bradshaw, Christine); Weinkauff, CC (Weinkauff, Craig C.); Bime, C (Bime, Christian); Erickson, HL (Erickson, Heidi L.); Knox, K (Knox, Kenneth); Bixby, B (Bixby, Billie); Parthasarathy, S (Parthasarathy, Sairam); Chaudhary, S (Chaudhary, Sachin); Natt, B (Natt, Bhupinder); Cristan, E (Cristan, Elaine); El Aini, T (El Aini, Tammer); Rischard, F (Rischard, Franz); Campion, J (Campion, Janet); Chopra, M (Chopra, Madhav); Insel, M (Insel, Michael); Sam, A (Sam, Afshin); Knepler, JL (Knepler, James L.); Capaldi, AP (Capaldi, Andrew P.); Spier, CM (Spier, Catherine M.); Dake, MD (Dake, Michael D.); Edwards, T (Edwards, Taylor); Kaplan, ME (Kaplan, Matthew E.); Scott, SJ (Scott, Serena Jain); Hypes, C (Hypes, Cameron); Mosier, J (Mosier, Jarrod); Harris, DT (Harris, David T.); LaFleur, BJ (LaFleur, Bonnie J.); Sprissler, R (Sprissler, Ryan); Nikolich-Zugich, J (Nikolich-Zugich, Janko); Bhattacharya, D (Bhattacharya, Deepta)

**Source:** IMMUNITY **Volume:** 53 **Issue:** 5 **Pages:** 925-+ **DOI:** 10.1016/j.immuni.2020.10.004 **Published:** NOV 17 2020

**Times Cited in Web of Science Core Collection:** 201

**Total Times Cited:** 203

**Abstract:** We conducted a serological study to define correlates of immunity against SARS-CoV-2. Compared to those with mild coronavirus disease 2019 (COVID-19) cases, individuals with severe disease exhibited elevated virus-neutralizing titers and antibodies against the nucleocapsid (N) and the receptor binding domain (RBD) of the spike protein. Age and sex played lesser roles. All cases, including asymptomatic individuals, seroconverted by 2 weeks after PCR confirmation. Spike RBD and S2 and neutralizing antibodies remained detectable through 5-7 months after onset, whereas alpha-N titers diminished. Testing 5,882 members of the local community revealed only 1 sample with seroreactivity to both RBD and S2 that lacked neutralizing antibodies. This fidelity could not be achieved with either RBD or S2 alone. Thus, inclusion of multiple independent assays improved the accuracy of antibody tests in low-seroprevalence communities and revealed differences in antibody kinetics depending on the antigen. We conclude that neutralizing antibodies are stably produced for at least 5-7 months after SARS-CoV-2 infection.

**Accession Number:** WOS:000599348200007

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 21 of 50

**Title:** Computational analysis of SARS-CoV-2/COVID-19 surveillance by wastewater-based epidemiology locally and globally: Feasibility, economy, opportunities and challenges

**Author(s):** Hart, OE (Hart, Olga E.); Halden, RU (Halden, Rolf U.)

**Source:** SCIENCE OF THE TOTAL ENVIRONMENT **Volume:** 730 **Article Number:** 138875 **DOI:** 10.1016/j.scitotenv.2020.138875 **Published:** AUG 15 2020

**Times Cited in Web of Science Core Collection:** 199

**Total Times Cited:** 201

**Abstract:** With the economic and practical limits of medical screening for SARS-CoV-2/COVID-19 coming sharply into focus worldwide, scientists are turning now to wastewater-based epidemiology (WBE) as a potential tool for assessing and managing the pandemic. We employed computational analysis and modeling to examine the feasibility, economy, opportunities and challenges of enumerating active coronavirus infections locally and globally using WBE. Depending on local conditions, detection in

community wastewater of one symptomatic/asymptomatic infected case per 100 to 2,000,000 non-infected people is theoretically feasible, with some practical successes now being reported from around the world. Computer simulations for past, present and emerging epidemic hotspots (e.g., Wuhan, Milan, Madrid, New York City, Teheran, Seattle, Detroit and New Orleans) identified temperature, average in-sewer travel time and per-capita water use as key variables. WBE surveillance of populations is shown to be orders of magnitude cheaper and faster than clinical screening, yet cannot fully replace it. Cost savings worldwide for one-time national surveillance campaigns are estimated to be in the million to billion US dollar range (US\$), depending on a nation's population size and number of testing rounds conducted. For resource poor regions and nations, WBE may represent the only viable means of effective surveillance. Important limitations of WBE rest with its inability to identify individuals and to pinpoint their specific locations. Not compensating for temperature effects renders WBE data vulnerable to severe under-/over-estimation of infected cases. Effective surveillance may be envisioned as a two-step process in which WBE serves to identify and enumerate infected cases, where after clinical testing then serves to identify infected individuals in WBE-revealed hotspots. Data provided here demonstrate this approach to save money, be broadly applicable worldwide, and potentially aid in precision management of the pandemic, thereby helping to accelerate the global economic recovery that billions of people rely upon for their livelihoods. (C) 2020 The Authors. Published by Elsevier B.V.

**Accession Number:** WOS:000537445500004

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 22 of 50**

**Title:** How simulation modelling can help reduce the impact of COVID-19

**Author(s):** Currie, CSM (Currie, Christine S. M.); Fowler, JW (Fowler, John W.); Kotiadis, K (Kotiadis, Kathy); Monks, T (Monks, Thomas); Onggo, BS (Onggo, Bhakti Stephan); Robertson, DA (Robertson, Duncan A.); Tako, AA (Tako, Antuela A.)

**Source:** JOURNAL OF SIMULATION **Volume:** 14 **Issue:** 2 **Special Issue:** SI **Pages:** 83-97 **DOI:** 10.1080/17477778.2020.1751570 **Published:** APR 2 2020

**Times Cited in Web of Science Core Collection:** 188

**Total Times Cited:** 189

**Abstract:** Modelling has been used extensively by all national governments and the World Health Organisation in deciding on the best strategies to pursue in mitigating the effects of COVID-19. Principally these have been epidemiological models aimed at understanding the spread of the disease and the impacts of different interventions. But a global pandemic generates a large number of problems and questions, not just those related to disease transmission, and each requires a different model to find the best solution. In this article we identify challenges resulting from the COVID-19 pandemic and discuss how simulation modelling could help to support decision-makers in making the most informed decisions. Modellers should see the article as a call to arms and decision-makers as a guide to what support is available from the simulation community.

**Accession Number:** WOS:000544408000001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 23 of 50**

**Title:** The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Moderna COVID-19 Vaccine - United States, December 2020

**Author(s):** Oliver, SE (Oliver, Sara E.); Gargano, JW (Gargano, Julia W.); Marin, M (Marin, Mona); Wallace, M (Wallace, Megan); Curran, KG (Curran, Kathryn G.); Chamberland, M (Chamberland, Mary); McClung, N (McClung, Nancy); Campos-Outcalt, D (Campos-Outcalt, Doug); Morgan, RL (Morgan, Rebecca L.); Mbaeyi, S (Mbaeyi, Sarah); Romero, JR (Romero, Jose R.); Talbot, HK (Talbot, H. Keipp); Lee, GM (Lee, Grace M.); Bell, BP (Bell, Beth P.); Dooling, K (Dooling, Kathleen)

**Source:** MMWR-MORBIDITY AND MORTALITY WEEKLY REPORT **Volume:** 69 **Issue:** 51-52 **Pages:** 1653-1656 **DOI:** 10.15585/mmwr.mm695152e1 **Published:** JAN 1 2021

**Times Cited in Web of Science Core Collection:** 177

**Total Times Cited:** 181

**Accession Number:** WOS:000606436700005

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 24 of 50

**Title:** The origins of SARS-CoV-2: A critical review

**Author(s):** Holmes, EC (Holmes, Edward C.); Goldstein, SA (Goldstein, Stephen A.); Rasmussen, AL (Rasmussen, Angela L.); Robertson, DL (Robertson, David L.); Crits-Christoph, A (Crits-Christoph, Alexander); Wertheim, JO (Wertheim, Joel O.); Anthony, SJ (Anthony, Simon J.); Barclay, WS (Barclay, Wendy S.); Boni, MF (Boni, Maciej F.); Doherty, PC (Doherty, Peter C.); Farrar, J (Farrar, Jeremy); Geoghegan, JL (Geoghegan, Jemma L.); Jiang, XW (Jiang, Xiaowei); Leibowitz, JL (Leibowitz, Julian L.); Neil, SJD (Neil, Stuart J. D.); Skern, T (Skern, Tim); Weiss, SR (Weiss, Susan R.); Worobey, M (Worobey, Michael); Andersen, KG (Andersen, Kristian G.); Garry, RF (Garry, Robert F.); Rambaut, A (Rambaut, Andrew)

**Source:** CELL **Volume:** 184 **Issue:** 19 **Pages:** 4848-4856 **DOI:** 10.1016/j.cell.2021.08.017 **Early Access Date:** SEP 2021 **Published:** SEP 16 2021

**Times Cited in Web of Science Core Collection:** 174

**Total Times Cited:** 175

**Abstract:** Since the first reports of a novel severe acute respiratory syndrome (SARS)-like coronavirus in December 2019 in Wuhan, China, there has been intense interest in understanding how severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in the human population. Recent debate has coalesced around two competing ideas: a "laboratory escape" scenario and zoonotic emergence. Here, we critically review the current scientific evidence that may help clarify the origin of SARS-CoV-2.

**Accession Number:** WOS:000704445100004



**Document Type:** Review

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 25 of 50**

**Title:** The COVID-19 Pandemic, Small-Scale Fisheries and Coastal Fishing Communities

**Author(s):** Bennett, NJ (Bennett, Nathan J.); Finkbeiner, EM (Finkbeiner, Elena M.); Ban, NC (Ban, Natalie C.); Belhabib, D (Belhabib, Dyhia); Jupiter, SD (Jupiter, Stacy D.); Kittinger, JN (Kittinger, John N.); Mangubhai, S (Mangubhai, Sangeeta); Scholtens, J (Scholtens, Joeri); Gill, D (Gill, David); Christie, P (Christie, Patrick)

**Source:** COASTAL MANAGEMENT **Volume:** 48 **Issue:** 4 **Pages:** 336-347 **DOI:** 10.1080/08920753.2020.1766937 **Early Access Date:** MAY 2020  
**Published:** JUL 3 2020

**Times Cited in Web of Science Core Collection:** 172

**Total Times Cited:** 177

**Abstract:** The COVID-19 pandemic has rapidly spread around the world with extensive social and economic effects. This editorial focuses specifically on the implications of the pandemic for small-scale fishers, including marketing and processing aspects of the sector, and coastal fishing communities, drawing from news and reports from around the world. Negative consequences to date have included complete shut-downs of some fisheries, knock-on economic effects from market disruptions, increased health risks for fishers, processors and communities, additional implications for marginalized groups, exacerbated vulnerabilities to other social and environmental stressors, and increased Illegal, Unreported and Unregulated fishing. Though much of the news is dire, there have been some positive outcomes such as food sharing, the revival of local food networks, increases in local sales through direct marketing and deliveries, collective actions to safeguard rights, collaborations between communities and governments, and reduced fishing pressure in some places. While the crisis is still unfolding, there is an urgent need to coordinate, plan and implement effective short- and long-term responses. Thus, we urge governments, development organizations, NGOs, donors, the private sector, and researchers to rapidly mobilize in support of small-scale fishers, coastal fishing communities, and associated civil society organizations, and suggest actions that can be taken by each to help these groups respond to the COVID-19 pandemic.

**Accession Number:** WOS:000538731100001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 26 of 50

**Title:** Umbilical cord mesenchymal stem cells for COVID-19 acute respiratory distress syndrome: A double-blind, phase 1/2a, randomized controlled trial

**Author(s):** Lanzoni, G (Lanzoni, Giacomo); Linetsky, E (Linetsky, Elina); Correa, D (Correa, Diego); Cayetano, SM (Cayetano, Shari Messinger); Alvarez, RA (Alvarez, Roger A.); Kouroupis, D (Kouroupis, Dimitrios); Gil, AA (Gil, Ana Alvarez); Poggioli, R (Poggioli, Raffaella); Ruiz, P (Ruiz, Phillip); Marttos, AC (Martos, Antonio C.); Hirani, K (Hirani, Khemraj); Bell, CA (Bell, Crystal A.); Kusack, H (Kusack, Halina); Rafkin, L (Rafkin, Lisa); Baidal, D (Baidal, David); Pastewski, A (Pastewski, Andrew); Gawri, K (Gawri, Kunal); Lenero, C (Lenero, Clarissa); Mantero, AMA (Mantero, Alejandro M. A.); Metalonis, SW (Metalonis, Sarah W.); Wang, XJ (Wang, Xiaojing); Roque, L (Roque, Luis); Masters, B (Masters, Burlett); Kenyon, NS (Kenyon, Norma S.); Ginzburg, E (Ginzburg, Enrique); Xu, XM (Xu, Xiumin); Tan, JM (Tan, Jianming); Caplan, AI (Caplan, Arnold, I); Glassberg, MK (Glassberg, Marilyn K.); Alejandro, R (Alejandro, Rodolfo); Ricordi, C (Ricordi, Camillo)

**Source:** STEM CELLS TRANSLATIONAL MEDICINE **Volume:** 10 **Issue:** 5 **Pages:** 660-673 **DOI:** 10.1002/sctm.20-0472 **Early Access Date:** JAN 2021 **Published:** MAY 2021

**Times Cited in Web of Science Core Collection:** 164

**Total Times Cited:** 170

**Abstract:** Acute respiratory distress syndrome (ARDS) in COVID-19 is associated with high mortality. Mesenchymal stem cells are known to exert immunomodulatory and anti-inflammatory effects and could yield beneficial effects in COVID-19 ARDS. The objective of this study was to determine safety and explore efficacy of umbilical cord mesenchymal stem cell (UC-MSC) infusions in subjects with COVID-19 ARDS. A double-blind, phase 1/2a, randomized, controlled trial was performed. Randomization and stratification by ARDS severity was used to foster balance among groups. All subjects were analyzed under intention to treat design. Twenty-four subjects were randomized 1:1 to either UC-MSC treatment (n = 12) or the control group (n = 12). Subjects in the UC-MSC treatment group received two intravenous infusions (at day 0 and 3) of 100 +/- 20 x 10<sup>6</sup> UC-MSCs; controls received two infusions of vehicle solution. Both groups

received best standard of care. Primary endpoint was safety (adverse events [AEs]) within 6 hours; cardiac arrest or death within 24 hours postinfusion). Secondary endpoints included patient survival at 31 days after the first infusion and time to recovery. No difference was observed between groups in infusion-associated AEs. No serious adverse events (SAEs) were observed related to UC-MSc infusions. UC-MSc infusions in COVID-19 ARDS were found to be safe. Inflammatory cytokines were significantly decreased in UC-MSc-treated subjects at day 6. Treatment was associated with significantly improved patient survival (91% vs 42%,  $P = .015$ ), SAE-free survival ( $P = .008$ ), and time to recovery ( $P = .03$ ). UC-MSc infusions are safe and could be beneficial in treating subjects with COVID-19 ARDS.

**Accession Number:** WOS:000604705500001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 27 of 50**

**Title:** Pharmaco-Immunomodulatory Therapy in COVID-19

**Author(s):** Rizk, JG (Rizk, John G.); Kalantar-Zadeh, K (Kalantar-Zadeh, Kamyar); Mehra, MR (Mehra, Mandeep R.); Lavie, CJ (Lavie, Carl J.); Rizk, Y (Rizk, Youssef); Forthal, DN

(Forthal, Donald N.)

**Source:** DRUGS **Volume:** 80 **Issue:** 13 **Pages:** 1267-1292 **DOI:** 10.1007/s40265-020-01367-z **Early Access Date:** JUL 2020 **Published:** SEP 2020

**Times Cited in Web of Science Core Collection:** 154

**Total Times Cited:** 164

**Abstract:** The severe acute respiratory syndrome coronavirus 2 associated coronavirus disease 2019 (COVID-19) illness is a syndrome of viral replication in concert with a host inflammatory response. The cytokine storm and viral evasion of cellular immune responses may play an equally important role in the pathogenesis, clinical manifestation, and outcomes of COVID-19. Systemic proinflammatory cytokines and biomarkers are elevated as the disease progresses towards its advanced stages, and correlate with worse chances of survival. Immune modulators have the potential to inhibit cytokines and treat the cytokine storm. A literature search using PubMed, Google Scholar, and ClinicalTrials.gov was conducted through 8 July 2020 using the search terms 'coronavirus', 'immunology', 'cytokine storm', 'immunomodulators', 'pharmacology', 'severe acute respiratory syndrome 2', 'SARS-CoV-2', and 'COVID-19'. Specific immune modulators include anti-cytokines such as interleukin (IL)-1 and IL-6 receptor antagonists (e.g. anakinra, tocilizumab, sarilumab, siltuximab), Janus kinase (JAK) inhibitors (e.g. baricitinib, ruxolitinib), anti-tumor necrosis factor-alpha (e.g. adalimumab, infliximab), granulocyte-macrophage colony-stimulating factors (e.g. gimsilumab, lenzilumab, namilumab), and convalescent plasma, with promising to negative trials and other data. Non-specific immune modulators include human immunoglobulin, corticosteroids such as dexamethasone, interferons, statins, angiotensin pathway modulators, macrolides (e.g. azithromycin, clarithromycin), hydroxychloroquine and chloroquine, colchicine, and prostaglandin D2 modulators such as ramatroban. Dexamethasone 6 mg once daily (either by mouth or by intravenous injection) for 10 days may result in a reduction in mortality in COVID-19 patients by one-third for patients on ventilators, and by one-fifth for those receiving oxygen. Research efforts should focus not only on the most relevant immunomodulatory strategies but also on the optimal timing of such interventions to maximize therapeutic outcomes. In this review, we discuss the potential role and safety of these agents in the management of severe COVID-19, and their impact on survival and clinical symptoms.

**Accession Number:** WOS:000551013900001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 28 of 50

**Title:** Emergence and rapid transmission of SARS-CoV-2 B.1.1.7 in the United States

**Author(s):** Washington, NL (Washington, Nicole L.); Gangavarapu, K (Gangavarapu, Karthik); Zeller, M (Zeller, Mark); Bolze, A (Bolze, Alexandre); Cirulli, ET (Cirulli, Elizabeth T.); Barrett, KMS (Barrett, Kelly M. Schiabor); Larsen, BB (Larsen, Brendan B.); Anderson, C (Anderson, Catelyn); White, S (White, Simon); Cassens, T (Cassens, Tyler); Jacobs, S (Jacobs, Sharoni); Levan, G (Levan, Geraint); Nguyen, J (Nguyen, Jason); Ramirez, JM (Ramirez, Jimmy M., III); Rivera-Garcia, C (Rivera-Garcia, Charlotte); Sandoval, E (Sandoval, Efren); Wang, XQ (Wang, Xueqing); Wong, D (Wong, David); Spencer, E (Spencer, Emily); Robles-Sikisaka, R (Robles-Sikisaka, Refugio); Kurzban, E (Kurzban, Ezra); Hughes, LD (Hughes, Laura D.); Deng, XD (Deng, Xianding); Wang, CDC (Wang, Candace); Servellita, V (Servellita, Venice); Valentine, H (Valentine, Holly); De Hoff, P (De Hoff, Peter); Seaver, P (Seaver, Phoebe); Sathe, S (Sathe, Shashank); Gietzen, K (Gietzen, Kimberly); Sickler, B (Sickler, Brad); Antico, J (Antico, Jay); Hoon, K (Hoon, Kelly); Liu, JT (Liu, Jingtao); Harding, A (Harding, Aaron); Bakhtar, O (Bakhtar, Omid); Basler, T (Basler, Tracy); Austin, B (Austin, Brett); MacCannell, D (MacCannell, Duncan); Isaksson, M (Isaksson, Magnus); Febbo, PG (Febbo, Phillip G.); Becker, D (Becker, David); Laurent, M (Laurent, Marc); McDonald, E (McDonald, Eric); Yeo, GW (Yeo, Gene W.); Knight, R (Knight, Rob); Laurent, LC (Laurent, Louise C.); de Feo, E (de Feo, Eileen); Worobey, M (Worobey, Michael); Chiu, CY (Chiu, Charles Y.); Suchard, MA (Suchard, Marc A.); Lu, JT (Lu, James T.); Lee, W (Lee, William); Andersen, KG (Andersen, Kristian G.)

**Source:** CELL **Volume:** 184 **Issue:** 10 **Pages:** 2587-+ **Article Number:** e7 **DOI:** 10.1016/j.cell.2021.03.052 **Early Access Date:** MAY 2021 **Published:** MAY 13 2021

**Times Cited in Web of Science Core Collection:** 150

**Total Times Cited:** 152

**Abstract:** The highly transmissible B.1.1.7 variant of SARS-CoV-2, first identified in the United Kingdom, has gained a foothold across the world. Using S gene target failure (SGTF) and SARS-CoV-2 genomic sequencing, we investigated the prevalence and dynamics of this variant in the United States (US), tracking it back to its early emergence. We found that, while the fraction of B.1.1.7 varied by state, the variant increased at a logistic rate with a roughly weekly doubling rate and an increased transmission of 40%-50%. We revealed several independent introductions of B.1.1.7 into the US as early as late November 2020, with community transmission spreading it to most states within months. We show that the US is on a similar trajectory as other countries where B.1.1.7 became dominant, requiring immediate and decisive action to

minimize COVID-19 morbidity and mortality.

**Accession Number:** WOS:000652830800006

**Document Type:** Article

**Addresses:** [Washington, Nicole L.; Bolze, Alexandre; Cirulli, Elizabeth T.; Barrett, Kelly M. Schiabor; White, Simon; Cassens, Tyler; Jacobs, Sharoni; Levan, Geraint; Nguyen, Jason; Ramirez, Jimmy M., III; Rivera-Garcia, Charlotte; Sandoval, Efren; Wang, Xueqing; Wong, David; Isaksson, Magnus; Becker, David; Laurent, Marc; Lu, James T.; Lee, William] Helix, San Mateo, CA 94401 USA.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 29 of 50**

**Title:** Triage of Scarce Critical Care Resources in COVID-19 An Implementation Guide for Regional Allocation An Expert Panel Report of the Task Force for Mass Critical Care and the American College of Chest Physicians

**Author(s):** Maves, RC (Maves, Ryan C.); Downar, J (Downar, James); Dichter, JR (Dichter, Jeffrey R.); Hick, JL (Hick, John L.); Devereaux, A (Devereaux, Asha); Geiling, JA (Geiling, James A.); Kisson, N (Kisson, Niranjana); Hupert, N (Hupert, Nathaniel); Niven, AS (Niven, Alexander S.); King, MA (King, Mary A.); Rubinson, LL (Rubinson, Lewis L.); Hanfling, D (Hanfling, Dan); Hodge, JG (Hodge, James G., Jr.); Marshall, MF (Marshall, Mary Faith); Fischkoff, K (Fischkoff, Katherine); Evans, LE (Evans, Laura E.); Tonelli, MR (Tonelli, Mark R.); Wax, RS (Wax, Randy S.); Seda, G (Seda, Gilbert); Parrish, JS (Parrish, John S.); Truog, RD (Truog, Robert D.); Sprung, CL (Sprung, Charles L.); Christian, MD (Christian, Michael D.)

**Group Author(s):** ACCP Task Force Mass Critical Care

**Source:** CHEST **Volume:** 158 **Issue:** 1 **Pages:** 212-225 **DOI:** 10.1016/j.chest.2020.03.063 **Published:** JUL 2020

**Times Cited in Web of Science Core Collection:** 144

**Total Times Cited:** 146

**Abstract:** Public health emergencies have the potential to place enormous strain on health systems. The current pandemic of the novel 2019 coronavirus disease has required hospitals in numerous countries to expand their surge capacity to meet the needs of patients with critical illness. When even surge capacity is exceeded, however, principles of critical care triage may be needed as a means to allocate scarce resources, such as mechanical ventilators or key medications. The goal of a triage system is to direct limited resources towards patients most likely to benefit from them. Implementing a triage system requires careful coordination between clinicians, health systems, local and regional governments, and the public, with a goal of transparency to maintain trust. We discuss the principles of tertiary triage and methods for implementing such a system, emphasizing that these systems should serve only as a last resort. Even under triage, we must uphold our obligation to care for all patients as best possible under difficult circumstances.

**Accession Number:** WOS:000545659700049

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 30 of 50

**Title:** Terror Management Theory and the COVID-19 Pandemic

**Author(s):** Pyszczynski, T (Pyszczynski, Tom); Lockett, M (Lockett, McKenzie); Greenberg, J (Greenberg, Jeff); Solomon, S (Solomon, Sheldon)

**Source:** JOURNAL OF HUMANISTIC PSYCHOLOGY **Volume:** 61 **Issue:** 2 **Special Issue:** SI **Pages:** 173-189 **Article**

**Number:** 0022167820959488 **DOI:** 10.1177/0022167820959488 **Early Access Date:** SEP 2020 **Published:** MAR 2021

**Times Cited in Web of Science Core Collection:** 141

**Total Times Cited:** 142

**Abstract:** Terror management theory is focused on the role that awareness of death plays in diverse aspects of life. Here, we discuss the theory's implications for understanding the widely varying ways in which people have responded to the COVID-19 pandemic. We argue that regardless of whether one consciously believes that the virus is a major threat to life or only a minor inconvenience, fear of death plays an important role in driving one's attitudes and behavior related to the virus. We focus on the terror management theory distinction between proximal defenses, which are activated when thoughts of death are in current focal attention and are logically related to the threat at hand, and distal defenses, which are activated when thoughts of death are on the fringes of one's consciousness and entail the pursuit of meaning, personal value, and close relationships. We use this framework to discuss the many ways in which COVID-19 undermines psychological equanimity, the diverse ways people have responded to this threat, and the role of ineffective terror management in psychological distress and disorder that may emerge in response to the virus.

**Accession Number:** WOS:000570663900001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

### **Record 31 of 50**

**Title:** Adolescents' Perceived Socio-Emotional Impact of COVID-19 and Implications for Mental Health: Results From a US-Based Mixed-Methods Study

**Author(s):** Rogers, AA (Rogers, Adam A.); Ha, T (Ha, Thao); Ockey, S (Ockey, Sydney)

**Source:** JOURNAL OF ADOLESCENT HEALTH **Volume:** 68 **Issue:** 1 **Pages:** 43-52 **DOI:** 10.1016/j.jadohealth.2020.09.039 **Published:** JAN 2021

**Times Cited in Web of Science Core Collection:** 138

**Total Times Cited:** 139

**Abstract:** Purpose: COVID-19 has disrupted many aspects of adolescents' lives, yet little data are available that document their subjective experiences of the pandemic. In a mixed-methods study of U.S. adolescents, we examined (1) adolescents' perceptions of how their social and emotional lives had changed during COVID-19; and (2) associations between these perceived changes and indices of their mental health, above and beyond their pre-pandemic mental health status.

Methods: Four hundred seven U.S. adolescents (M-age = 15.24, standard deviation = 1.69; 50% female; 52%, 20% African American, 17% Hispanic/Latinx) completed surveys before (October 2019) and during (April 2020) the COVID-19 pandemic. They provided qualitative and quantitative responses on their experiences with COVID-19 and reports of their mental health.

Results: Adolescents perceived various changes in their relationships with family and friends (e.g., less perceived friend support) during COVID-19. They also perceived increases in negative affect and decreases in positive affect. These perceived social and emotional changes were associated with elevated depressive symptoms, anxiety symptoms, and loneliness in April 2020, controlling for mental health problems before the pandemic.

Conclusions: Our findings sensitize clinicians and scholars to the vulnerabilities (changes in friendship dynamics), as well as resiliencies (supportive family contexts), presented to U.S. adolescents during the early months of COVID-19. (C) 2020 Society for Adolescent Health and Medicine. All rights reserved.

**Accession Number:** WOS:000612549900010

**Document Type:** Article

**Addresses:** [Rogers, Adam A.; Ockey, Sydney] Brigham Young Univ, Sch Family Life, JFSB 2086, Provo, UT 84602 USA.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

### Record 32 of 50

**Title:** COVID-19 impact on fruit and vegetable markets

**Author(s):** Richards, TJ (Richards, Timothy J.); Rickard, B (Rickard, Bradley)

**Source:** CANADIAN JOURNAL OF AGRICULTURAL ECONOMICS-REVUE CANADIENNE D AGROECONOMIE **Volume:** 68 **Issue:** 2 **Pages:** 189-194 **DOI:** 10.1111/cjag.12231 **Early Access Date:** MAY 2020 **Published:** JUN 2020

**Times Cited in Web of Science Core Collection:** 137

**Total Times Cited:** 139

**Abstract:** Canadian fruit and vegetable markets were significantly impacted by the spread of the novel coronavirus SARS-CoV-2 (and COVID-19 disease), beginning in March 2020. Due to the closure of restaurants, bars, and schools, produce growers and distributors were forced to shift supplies almost entirely from the foodservice to the retail channel. Shippers reported labor and logistical constraints in making the change, but the fresh produce supply chain remained robust. In the long term, we expect lasting changes in consumers' online food-purchasing habits, heightened constraints on immigrant labor markets, and tighter concentration in fresh produce distribution and perhaps retailing.

**Accession Number:** WOS:000533460100001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 33 of 50**

**Title:** Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 Infection at Two Community-Based Testing Sites - Pima County, Arizona, November 3-17, 2020

**Author(s):** Prince-Guerra, JL (Prince-Guerra, Jessica L.); Almendares, O (Almendares, Olivia); Nolen, LD (Nolen, Leisha D.); Gunn, JKL (Gunn, Jayleen K. L.); Dale, AP (Dale, Ariella P.); Buono, SA (Buono, Sean A.); Deutsch-Feldman, M (Deutsch-Feldman, Molly); Suppiah, S (Suppiah, Suganthi); Hao, LJ (Hao, Lijuan); Zeng, Y (Zeng, Yan); Stevensl, VA (Stevensl, Valerie A.); Knipe, K (Knipe, Kristen); Pompey, J (Pompey, Justine); Atherstone, C (Atherstone, Christine); Bui, DP (Bui, David P.); Powell, T (Powell, Tracy); Tamin, A (Tamin, Azaibi); Harcourt, JL (Harcourt, Jennifer L.); Shewmaker, PL (Shewmaker, Patricia L.); Medrzycki, M (Medrzycki, Magdalena); Wong, L (Wong, Phili); Jain, S (Jain, Shilpi); Tejada-Strop, A (Tejada-Strop, Alexandra); Rogers, S (Rogers, Shannon); Emery, B (Emery, Brian); Wang, HP (Wang, Houping); Petway, M (Petway, Marla); Bohannon, C (Bohannon, Caitlin); Folster, JM (Folster, Jennifer M.); MacNeil, A (MacNeil, Adam); Salerno, R (Salerno, Reynolds); Kuhnert-Tallman, W (Kuhnert-Tallman, Wendi); Tate, JE (Tate, Jacqueline E.); Thornburg, NJ (Thornburg, Natalie J.); Kirking, HL (Kirking, Hannah L.); Sheiban, K (Sheiban, Khalilullah); Kudrna, J (Kudrna, Julie); Cullen, T (Cullen, Theresa); Komatsu, KK (Komatsu, Kenneth K.); Villanueva, JM (Villanueva, Julie M.); Rose, DA (Rose, Dale A.); Neatherlin, JC (Neatherlin, John C.); Anderson, M (Anderson, Mark); Rota, PA (Rota, Paul A.); Honein, MA (Honein, Margaret A.); Bower, WA (Bower, William A.)

**Source:** MMWR-MORBIDITY AND MORTALITY WEEKLY REPORT **Volume:** 70 **Issue:** 3 **Pages:** 100-105 **DOI:** 10.15585/mmwr.mm7003e3 **Published:** JAN 22 2021

**Times Cited in Web of Science Core Collection:** 134

**Total Times Cited:** 135

**Abstract:** What is already known about this topic?

The BinaxNOW rapid antigen test received Emergency Use Authorization by the Food and Drug Administration for testing specimens from symptomatic persons; performance among asymptomatic persons is not well characterized.

What is added by this report?

Sensitivity of the BinaxNOW antigen test, compared with polymerase chain reaction testing, was lower when used to test specimens from asymptomatic (35.8%) than from symptomatic (64.2%) persons, but specificity was high. Sensitivity was higher for culture-positive specimens (92.6% and 78.6% for those from symptomatic and asymptomatic persons, respectively); however, some antigen test-negative specimens had culturable virus.

What are the implications for public health practice?

The high specificity and rapid BinaxNOW antigen test turnaround time facilitate earlier isolation of infectious persons. Antigen tests can be an important tool in an overall community testing strategy to reduce transmission.

**Accession Number:** WOS:000625445900006

**Document Type:** Article

**Addresses:** [Prince-Guerra, Jessica L.; Almendares, Olivia; Nolen, Leisha D.; Gunn, Jayleen K. L.; Dale, Ariella P.; Buono, Sean A.; Deutsch-Feldman, Molly; Suppiah,

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## **Record 34 of 50**

**Title:** Occupational burnout syndrome and post-traumatic stress among healthcare professionals during the novel coronavirus disease 2019 (COVID-19) pandemic

**Author(s):** Raudenska, J (Raudenska, Jaroslava); Steinerova, V (Steinerova, Veronika); Javurkova, A (Javurkova, Alena); Urits, I (Urits, Ivan); Kaye, AD (Kaye, Alan D.); Viswanath, O (Viswanath, Omar); Varrassi, G (Varrassi, Giustino)

**Source:** BEST PRACTICE & RESEARCH-CLINICAL ANAESTHESIOLOGY **Volume:** 34 **Issue:** 3 **Pages:** 553-560 **DOI:** 10.1016/j.bpa.2020.07.008 **Published:** SEP 2020

**Times Cited in Web of Science Core Collection:** 132

**Total Times Cited:** 137

**Abstract:** This comprehensive review aims to explain the potential impact of coronavirus disease 2019 (COVID-19) on mental wellbeing of healthcare professionals (HCPs). Based on up-to-date research and psychological diagnostic manuals of Diagnostic and Statistical Manual of Mental Disorders, 5th edition and International Classification of Diseases, 11th revision, we describe associated psychological disorders and experiences that may arise related to COVID-19. Appropriate psychological measures are introduced, along with potential methodological limitations. Lastly, resilience building and preventative measures with interventions that may mitigate the impact on mental health of HCPs are described. (C) 2020 Elsevier Ltd. All rights reserved.

**Accession Number:** WOS:000576759400016

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 35 of 50

**Title:** Visions of travel and tourism after the global COVID-19 transformation of 2020

**Author(s):** Lew, AA (Lew, Alan A.); Cheer, JM (Cheer, Joseph M.); Haywood, M (Haywood, Michael); Brouder, P (Brouder, Patrick); Salazar, NB (Salazar, Noel B.)

**Source:** TOURISM GEOGRAPHIES **Volume:** 22 **Issue:** 3 **Special Issue:** SI **Pages:** 455-466 **DOI:** 10.1080/14616688.2020.1770326 **Early Access Date:** JUN 2020 **Published:** MAY 26 2020

**Times Cited in Web of Science Core Collection:** 132

**Total Times Cited:** 132

**Accession Number:** WOS:000543458800001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 36 of 50**

**Title:** The Use of Bronchoscopy During the Coronavirus Disease 2019 Pandemic  
CHEST/AABIP Guideline and Expert Panel Report

**Author(s):** Wahidi, MM (Wahidi, Momen M.); Shojaee, S (Shojaee, Samira); Lamb, CR (Lamb, Carla R.); Ost, D (Ost, David); Maldonado, F (Maldonado, Fabien); Eapen, G (Eapen, George); Caroff, DA (Caroff, Daniel A.); Stevens, MP (Stevens, Michael P.); Ouellette, DR (Ouellette, Daniel R.); Lilly, C (Lilly, Craig); Gardner, DD (Gardner, Donna D.); Glisinski, K (Glisinski, Kristen); Pennington, K (Pennington, Kelly); Alalawi, R (Alalawi, Raed)

**Source:** CHEST **Volume:** 158 **Issue:** 3 **Pages:** 1268-1281 **DOI:** 10.1016/j.chest.2020.04.036 **Published:** SEP 2020

**Times Cited in Web of Science Core Collection:** 130

**Total Times Cited:** 132

**Abstract:** BACKGROUND: The coronavirus disease 2019 (COVID-19) has swept the globe and is causing significant morbidity and mortality. Given that the virus is transmitted via droplets, open airway procedures such as bronchoscopy pose a significant risk to health-care workers (HCWs). The goal of this guideline was to examine the current evidence on the role of bronchoscopy during the COVID-19 pandemic and the optimal protection of patients and HCWs.

STUDY DESIGN AND METHODS: A group of approved panelists developed key clinical questions by using the Population, Intervention, Comparator, and Outcome (PICO) format that addressed specific topics on bronchoscopy related to COVID-19 infection and transmission. MEDLINE (via PubMed) was systematically searched for relevant literature and references were screened for inclusion. Validated evaluation tools were used to assess the quality of studies and to grade the level of evidence to support each recommendation. When evidence did not exist, suggestions were developed based on consensus using the modified Delphi process.

RESULTS: The systematic review and critical analysis of the literature based on six PICO questions resulted in six statements: one evidence-based graded recommendation and 5 ungraded consensus-based statements.

INTERPRETATION: The evidence on the role of bronchoscopy during the COVID-19 pandemic is sparse. To maximize protection of patients and HCWs, bronchoscopy should be used sparingly in the evaluation and management of patients with suspected or confirmed COVID-19 infections. In an area where community transmission of COVID-19 infection is present, bronchoscopy should be deferred for nonurgent indications, and if necessary to perform, HCWs should wear personal protective equipment while performing the procedure even on asymptomatic patients.

**Accession Number:** WOS:000570802000039

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## **Record 37 of 50**

**Title:** Continuation versus discontinuation of renin-angiotensin system inhibitors in patients admitted to hospital with COVID-19: a prospective, randomised, open-label trial

**Author(s):** Cohen, JB (Cohen, Jordana B.); Hanff, TC (Hanff, Thomas C.); William, P (William, Preethi); Sweitzer, N (Sweitzer, Nancy); Rosado-Santander, NR (Rosado-Santander, Nelson R.); Medina, C (Medina, Carola); Rodriguez-Mori, JE (Rodriguez-Mori, Juan E.); Renna, N (Renna, Nicolas); Chang, TI (Chang, Tara, I); Corrales-Medina, V (Corrales-Medina, Vicente); Andrade-Villanueva, JF (Andrade-Villanueva, Jaime F.); Barbagelata, A (Barbagelata, Alejandro); Cristodulo-Cortez, R (Cristodulo-Cortez, Roberto); Diaz-Cucho, OA (Diaz-Cucho, Omar A.); Spaak, J (Spaak, Jonas); Alfonso, CE (Alfonso, Carlos E.); Valdivia-Vega, R (Valdivia-Vega, Renzo); Villavicencio-Carranza, M (Villavicencio-Carranza, Mirko); Ayala-Garcia, RJ (Ayala-Garcia, Ricardo J.); Castro-Callirgos, CA (Castro-Callirgos, Carlos A.); Gonzalez-Hernandez, LA (Gonzalez-Hernandez, Luz A.); Bernales-Salas, EF (Bernales-Salas, Eduardo F.); Coacalla-Guerra, JC (Coacalla-Guerra, Johanna C.); Salinas-Herrera, CD (Salinas-Herrera, Cynthia D.); Nicolosi, L (Nicolosi, Liliana); Basconcel, M (Basconcel, Mauro); Byrd, JB (Byrd, James B.); Sharkoski, T (Sharkoski, Tiffany); Bendezu-Huwasquiche, LE (Bendezu-Huwasquiche, Luis E.); Chittams, J (Chittams, Jesse); Edmonston, DL (Edmonston, Daniel L.); Vasquez, CR (Vasquez, Charles R.); Chirinos, JA (Chirinos, Julio A.)

**Source:** LANCET RESPIRATORY MEDICINE **Volume:** 9 **Issue:** 3 **Pages:** 275-284 **DOI:** 10.1016/S2213-2600(20)30558-0 **Early Access Date:** MAR 2021 **Published:** MAR 2021

**Times Cited in Web of Science Core Collection:** 129

**Total Times Cited:** 131



**Abstract:** Background Biological considerations suggest that renin-angiotensin system inhibitors might influence the severity of COVID-19. We aimed to evaluate whether continuing versus discontinuing renin-angiotensin system inhibitors (angiotensin-converting enzyme inhibitors or angiotensin receptor blockers) affects outcomes in patients admitted to hospital with COVID-19.

**Methods** The REPLACE COVID trial was a prospective, randomised, open-label trial done at 20 large referral hospitals in seven countries worldwide. Eligible participants were aged 18 years and older who were admitted to hospital with COVID-19 and were receiving a renin-angiotensin system inhibitor before admission. Individuals with contraindications to continuation or discontinuation of renin-angiotensin system inhibitor therapy were excluded. Participants were randomly assigned (1:1) to continuation or discontinuation of their renin-angiotensin system inhibitor using permuted block randomisation, with allocation concealed using a secure web-based randomisation system. The primary outcome was a global rank score in which participants were ranked across four hierarchical tiers incorporating time to death, duration of mechanical ventilation, time on renal replacement or vasopressor therapy, and multiorgan dysfunction during the hospitalisation. Primary analyses were done in the intention-to-treat population. The REPLACE COVID trial is registered with ClinicalTrials.gov, NCT04338009.

**Findings** Between March 31 and Aug 20, 2020, 152 participants were enrolled and randomly assigned to either continue or discontinue renin-angiotensin system inhibitor therapy (continuation group n=75; discontinuation group n=77). Mean age of participants was 62 years (SD 12), 68 (45%) were female, mean bodymass index was 33 kg/m<sup>2</sup> (SD 8), and 79 (52%) had diabetes. Compared with discontinuation of renin-angiotensin system inhibitors, continuation had no effect on the global rank score (median rank 73 [IQR 40-110] for continuation vs 81 [38-117] for discontinuation; beta-coefficient 8 [95% CI -13 to 29]). There were 16 (21%) of 75 participants in the continuation arm versus 14 (18%) of 77 in the discontinuation arm who required intensive care unit admission or invasive mechanical ventilation, and 11 (15%) of 75 participants in the continuation group versus ten (13%) of 77 in the discontinuation group died. 29 (39%) participants in the continuation group and 28 (36%) participants in the discontinuation group had at least one adverse event (chi<sup>2</sup> test of adverse events between treatment groups p=0.77). There was no difference in blood pressure, serum potassium, or creatinine during follow-up across the two groups.

**Interpretation** Consistent with international society recommendations, renin-angiotensin system inhibitors can be safely continued in patients admitted to hospital with COVID-19.

**Accession Number:** WOS:000631393700029

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 38 of 50

**Title:** COVID-19 containment on a college campus via wastewater-based epidemiology, targeted clinical testing and an intervention

**Author(s):** Betancourt, WQ (Betancourt, Walter Q.); Schmitz, BW (Schmitz, Bradley W.); Innes, GK (Innes, Gabriel K.); Prasek, SM (Prasek, Sarah M.); Brown, KMP (Brown, Kristen M. Pogreba); Stark, ER (Stark, Erika R.); Foster, AR (Foster, Aidan R.); Sprissler, RS (Sprissler, Ryan S.); Harris, DT (Harris, David T.); Sherchan, SP (Sherchan, Samendra P.); Gerba, CP (Gerba, Charles P.); Pepper, IL (Pepper, Ian L.)

**Source:** SCIENCE OF THE TOTAL ENVIRONMENT **Volume:** 779 **Article Number:** 146408 **DOI:** 10.1016/j.scitotenv.2021.146408 **Early Access Date:** MAR 2021 **Published:** JUL 20 2021

**Times Cited in Web of Science Core Collection:** 128

**Total Times Cited:** 129

**Abstract:** Wastewater-based epidemiology has potential as an early-warning tool for determining the presence of COVID19 in a community. The University of Arizona (UArizona) utilized WBE paired with clinical testing as a surveillance tool to monitor the

UArizona community for SARS-CoV-2 in near real-time, as students re-entered campus in the fall. Positive detection of virus RNA in wastewater lead to selected clinical testing, identification, and isolation of three infected individuals (one symptomatic and two asymptomatic) that averted potential disease transmission. This case study demonstrated the value of WBE as a tool to efficiently utilize resources for COVID-19 prevention and response. Thus, WBE coupled with targeted clinical testing was further conducted on 13 dorms during the course of the Fall semester (Table 3). In total, 91 wastewater samples resulted in positive detection of SARS-CoV-2 RNA that successfully provided an early-warning for at least a single new reported case of infection (positive clinical test) among the residents living in the dorm. Overall, WBE proved to be an accurate diagnostic for new cases of COVID-19 with an 82.0% positive predictive value and an 88.9% negative predictive value. Increases in positive wastewater samples and clinical tests were noted following holiday-related activities. However, shelter-in-place policies proved to be effective in reducing the number of daily reported positive wastewater and clinical tests. This case study provides evidence for WBE paired with clinical testing and public health interventions to effectively contain potential outbreaks of COVID-19 in defined communities.  
(c) 2021 Published by Elsevier B.V.

**Accession Number:** WOS:000655687200021

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 39 of 50**

**Title:** Structure and inhibition of the SARS-CoV-2 main protease reveal strategy for developing dual inhibitors against M-pro and cathepsin L

**Author(s):** Sacco, MD (Sacco, Michael Dominic); Ma, CL (Ma, Chunlong); Lagarias, P

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**Source:** SCIENCE ADVANCES **Volume:** 6 **Issue:** 50 **Article Number:** eabe0751 **DOI:** 10.1126/sciadv.abe0751 **Published:** DEC 2020

**Times Cited in Web of Science Core Collection:** 124

**Total Times Cited:** 127

**Abstract:** The main protease (M-pro) of SARS-CoV-2 is a key antiviral drug target. While most M-pro inhibitors have a gamma-lactam glutamine surrogate at the P1 position, we recently found that several M-pro inhibitors have hydrophobic moieties at the P1 site, including calpain inhibitors II and XII, which are also active against human cathepsin L, a host protease that is important for viral entry. In this study, we solved x-ray crystal structures of M-pro in complex with calpain inhibitors II and XII and three analogs of GC-376. The structure of M-pro with calpain inhibitor II confirmed that the S1 pocket can accommodate a hydrophobic methionine side chain, challenging the idea that a hydrophilic residue is necessary at this position. The structure of calpain inhibitor XII revealed an unexpected, inverted binding pose. Together, the biochemical, computational, structural, and cellular data presented herein provide new directions for the development of dual inhibitors as SARS-CoV-2 antivirals.

**Accession Number:** WOS:000597410300021

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 40 of 50**

**Title:** Creating COVID-19 Stigma by Referencing the Novel Coronavirus as the "Chinese virus" on Twitter: Quantitative Analysis of Social Media Data

**Author(s):** Budhwani, H (Budhwani, Henna); Sun, RY (Sun, Ruoyan)

**Source:** JOURNAL OF MEDICAL INTERNET RESEARCH **Volume:** 22 **Issue:** 5 **Article Number:** e19301 **DOI:** 10.2196/19301 **Published:** MAY 6 2020

**Times Cited in Web of Science Core Collection:** 123

**Total Times Cited:** 123

**Abstract:** Background: Stigma is the deleterious, structural force that devalues members of groups that hold undesirable characteristics. Since stigma is created and reinforced by society-through in-person and online social interactions-referencing the novel coronavirus as the "Chinese virus" or "China virus" has the potential to create and perpetuate stigma.

Objective: The aim of this study was to assess if there was an increase in the prevalence and frequency of the phrases "Chinese virus" and "China virus" on Twitter after the March 16, 2020, US presidential reference of this term.

Methods: Using the Sysomos software (Sysomos, Inc), we extracted tweets from the United States using a list of keywords that were derivatives of "Chinese virus." We compared tweets at the national and state levels posted between March 9 and March 15 (preperiod) with those posted between March 19 and March 25 (postperiod). We used Stata 16 (StataCorp) for quantitative analysis, and Python (Python Software Foundation) to plot a state-level heat map.

Results: A total of 16,535 "Chinese virus" or "China virus" tweets were identified in the preperiod, and 177,327 tweets were identified in the postperiod, illustrating a nearly ten-fold increase at the national level. All 50 states witnessed an increase in the number of tweets exclusively mentioning "Chinese virus" or "China virus" instead of coronavirus disease (COVID-19) or coronavirus. On average, 0.38 tweets referencing "Chinese virus" or "China virus" were posted per 10,000 people at the state level in the preperiod, and 4.08 of these stigmatizing tweets were posted in the postperiod, also indicating a ten-fold increase. The 5 states with the highest number of postperiod "Chinese virus" tweets were Pennsylvania (n=5249), New York (n=11,754), Florida (n=13,070), Texas (n=14,861), and California (n=19,442). Adjusting for population size, the 5 states with the highest prevalence of postperiod "Chinese virus" tweets were Arizona (5.85), New York (6.04), Florida (6.09), Nevada (7.72), and Wyoming (8.76). The 5 states with the largest increase in pre- to postperiod "Chinese virus" tweets were Kansas (n=697/58, 1202%), South Dakota (n=185/15, 1233%), Mississippi (n=749/54, 1387%), New Hampshire (n=582/41, 1420%), and Idaho (n=670/46, 1457%).

Conclusions: The rise in tweets referencing "Chinese virus" or "China virus," along with the content of these tweets, indicate that knowledge translation may be occurring online and COVID-19 stigma is likely being perpetuated on Twitter.

**Accession Number:** WOS:000530598000001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

**Record 41 of 50**

**Title:** Food consumption behavior during the COVID-19 pandemic

**Author(s):** Chenarides, L (Chenarides, Lauren); Grebitus, C (Grebitus, Carola); Lusk, JL (Lusk, Jayson L.); Printezis, I (Printezis, Iryna)

**Source:** AGRIBUSINESS **Volume:** 37 **Issue:** 1 **Pages:** 44-81 **DOI:** 10.1002/agr.21679  
**Early Access Date:** DEC 2020 **Published:** JAN 2021

**Times Cited in Web of Science Core Collection:** 121

**Total Times Cited:** 122

**Abstract:** We conducted an online consumer survey in May 2020 in two major metropolitan areas in the United States to investigate food shopping behaviors and consumption during the pandemic lockdown caused by COVID-19. The results of this study parallel many of the headlines in the popular press at the time. We found that about three-quarters of respondents were simply buying the food they could get due to out of stock situations and about half the participants bought more food than usual. As a result of foodservice closures, consumers indicated purchasing more groceries than normal. Consumers attempted to avoid shopping in stores, relying heavily on grocery delivery and pick-up services during the beginning of the pandemic when no clear rules were in place. Results show a 255% increase in the number of households that use grocery pickup as a shopping method and a 158% increase in households that utilize grocery delivery services. The spike in pickup and delivery program participation can be explained by consumers fearing COVID-19 and feeling unsafe. Food consumption patterns for major food groups seemed to stay the same for the majority of participants, but a large share indicated that they had been snacking more since the beginning of the pandemic which was offset by a sharp decline in fast food consumption.

**Accession Number:** WOS:000598486000001

**Document Type:** Article

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

**Output Date:** 2023-05-04

## Record 42 of 50

**Title:** Characteristics and Outcomes of Individuals With Pre-existing Kidney Disease and COVID-19 Admitted to Intensive Care Units in the United States

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**Source:** AMERICAN JOURNAL OF KIDNEY DISEASES **Volume:** 77 **Issue:** 2 **Pages:** 190-  
+ **DOI:** 10.1053/j.ajkd.2020.09.003 **Early Access Date:** JAN 2021 **Published:** FEB 2021

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**Abstract:** Rationale & Objective: Underlying kidney disease is an emerging risk factor for more severe coronavirus disease 2019 (COVID-19) illness. We examined the clinical courses of critically ill COVID-19 patients with and without preexisting chronic kidney disease (CKD) and investigated the association between the degree of underlying kidney disease and in-hospital outcomes.

Study Design: Retrospective cohort study.

Settings & Participants: 4,264 critically ill patients with COVID-19 (143 patients with preexisting kidney failure receiving maintenance dialysis; 521 patients with pre-existing nondialysis-dependent CKD; and 3,600 patients without pre-existing CKD) admitted to intensive care units (ICUs) at 68 hospitals across the United States.

Predictor(s): Presence (vs absence) of preexisting kidney disease.

Outcome(s): In-hospital mortality (primary); respiratory failure, shock, ventricular arrhythmia/cardiac arrest, thromboembolic events, major bleeds, and acute liver injury (secondary).

Analytical Approach: We used standardized differences to compare patient characteristics (values > 0.10 indicate a meaningful difference between groups) and multivariable-adjusted Fine and Gray survival models to examine outcome associations.

Results: Dialysis patients had a shorter time from symptom onset to ICU admission compared to other groups (median of 4 [IQR, 2-9] days for maintenance dialysis patients; 7 [IQR, 3-10] days for non-dialysis-dependent CKD patients; and 7 [IQR, 4-10] days for patients without pre-existing CKD). More dialysis patients (25%) reported altered mental status than those with non-dialysis-dependent CKD (20%; standardized difference = 0.12) and those without pre-existing CKD (12%; standardized difference = 0.36). Half of dialysis and non-dialysis-dependent CKD patients died within 28 days of ICU admission versus 35% of patients without pre-existing CKD. Compared to patients without pre-existing CKD, dialysis patients had higher risk for 28-day in-hospital death (adjusted HR, 1.41 [95% CI, 1.09-1.81]), while patients with non-dialysis-dependent CKD had an intermediate risk (adjusted HR, 1.25 [95% CI, 1.08-1.44]).

Limitations: Potential residual confounding.

Conclusions: Findings highlight the high mortality of individuals with underlying kidney disease and severe COVID-19, underscoring the importance of identifying safe and

effective COVID-19 therapies in this vulnerable population.

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**Document Type:** Article

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**Record 43 of 50**

**Title:** SARS-CoV-2-Associated Deaths Among Persons Aged < 21 Years - United States,



February 12-July 31, 2020

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**Record 44 of 50**

**Title:** Extracorporeal Membrane Oxygenation in the Treatment of Severe Pulmonary and Cardiac Compromise in Coronavirus Disease 2019: Experience with 32 Patients

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**Abstract:** As coronavirus disease 2019 (COVID-19) cases surge worldwide, an urgent need exists to enhance our understanding of the role of extracorporeal membrane oxygenation (ECMO) in the management of severely ill patients with COVID-19 who develop acute respiratory and cardiac compromise refractory to conventional therapy. The purpose of this manuscript is to review our initial clinical experience in 32 patients with confirmed COVID-19 treated with ECMO. A multi-institutional registry and database was created and utilized to assess all patients who were supported with ECMO provided by SpecialtyCare. Data captured included patient characteristics, pre-COVID-19 risk factors and comorbidities, confirmation of COVID-19 diagnosis, features of ECMO support, specific medications utilized to treat COVID-19, and short-term outcomes through hospital discharge. This analysis includes all of our patients with COVID-19 supported with ECMO, with an analytic window starting March 17, 2020, when our first COVID-19 patient was placed on ECMO, and ending April 9, 2020. During the 24 days of this study, 32 consecutive patients with COVID-19 were placed on ECMO at nine different hospitals. As of the time of analysis, 17 remain on ECMO, 10 died before or shortly after decannulation, and five are alive and extubated after removal from ECMO, with one of these five discharged from the hospital. Adjunctive medication in the surviving patients while on ECMO was as follows: four of five survivors received intravenous steroids, three of five survivors received antiviral medications (Remdesivir), two of five survivors were treated with anti-interleukin-6-receptor monoclonal antibodies (Tocilizumab or Sarilumab), and one of five survivors received hydroxychloroquine. Analysis of these 32 COVID-19 patients with severe pulmonary compromise supported with ECMO suggests that ECMO may play a useful role in salvaging select critically ill patients with COVID-19. Additional patient experience and associated clinical and laboratory data must be obtained to further define the optimal role of ECMO in patients with COVID-19 and acute respiratory distress syndrome (ARDS). These initial data may provide useful information to help define the best strategies to care for these challenging patients and may also provide a framework for much-needed future research about the use of ECMO to treat patients with COVID-19.

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**ESI Hot Paper:** N

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## Record 45 of 50

**Title:** Predictors of Outcomes of COVID-19 in Patients With Chronic Liver Disease: US Multi-center Study

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HEPATOLOGY **Volume:** 19 **Issue:** 7 **Pages:** 1469-+ **DOI:** 10.1016/j.cgh.2020.09.027

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**Abstract:** BACKGROUND & AIMS: Chronic liver disease (CLD) represents a major global health burden. We undertook this study to identify the factors associated with adverse outcomes in patients with CLD who acquire the novel coronavirus-2019 (COVID-19).

**METHODS:** We conducted a multi-center, observational cohort study across 21 institutions in the United States (US) of adult patients with CLD and laboratory-confirmed diagnosis of COVID-19 between March 1, 2020 and May 30, 2020. We performed survival analysis to identify independent predictors of all-cause mortality and COVID-19 related mortality, and multivariate logistic regression to determine the risk of severe COVID-19 in patients with CLD.

**RESULTS:** Of the 978 patients in our cohort, 867 patients (mean age 56.9 +/- 14.5 years, 55% male) met inclusion criteria. The overall all-cause mortality was 14.0% (n = 121), and 61.7% (n = 535) had severe COVID-19. Patients presenting with diarrhea or nausea/

vomiting were more likely to have severe COVID-19. The liver-specific factors associated with independent risk of higher overall mortality were alcohol-related liver disease (ALD) (hazard ratio [HR] 2.42, 95% confidence interval [CI] 1.29-4.55), decompensated cirrhosis (HR 2.91 [1.70-5.00]) and hepatocellular carcinoma (HCC) (HR 3.31 [1.53-7.16]). Other factors were increasing age, diabetes, hypertension, chronic obstructive pulmonary disease and current smoker. Hispanic ethnicity (odds ratio [OR] 2.33 [1.47-3.70]) and decompensated cirrhosis (OR 2.50 [1.20-5.21]) were independently associated with risk for severe COVID-19.

**CONCLUSIONS:** The risk factors which predict higher overall mortality among patients with CLD and COVID-19 are ALD, decompensated cirrhosis and HCC. Hispanic ethnicity and decompensated cirrhosis are associated with severe COVID-19. Our results will enable risk stratification and personalization of the management of patients with CLD and COVID-19.

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**Record 46 of 50**

**Title:** Update: COVID-19 Among Workers in Meat and Poultry Processing Facilities - United States, April-May 2020

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## **Record 47 of 50**

**Title:** Understanding Antibody Testing for COVID-19

**Author(s):** Jacofsky, D (Jacofsky, David); Jacofsky, EM (Jacofsky, Emilia M.); Jacofsky, M (Jacofsky, Marc)

**Source:** JOURNAL OF ARTHROPLASTY **Volume:** 35 **Issue:** 7 **Pages:** S74-  
S81 **DOI:** 10.1016/j.arth.2020.04.055 **Supplement:** S **Published:** JUL 2020

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**Total Times Cited:** 122

**Abstract:** The orthopedic community has seen the COVID-19 pandemic decimate elective surgical volumes in most geographies. Patients and essential workers, such as health care providers, remain rightfully concerned about how to appropriately begin to return to work and community activity in a safe and responsible manner. Many believe that testing for the presence of antibodies on a widespread scale could help drive evidence-based decision-making, both on an individual and societal scale. Much information, and an equal amount of misinformation, has been produced on antibody testing. Education about the role and science of such testing is critically important for programs to be effectively understood and managed. (C) 2020 Elsevier Inc. All rights

reserved.

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**ESI Highly Cited Paper:** Y

**ESI Hot Paper:** N

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## Record 48 of 50

**Title:** COVID-19 is expanding global consciousness and the sustainability of travel and tourism

**Author(s):** Galvani, A (Galvani, Adriana); Lew, AA (Lew, Alan A.); Perez, MS (Perez, Maria Sotelo)

**Source:** TOURISM GEOGRAPHIES **Volume:** 22 **Issue:** 3 **Special**

**Issue:** SI **Pages:** 567-576 **DOI:** 10.1080/14616688.2020.1760924 **Early Access**

**Date:** MAY 2020 **Published:** MAY 26 2020

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**Abstract:** The sustainable development model has largely failed to address the social and environmental challenges of the 21(st) century. True sustainability will only occur when it is valued as a part of the taken-for-granted daily life of individuals and cultures across the globe. This has not yet happened because humanity has not evolved a global consciousness quickly enough to match the global advances in telecommunications and transportation technologies that have created a socially and economically ever-shrinking planet. Travel and tourism contributes to the expansion of global consciousness, although only in a haphazard and unintentional manner. The COVID-19 pandemic is a result of planetary time-space compression and is forcing an expansion in human consciousness that will make humankind better able to address global problems. There will still be considerable diversity on the planet, as now, but the pandemic will stimulate growing numbers of people, businesses and governments to adopt new ways of thinking, behaving and operating that are more closely aligned with the goals of sustainable development. This could be further enhanced if travel and tourism were to adopt the expansion and awakening of global conscious as a fundamental and transformational value in the products and experiences that it offers.

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**Document Type:** Article



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## Record 49 of 50

**Title:** Effectiveness of mRNA Covid-19 Vaccine among US Health Care Personnel

**Author(s):** Pilishvili, T (Pilishvili, T.); Gierke, R (Gierke, R.); Fleming-Dutra, KE (Fleming-Dutra, K. E.); Farrar, JL (Farrar, J. L.); Mohr, NM (Mohr, N. M.); Talan, DA (Talan, D. A.); Krishnadasan, A (Krishnadasan, A.); Harland, KK (Harland, K. K.); Smithline, HA (Smithline, H. A.); Hou, PC (Hou, P. C.); Lee, LC (Lee, L. C.); Lim, SC (Lim, S. C.); Moran, GJ (Moran, G. J.); Krebs, E (Krebs, E.); Steele, MT (Steele, M. T.); Beiser, DG (Beiser, D. G.); Faine, B (Faine, B.); Haran, JP (Haran, J. P.); Nandi, U (Nandi, U.); Schrag, WA (Schrag, W. A.); Chinnock, B (Chinnock, B.); Henning, DJ (Henning, D. J.); Lovecchio, F (Lovecchio, F.); Lee, J (Lee, J.); Barter, D (Barter, D.); Brackney, M (Brackney, M.); Fridkin, SK (Fridkin, S. K.); Marceaux-Galli, K (Marceaux-Galli, K.); Lim, S (Lim, S.); Phipps, EC (Phipps, E. C.); Dumyati, G (Dumyati, G.); Pierce, R (Pierce, R.); Markus, TM (Markus, T. M.); Anderson, DJ (Anderson, D. J.); Debes, AK (Debes, A. K.); Lin, MY (Lin, M. Y.); Mayer, J (Mayer, J.); Kwon, JH (Kwon, J. H.); Safdar, N (Safdar, N.); Fischer, M (Fischer, M.); Singleton, R (Singleton, R.); Chea, N (Chea, N.); Magill, SS (Magill, S. S.); Verani, JR (Verani, J. R.); Schrag, SJ (Schrag, S. J.)

**Group Author(s):** Vaccine Effectiveness Healthcare P

**Source:** NEW ENGLAND JOURNAL OF MEDICINE **Volume:** 385 **Issue:** 25 **Article Number:** e90 **DOI:** 10.1056/NEJMoa2106599 **Early Access Date:** SEP 2021  
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**Abstract:** BACKGROUND

The prioritization of U.S. health care personnel for early receipt of messenger RNA (mRNA) vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (Covid-19), allowed for the evaluation of the effectiveness of these new vaccines in a real-world setting.

METHODS

We conducted a test-negative case-control study involving health care personnel across 25 U.S. states. Cases were defined on the basis of a positive polymerase-chain-reaction (PCR) or antigen-based test for SARS-CoV-2 and at least one Covid-19-like symptom. Controls were defined on the basis of a negative PCR test for SARS-CoV-2, regardless of symptoms, and were matched to cases according to the week of the test date and site.

Using conditional logistic regression with adjustment for age, race and ethnic group, underlying conditions, and exposures to persons with Covid-19, we estimated vaccine effectiveness for partial vaccination (assessed 14 days after receipt of the first dose through 6 days after receipt of the second dose) and complete vaccination (assessed  $\geq$  7 days after receipt of the second dose).

#### RESULTS

The study included 1482 case participants and 3449 control participants. Vaccine effectiveness for partial vaccination was 77.6% (95% confidence interval [CI], 70.9 to 82.7) with the BNT162b2 vaccine (Pfizer-BioNTech) and 88.9% (95% CI, 78.7 to 94.2) with the mRNA-1273 vaccine (Moderna); for complete vaccination, vaccine effectiveness was 88.8% (95% CI, 84.6 to 91.8) and 96.3% (95% CI, 91.3 to 98.4), respectively. Vaccine effectiveness was similar in subgroups defined according to age (<50 years or  $\geq$  50 years), race and ethnic group, presence of underlying conditions, and level of patient contact. Estimates of vaccine effectiveness were lower during weeks 9 through 14 than during weeks 3 through 8 after receipt of the second dose, but confidence intervals overlapped widely.

#### CONCLUSIONS

The BNT162b2 and mRNA-1273 vaccines were highly effective under real-world conditions in preventing symptomatic Covid-19 in health care personnel, including those at risk for severe Covid-19 and those in racial and ethnic groups that have been disproportionately affected by the pandemic.

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## Record 50 of 50

**Title:** The Structural and Social Determinants of the Racial/Ethnic Disparities in the US COVID-19 Pandemic

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**Group Author(s):** Amer Thoracic Soc

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