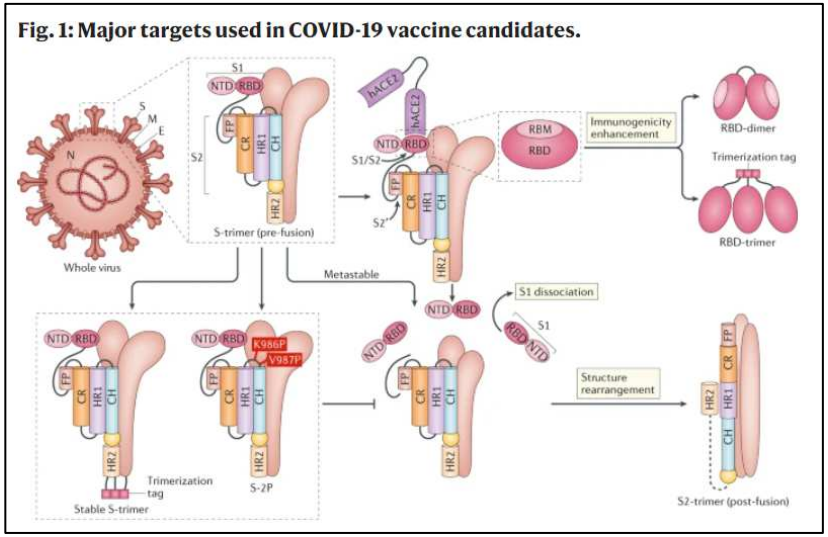
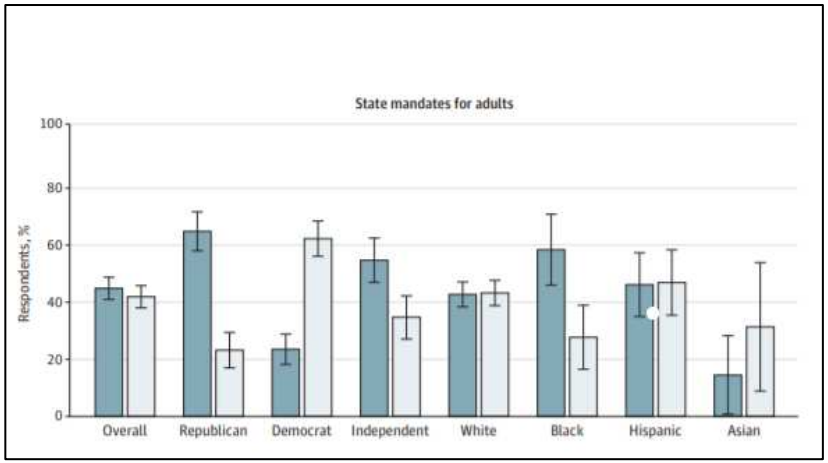
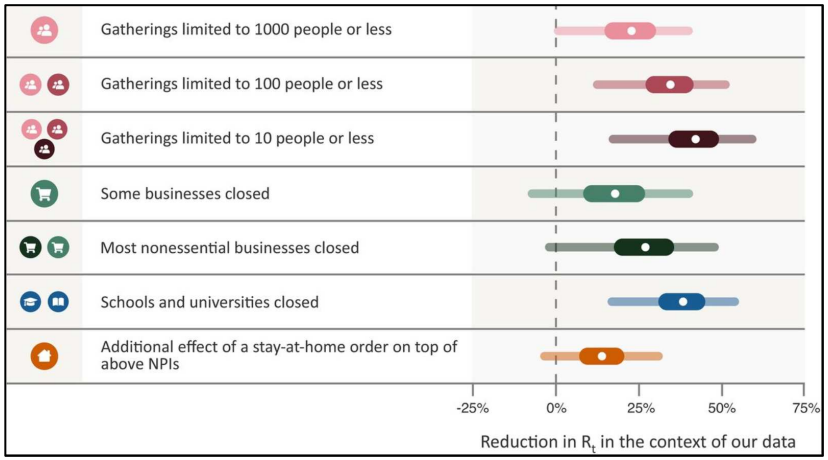
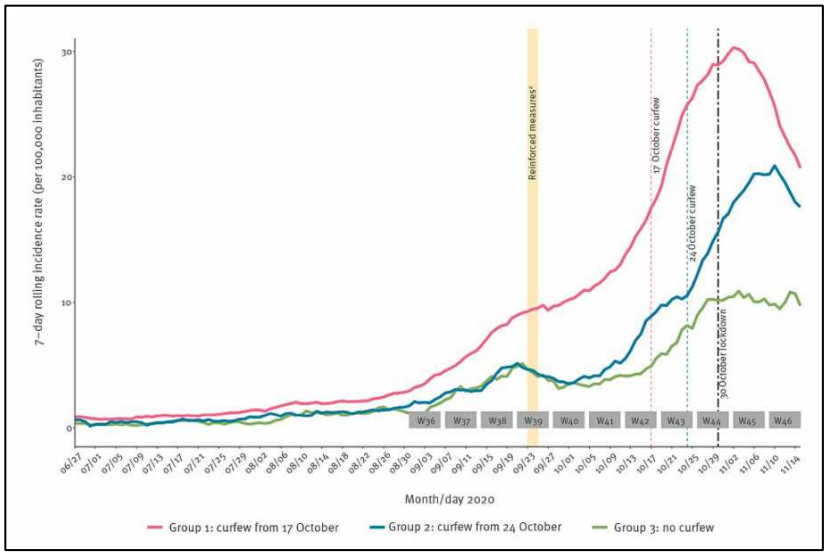
RICERCA BIBLIOGRAFICA COVID 19 SETTIMANA 21-27.12.2020 FONDAZIONE POLICLINICO UNIVERSITARIO A. GEMELLI IRCCS, UOC MALATTIE INFETTIVE DOTT.SSA ELEONORA TADDEI			
AUTORE/RIVISTA	**TITOLO**	**OUTCOME PRINCIPALE**	**ABSTRACT**
COG – COVID-19 Genomic Consortium UK https://www.cogconsortium.uk/news_item/update-on-new-sars-cov-2-variant-and-how-cog-uk-tracks-emerging-mutations/	Update on new SARS-CoV-2 variant and how COG-UK tracks emerging mutations	Analisi del consorzio COG che si occupa del sequenziamento di campioni random di SARS-CoV-2 isolati nel Regno Unito, mettendo i risultati a disposizione di agenzie di sanità pubblica.	The variant described today in the House of Commons contains a novel set of mutations associated with a lineage spreading rapidly in the South East of England (and more widely) that is the subject of ongoing investigations by the UK Public Health Agencies, coordinated by Public Health England and supported by COG-UK. This variant carries a set of mutations including an N501Y mutation in the receptor binding motif of the Spike protein that the virus uses to bind to the human ACE2 receptor. Efforts are under way to confirm whether or not any of these mutations are contributing to increased transmission. There is currently no evidence that this variant (or any other studied to date) has any impact on disease severity, or that it will render vaccines less effective, although both questions require further studies performed at pace. We will provide further updates as our investigations proceed.

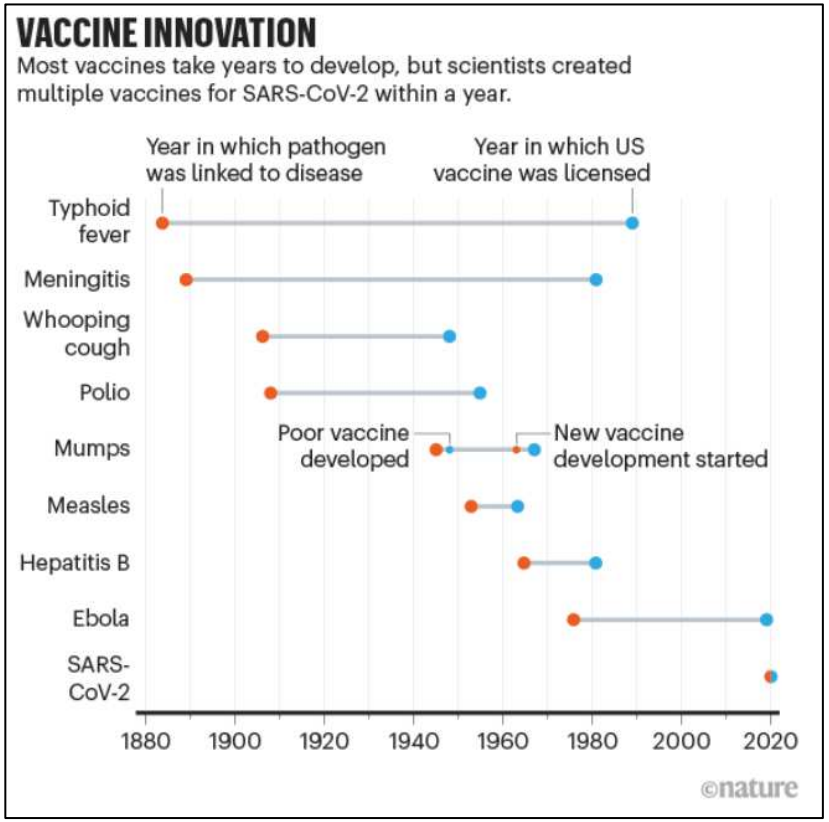
Wise J et al BMJ https://www.bmj.com/content/371/bmj.m4857	Covid-19: New coronavirus variant is identified in UK	Domande e risposte sulla variante UK di SARS-CoV-2.	England's health secretary, Matt Hancock, has told parliament that a new variant of covid-19 has been identified and may be driving infections in the south east, leading to headlines about "mutant covid." Jacqui Wise answers some common questions.
Lianpan D et al Nature https://www.nature.com/articles/s41577-020-00480-0	Viral targets for vaccines against COVID-19	Come si selezionano i target dei vaccini contro SARS-CoV-2.	Vaccines are urgently needed to control the coronavirus disease 2019 (COVID-19) pandemic and to help the return to pre-pandemic normalcy. A great many vaccine candidates are being developed, several of which have completed late-stage clinical trials and are reporting positive results. In this Progress article, we discuss which viral elements are used in COVID-19 vaccine candidates, why they might act as good targets for the immune system and the implications for protective immunity. **Fig. 1: Major targets used in COVID-19 vaccine candidates.** 

Largent EA et al JAMA https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774317	US Public Attitudes Toward COVID-19 Vaccine Mandates	L'eventuale obbligo di vaccinazione contro SARS-CoV-2 ha livelli di accettazione diversi in base a demografia, grado di istruzione e orientamento politico in questo sondaggio condotto dall'Università della Pennsylvania.	Ending the coronavirus disease 2019 (COVID-19) pandemic through vaccination will require sufficient uptake, possibly through mandatory vaccination. At present, certain vaccines are required for children to attend school. Although vaccine mandates for adults are legal, they have generally been applied narrowly to select groups, such as health care workers, rather than broadly enforced. We surveyed the US public to assess acceptability of COVID-19 vaccine mandates. 
Brauner JM et al Science https://science.sciencemag.org/content/early/2020/12/15/science.abd9338	Inferring the effectiveness of government interventions against COVID-19	Efficacia delle misure non farmacologiche di contenimento (NPI) di SARS-CoV-2 negli stati europei.	Governments are attempting to control the COVID-19 pandemic with nonpharmaceutical interventions (NPIs). However, the effectiveness of different NPIs at reducing transmission is poorly understood. We gathered chronological data on the implementation of NPIs for several European, and other, countries between January and the end of May 2020. We estimate the effectiveness of NPIs, ranging from limiting gathering sizes, business closures, and closure of educational institutions to stay-at-home orders. To do so, we used a Bayesian hierarchical model that links NPI implementation dates to national case and death counts and supported the results with extensive empirical validation. Closing all

			educational institutions, limiting gatherings to 10 people or less, and closing face-to-face businesses each reduced transmission considerably. The additional effect of stay-at-home orders was comparatively small. 
Dauby N et al International Journal of Antimicrobial Agents https://www.sciencedirect.com/science/article/pii/S0924857920304817?via%3Dihub	Reply to the letter to the editor “Low-dose hydroxychloroquine therapy and lower mortality in hospitalized patients with COVID-19: association does not mean causality.”	Dauby et al, gruppo di autori belgi, hanno pubblicato in ottobre un ampio studio retrospettivo che mostra minore mortalità nel gruppo di pazienti trattati con bassa dose di idrossiclorochina rispetto a terapia di supporto per COVID-19; i risultati sono stati contestati in una lettera di fine novembre, cui gli autori rispondono sottolineando che i propri risultati sono da intendersi come stimolo a ricerche ulteriori.	We thank the authors for their comments on our observational study about the use of hydroxychloroquine (HCQ) during the first wave of COVID-19 pandemic in Belgium. Our study remains the largest observational study performed so far about off-lab use of HCQ and one of the few comparing HCQ use alone to a group of patients not exposed to any other anti-COVID-19 drugs.

Atyeo C et al Cell https://www.cell.com/cell/fulltext/S0092-8674(20)31749-9	Compromised SARS-CoV-2-specific placental antibody transfer	La trasmissione transplacentare di IgG anti-SARS-CoV-2 è inferiore rispetto a influenza e pertosse nei primi due trimestri di gravidanza, mentre aumenta nel terzo.	SARS-CoV-2 infection causes more severe disease in pregnant women compared to age-matched non-pregnant women. Whether maternal infection causes changes in the transfer of immunity to infants remains unclear. Maternal infections have previously been associated with compromised placental antibody transfer, but the mechanism underlying this compromised transfer is not established. Here, we used systems serology to characterize the Fc-profile of influenza-, pertussis-, and SARS-CoV-2-specific antibodies transferred across the placenta. Influenza- and pertussis-specific antibodies were actively transferred. However, SARS-CoV-2-specific antibody transfer was significantly reduced compared to influenza- and pertussis-specific antibodies, and cord titers and functional activity were lower than in maternal plasma. This effect was only observed in third trimester infection. SARS-CoV-2-specific transfer was linked to altered SARS-CoV-2-antibody glycosylation profiles and was partially rescued by infection-induced increases in IgG and increased FCGR3A placental expression. These results point to unexpected compensatory mechanisms to boost immunity in neonates, providing insights for maternal vaccine design.
European Medicines Agency https://www.ema.europa.eu/en/news/ema-recommends-first-covid-19-vaccine-authorisation-eu	EMA recommends first COVID-19 vaccine for authorisation in the EU	Comunicato stampa dell'EMA che pubblica la raccomandazione per il vaccino Pfizer contro SARS-CoV-2 per soggetti di età superiore a 16 anni. A questo ha fatto seguito l'approvazione della Commissione Europea.	EMA has recommended granting a conditional marketing authorisation for the vaccine Comirnaty, developed by BioNTech and Pfizer, to prevent coronavirus disease 2019 (COVID-19) in people from 16 years of age. EMA's scientific opinion paves the way for the first marketing authorisation of a COVID-19 vaccine in the EU by the European Commission, with all the safeguards, controls and obligations this entails.

Spaccaferri G et al Eurosurveillance https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.50.2001974	Early assessment of the impact of mitigation measures to control COVID-19 in 22 French metropolitan areas, October to November 2020.	Efficacia nella riduzione dei ricoveri ospedalieri delle misure di contenimento della pandemia di COVID-19 in Francia in ottobre-novembre 2020.	In spring 2020, an important means to curb the first wave of the coronavirus disease (COVID-19) pandemic in France was the implementation of a national lockdown from 17 March to 10 May. Subsequently, transmission remained stable and at a low-level until the end of July. In August and September, however, a new steady rise was observed, followed by a rapid increase in severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spread. Metropolitan areas were particularly affected. To control this potential second pandemic wave, national and local authorities implemented a series of mitigation measures in certain metropolitan areas starting mid-October. A countrywide lockdown followed on 30 October. Here we assess the impact and timeliness of these measures, mainly curfews, by conducting a descriptive temporal analysis of indicators reflecting COVID-19 spread and severity in the 22 French metropolitan areas. Altogether these areas host 28.5% of the French population, and 18 of them had been targeted by curfews prior to the national lockdown in autumn. 

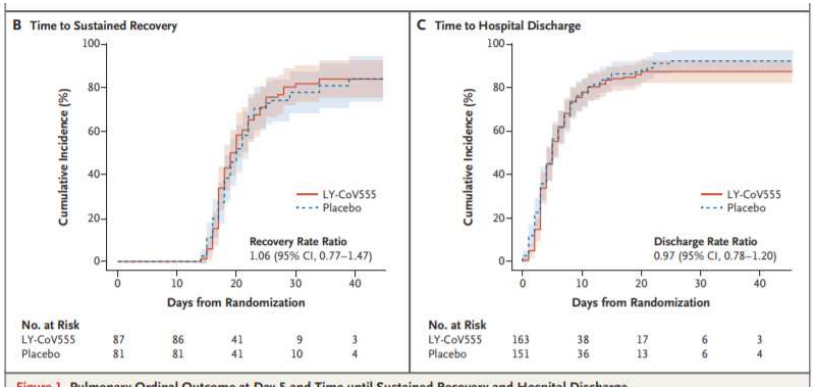
Ball P Nature https://www.nature.com/articles/d41586-020-03626-1	The lightning-fast quest for COVID vaccines — and what it means for other diseases	La rapida messa a punto di vaccini per SARS-CoV-2 cambia la prospettiva nella lotta contro altre malattie infettive, rendendo plausibile una abbreviazione dei tempi per ottenere vaccini efficaci.	When scientists began seeking a vaccine for the SARS-CoV-2 coronavirus in early 2020, they were careful not to promise quick success. The fastest any vaccine had previously been developed, from viral sampling to approval, was four years, for mumps in the 1960s. To hope for one even by the summer of 2021 seemed highly optimistic. 
Shashikumar S et al Chest	Development and Prospective Validation of a Deep Learning Algorithm for	Validazione di un algoritmo di deep learning per la previsione della necessità di ventilazione meccanica in	BACKGROUND: Objective and early identification of hospitalized patients, and particularly those with novel coronavirus disease 2019 (COVID-19), who may require mechanical ventilation (MV) may aid in delivering timely treatment. RESEARCH QUESTION: Can a

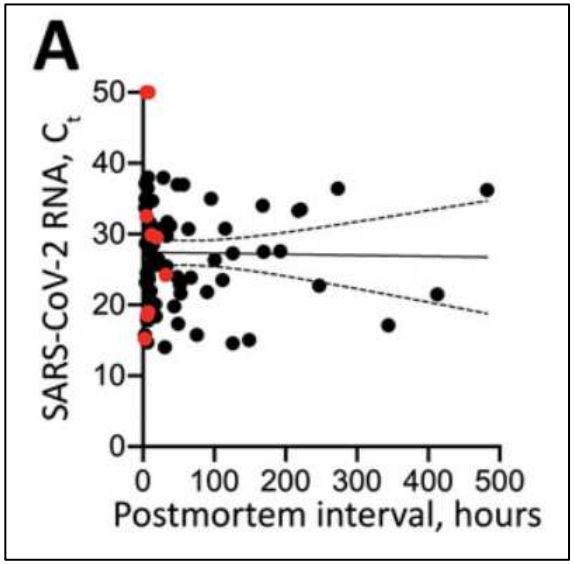
https://doi.org/10.1016/j.chest.2020.12.009	Predicting Need for Mechanical Ventilation.	pazienti con COVID-19, sulla base di dati clinic quali frequenza cardiaca, saturazione periferica, frazione inalata di ossigeno e pH.	transparent deep learning (DL) model predict the need for MV in hospitalized patients and those with COVID-19 up to 24 hours in advance? STUDY DESIGN AND METHODS: We trained and externally validated a transparent DL algorithm to predict the future need for MV in hospitalized patients, including those with COVID-19, using commonly available data in electronic health records. Additionally, commonly used clinical criteria (heart rate, oxygen saturation, respiratory rate, FiO2 and pH) were used to assess future need for MV. Performance of the algorithm was evaluated using the area under receiver operating characteristic curve (AUC), sensitivity, specificity and positive predictive value. RESULTS: We obtained data from over 30,000 ICU patients (including over 700 patients with COVID-19) from two academic medical centers. The performance of the model with a 24-hour prediction horizon at the development and validation sites was comparable (AUC of 0.895 versus 0.882, respectively), providing significant improvement over traditional clinical criteria (p<0.001). Prospective validation of the algorithm among patients with COVID-19 yielded AUCs in the range 0.918-0.943. INTERPRETATION: A transparent DL algorithm improves on traditional clinical criteria to predict the need for MV in hospitalized patients, including in those with COVID-19. Such an algorithm may help clinicians optimize timing of tracheal intubation, better allocate resources and staff, and improve patient care.
Carosella LM et al Emerging Infectious Diseases https://doi.org/10.3201/eid2702.203439	Characteristics of Patients Co-infected with Severe Acute Respiratory Syndrome Coronavirus 2 and Dengue Virus, Buenos Aires, Argentina, March-June 2020.	Caratteristiche di una coorte di 13 pazienti con coinfezione da SARS-CoV-2 e virus dengue in Argentina, tutti con decorso non critico e sopravvivenza fino alla dimissione.	An epidemic of dengue virus and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) co-infections occurred in Argentina during 2020. We describe the clinical characteristics and outcomes in a cohort of patients hospitalized because of co-infection. We retrospectively identified 13 patients from different hospitals in Buenos Aires who had confirmed infection with SARS-CoV-2 and dengue virus and obtained clinical and laboratory data from clinical

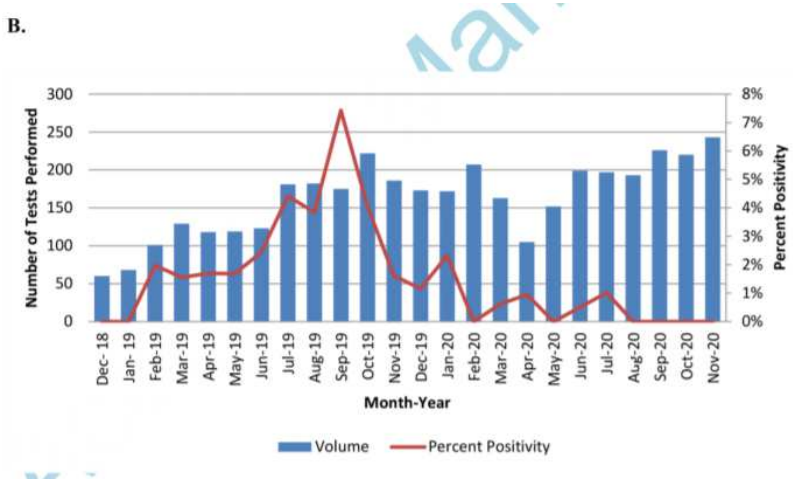
			records. All patients had febrile disease when hospitalized. Headache was a common symptom. A total of 8 patients had respiratory symptoms, 5 had pneumonia, and 3 had rash. Nearly all patients had lymphopenia when hospitalized. No patients were admitted to an intensive care unit or died during follow up. Co-infection with SARS-CoV-2 and dengue virus can occur in patients living in areas in which both viruses are epidemic. The outcome of these patients did not seem to be worse than those having either SARS-CoV-2 or dengue infection alone.
ACTIV-3/TICO LY-CoV555 Study Group NEJM https://www.nejm.org/doi/full/10.1056/NEJMoa2033130?query=featured_home	A Neutralizing Monoclonal Antibody for Hospitalized Patients with Covid-19	Trial clinico per valutare l'efficacia dell'anticorpo monoclonale LY-CoV555 in aggiunta a remdesivir, ossigeno e steroide in pazienti ospedalizzati con COVID-19: trial interrotto per futilità dopo 314 arruolamenti.	BACKGROUND: LY-CoV555, a neutralizing monoclonal antibody, has been associated with a decrease in viral load and the frequency of hospitalizations or emergency department visits among outpatients with coronavirus disease 2019 (Covid-19). Data are needed on the effect of this antibody in patients who are hospitalized with Covid-19. METHODS: In this platform trial of therapeutic agents, we randomly assigned hospitalized patients who had Covid-19 without end-organ failure in a 1:1 ratio to receive either LY-CoV555 or matching placebo. In addition, all the patients received high-quality supportive care as background therapy, including the antiviral drug remdesivir and, when indicated, supplemental oxygen and glucocorticoids. LY-CoV555 (at a dose of 7000 mg) or placebo was administered as a single intravenous infusion over a 1-hour period. The primary outcome was a sustained recovery during a 90-day period, as assessed in a time-to-event analysis. An interim futility assessment was performed on the basis of a seven-category ordinal scale for pulmonary function on day 5. RESULTS: On October 26, 2020, the data and safety monitoring board recommended stopping enrollment for futility after 314 patients (163 in the LY-CoV555 group and 151 in the placebo group)

had undergone randomization and infusion. The median interval since the onset of symptoms was 7 days (interquartile range, 5 to 9). At day 5, a total of 81 patients (50%) in the LY-CoV555 group and 81 (54%) in the placebo group were in one of the two most favorable categories of the pulmonary outcome. Across the seven categories, the odds ratio of being in a more favorable category in the LY-CoV555 group than in the placebo group was 0.85 (95% confidence interval [CI], 0.56 to 1.29; P=0.45). The percentage of patients with the primary safety outcome (a composite of death, serious adverse events, or clinical grade 3 or 4 adverse events through day 5) was similar in the LY-CoV555 group and the placebo group (19% and 14%, respectively; odds ratio, 1.56; 95% CI, 0.78 to 3.10; P=0.20). The rate ratio for a sustained recovery was 1.06 (95% CI, 0.77 to 1.47).

CONCLUSIONS: Monoclonal antibody LY-CoV555, when coadministered with remdesivir, did not demonstrate efficacy among hospitalized patients who had Covid-19 without end-organ failure.



Heinrich F et al Emerging Infectious Diseases https://wwwnc.cdc.gov/eid/article/27/1/20-3112_article	Postmortem Stability of SARS-CoV-2 in Nasopharyngeal Mucosa	Persistenza di SARS-CoV-2 su tampone nasofaringeo di 79 persone decedute per COVID-19 fino a 35 ore dopo il decesso.	Analyses of infection chains have demonstrated that severe acute respiratory syndrome coronavirus 2 is highly transmissive. However, data on postmortem stability and infectivity are lacking. Our finding of nasopharyngeal viral RNA stability in 79 corpses showed no time-dependent decrease. Maintained infectivity is supported by virus isolation up to 35 hours postmortem. 
Marr KA et al Emerging Infectious Diseases https://wwwnc.cdc.gov/eid/article/27/1/20-2896_article	Aspergillosis Complicating Severe Coronavirus Disease	Serie di 20 casi di aspergillosi polmonare in pazienti con COVID-19, una forma dall'aspergillosi invasiva tipica degli immunodepressi.	Aspergillosis complicating severe influenza infection has been increasingly detected worldwide. Recently, coronavirus disease–associated pulmonary aspergillosis (CAPA) has been detected through rapid reports, primarily from centers in Europe. We provide a case series of CAPA, adding 20 cases to the literature, with review of pathophysiology, diagnosis, and outcomes. The syndromes of pulmonary aspergillosis complicating severe viral infections are distinct from classic invasive aspergillosis, which is recognized most frequently in persons with neutropenia and in other immunocompromised persons. Combined with severe viral infection, aspergillosis comprises a constellation of airway-invasive

			and angio-invasive disease and results in risks associated with poor airway fungus clearance and killing, including virus- or inflammation-associated epithelial damage, systemic immunosuppression, and underlying lung disease. Radiologic abnormalities can vary, reflecting different pathologies. Prospective studies reporting poor outcomes in CAPA patients underscore the urgent need for strategies to improve diagnosis, prevention, and therapy.
Kami KD et al Clinical Infectious Diseases https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa1881/6044729?searchresult=1	Decrease in Enteroviral Meningitis - An Unexpected Benefit of COVID-19 Mitigation?	Nessun caso di encefalite da Enterovirus presso i laboratori della Mayo Clinic nel periodo del picco atteso Agosto-Ottobre 2020.	Enteroviral meningitis is seasonal, typically exhibiting a rise in prevalence in late summer/early fall. Based on clinical microbiology laboratory testing data of cerebrospinal fluid, the expected August/September/October peak in enteroviral meningitis did not occur in 2020, possibly related to COVID-19 mitigation strategies. 
Bauchner H et al JAMA	A Medical and Scientific New Year's Wish List	Buoni propositi per il nuovo anno in una prospettiva di maggiore equità e valorizzazione della ricerca scientifica.	The last 4 years have been difficult for science and medicine. The relentless attack by members of the executive and legislative branches of government on science and federal agencies that conduct science has shaken the fundamental pillars of great US institutions such as the Centers for Disease Control and Prevention,

https://jamanetwork.com/journals/jama/fullarticle/2774575			Food and Drug Administration, Environmental Protection Agency, and in some regards the National Institutes of Health (NIH). Although the 2020 NIH budget increased to almost $42 billion, more individuals are uninsured, and although health care costs have not increased substantially over the past 4 years, the financial health of most states is in shambles because of the Great Pandemic of 2020, threatening the commitment to Medicaid, which consumes almost 30% of many state budgets. In addition to Medicaid costs, states are responsible for the health care costs of their employees, and in some states many of their retirees. Moreover, the morbidity, mortality, and ubiquitous nature of COVID-19 have created unprecedented challenges for clinicians, health care systems, and public health, while some political leaders have erroneously minimized the extent, severity, and seriousness of the pandemic.
Delbo Larsen M et al Science https://science.sciencemag.org/content/early/2020/12/22/science.abc8378	Afucosylated IgG characterizes enveloped viral responses and correlates with COVID-19 severity	Le IgG afucosilate (una modifica del frammento costante dell'immunoglobulina) sono prodotte contro i virus dotati di involucro e sono responsabili di una amplificazione della risposta immunitaria con possibile innesco della "tempesta citochinica". I pazienti con COVID-19 grave ne producono una maggiore quantità rispetto a quelli con malattia lieve.	IgG antibodies are crucial for protection against invading pathogens. A highly conserved N-linked glycan within the IgG-Fc tail, essential for IgG function, shows variable composition in humans. Afucosylated IgG variants are already used in anti-cancer therapeutic antibodies for their elevated activity through Fc receptors (FcγRIIIa). Here, we report that afucosylated IgG (~6% of total IgG in humans) are specifically formed against enveloped viruses but generally not against other antigens. This mediates stronger FcγRIIIa responses, but also amplifies brewing cytokine storms and immune-mediated pathologies. Critically ill COVID-19 patients, but not those with mild symptoms, had high levels of afucosylated IgG antibodies against SARS-CoV-2, amplifying pro-inflammatory cytokine release and acute phase responses. Thus, antibody glycosylation plays a critical role in immune responses to enveloped viruses, including COVID-19.

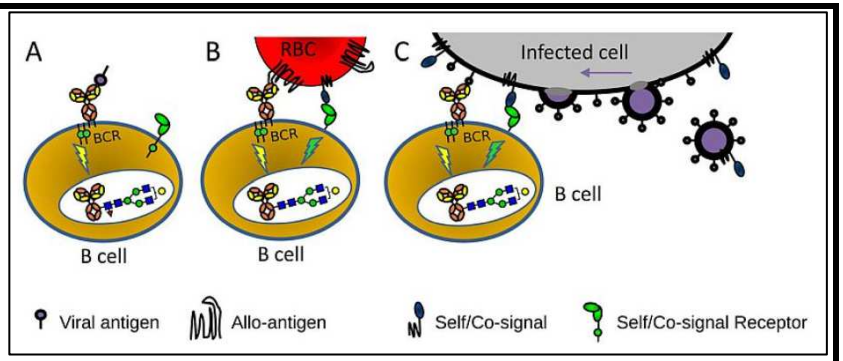
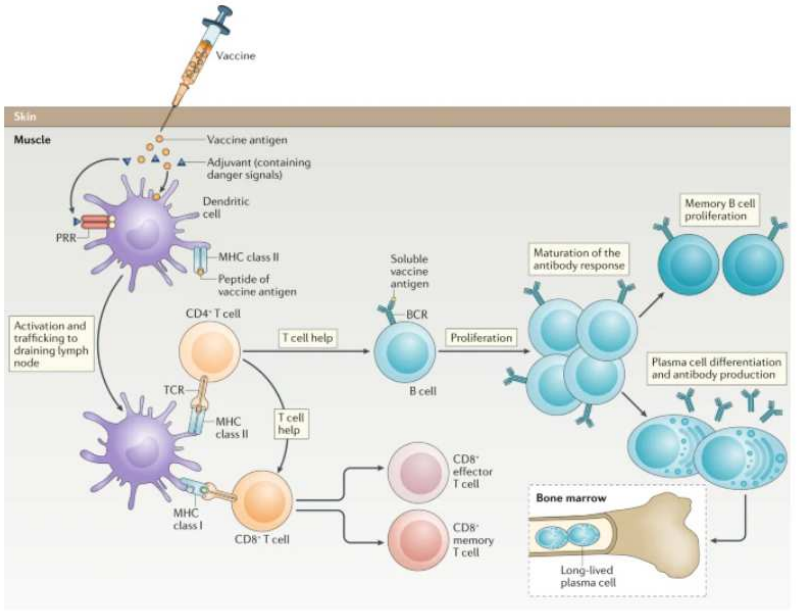
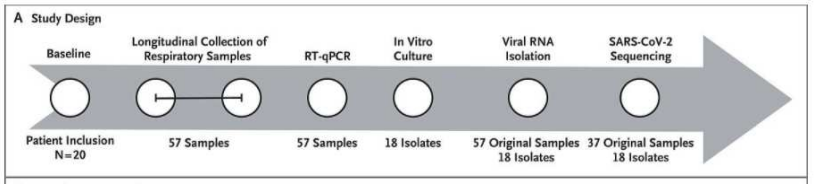
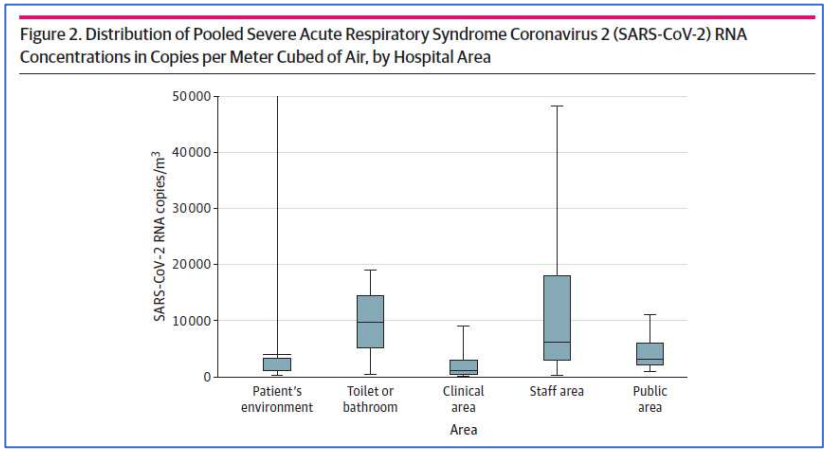
			
Pollard AJ et al Nature reviews https://www.nature.com/articles/s41577-020-00479-7	A guide to vaccinology: from basic principles to new developments	Come funzionano i vaccini, che rischi hanno, quali sfide devono ancora essere superate in vaccinologia. Un utile ripasso per essere pronti a rispondere ai dubbi di pazienti e conoscenti.	Immunization is a cornerstone of public health policy and is demonstrably highly cost-effective when used to protect child health. Although it could be argued that immunology has not thus far contributed much to vaccine development, in that most of the vaccines we use today were developed and tested empirically, it is clear that there are major challenges ahead to develop new vaccines for difficult-to-target pathogens, for which we urgently need a better understanding of protective immunity. Moreover, recognition of the huge potential and challenges for vaccines to control disease outbreaks and protect the older population, together with the availability of an array of new technologies, make it the perfect time for immunologists to be involved in designing the next generation of powerful immunogens. This Review provides an introductory overview of vaccines, immunization and related issues and thereby aims to inform a broad scientific audience about the underlying immunological concepts.

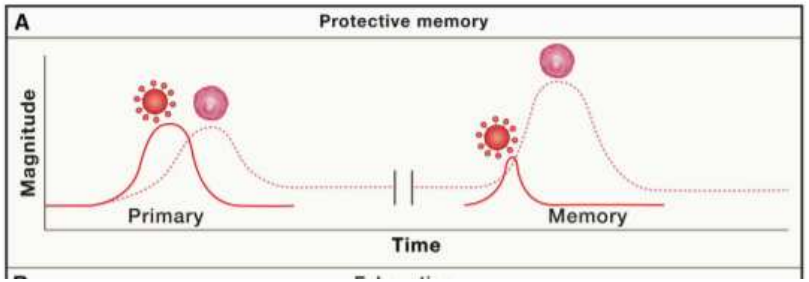
			Fig. 3: The generation of an immune response to a vaccine. 
Cordeanu EM et al Journal of Clinical Medicine https://doi.org/10.3390/jcm9124078	Prognostic Value of Troponin Elevation in COVID-19 Hospitalized Patients.	L'elevazione dei valori di troponina I è un fattore indipendentemente associato alla mortalità secondo questo studio retrospettivo su 375 pazienti ricoverati per COVID-19 (55% sottoposti a ventilazione meccanica) in Francia.	Background: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) penetrates the respiratory epithelium through angiotensin-converting enzyme-2 (ACE2) binding. Myocardial and endothelial expression of ACE2 could account for the growing body of reported evidence of myocardial injury in severe forms of Human Coronavirus Disease 2019 (COVID-19). We aimed to provide insight into the impact of troponin (hsTnI) elevation on SARS-CoV-2 outcomes in patients hospitalized for COVID-19. (2) Methods: This was a retrospective analysis of hospitalized adult patients with the SARS-CoV-2 infection admitted to a university hospital in France. The observation period ended at hospital discharge. (3) Results: During the study period, 772 adult, symptomatic COVID-19 patients were hospitalized for more than 24 h in our institution, of whom

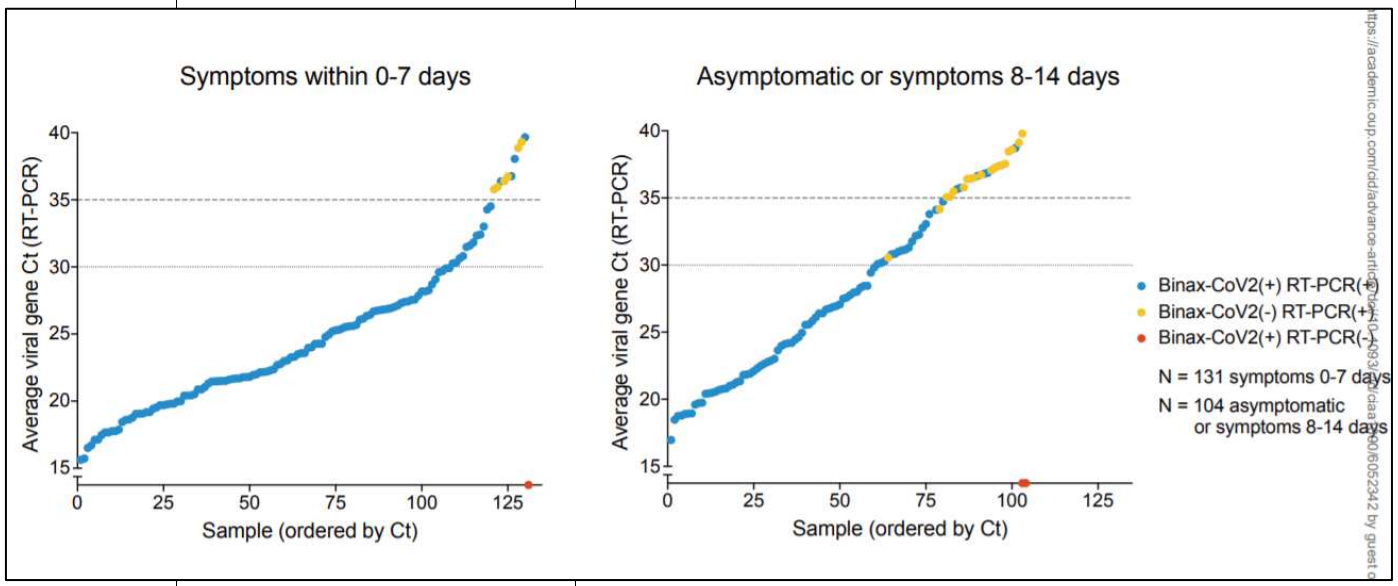
			375 had a hsTnI measurement and were included in this analysis. The median age was 66 (55-74) years, and there were 67% of men. Overall, 205 (55%) patients were placed under mechanical ventilation and 90 (24%) died. A rise in hsTnI was noted in 34% of the cohort, whereas only three patients had acute coronary syndrome (ACS) and one case of myocarditis. Death occurred more frequently in patients with hsTnI elevation (HR 3.95, 95% CI 2.69-5.71). In the multivariate regression model, a rise in hsTnI was independently associated with mortality (OR 3.12, 95% CI 1.49-6.65) as well as age >/= 65 years old (OR 3.17, 95% CI 1.45-7.18) and CRP >/= 100 mg/L (OR 3.62, 95% CI 1.12-13.98). After performing a sensitivity analysis for the missing values of hsTnI, troponin elevation remained independently and significantly associated with death (OR 3.84, 95% CI 1.78-8.28). (4) Conclusion: Our study showed a four-fold increased risk of death in the case of a rise in hsTnI, underlining the prognostic value of troponin assessment in the COVID-19 context.
McCann SR et al Nature – Bone Marrow Transplantation https://www.nature.com/articles/s41409-020-01171-z	Christmas, wine and Covid-19	Il 2020 non è il primo anno in cui la celebrazione del Natale incontra degli impedimenti: nel 1647 il Parlamento inglese sotto la guida di Cromwell la abolì del tutto. Questa e altre digressioni da parte del Prof. McCann, ematologo dublinese.	What do Oliver Cromwell and Covid-19 have in common? They both seem to share the dubious reputation of cancelling Christmas celebrations. Oliver Cromwell and his fellow Puritans, thought Christmas festivities were sinful. They viewed the celebration of Christ's birth on the 25th of December as a "popish" tradition derived from the Roman Catholic Church (Christ's Mass), thus threatening their core Christian beliefs. In 1644, an Act of Parliament banned the festival and in June 1647, the Long Parliament (an English Parliament that lasted from 1640 until 1660) passed an ordinance confirming the abolition of the feast of Christmas.

Aydillo T et al NEJM https://www.nejm.org/doi/10.1056/NEJMc2031670	Shedding of Viable SARS-CoV-2 after Immunosuppressive Therapy for Cancer	Serie di 20 pazienti immunocompromessi (trapianto di staminali ematopoietiche, terapia con CAR-T cells o linfoma) i cui campioni respiratori per ricerca di SARSC-CoV-2 sono stati posti in coltura cellulare: lo shedding di virus infettante può durare fino a 60 giorni.	Detection of replication-competent severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the most reliable indicator of contagiousness. Although the duration of live-virus shedding is well-characterized in immunocompetent patients with coronavirus disease 19 (Covid-19), little is known about how long immunocompromised patients are contagious. Consequently, the Centers for Disease Control and Prevention (CDC) guidelines on transmission-based precautions for immunocompromised patients are based on limited data. 
Birgand G et al JAMA https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774463	Assessment of Air Contamination by SARS-CoV-2 in Hospital Settings	Revisione sistematica in merito alla contaminazione dell'aria negli ambienti ospedalieri da parte di SARS-CoV-2: la contaminazione appare per lo più sostenuta da virus non "vitale" in coltura.	Importance Controversy remains regarding the transmission routes of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Objective To review current evidence on air contamination with SARS-CoV-2 in hospital settings and the factors associated with contamination, including viral load and particle size. Evidence Review The MEDLINE, Embase, and Web of Science databases were systematically queried for original English-language articles detailing SARS-CoV-2 air contamination in hospital settings between January 1 and October 27, 2020. This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines. The positivity rate of SARS-CoV-2 viral RNA and culture were described and compared according to the setting, clinical context, air ventilation system, and distance from patients. The SARS-CoV-2 RNA concentrations in copies per meter cubed of air were pooled, and their distribution was described by hospital

			areas. Particle sizes and SARS-CoV-2 RNA concentrations in copies or median tissue culture infectious dose (TCID50) per meter cubed were analyzed after categorization as less than 1 µm, from 1 to 4 µm, and greater than 4 µm. Findings Among 2284 records identified, 24 cross-sectional observational studies were included in the review. Overall, 82 of 471 air samples (17.4%) from close patient environments were positive for SARS-CoV-2 RNA, with a significantly higher positivity rate in intensive care unit settings (intensive care unit, 27 of 107 [25.2%] vs non–intensive care unit, 39 of 364 [10.7%]; P < .001). There was no difference according to the distance from patients (≤1 m, 3 of 118 [2.5%] vs >1-5 m, 13 of 236 [5.5%]; P = .22). The positivity rate was 5 of 21 air samples (23.8%) in toilets, 20 of 242 (8.3%) in clinical areas, 15 of 122 (12.3%) in staff areas, and 14 of 42 (33.3%) in public areas. A total of 81 viral cultures were performed across 5 studies, and 7 (8.6%) from 2 studies were positive, all from close patient environments. The median (interquartile range) SARS-CoV-2 RNA concentrations varied from 1.0 × 103 copies/m3 (0.4 × 103 to 3.1 × 103 copies/m3) in clinical areas to 9.7 × 103 copies/m3 (5.1 × 103 to 14.3 × 103 copies/m3) in the air of toilets or bathrooms. Protective equipment removal and patient rooms had high concentrations per titer of SARS-CoV-2 (varying from 0.9 × 103 to 40 × 103 copies/m3 and 3.8 × 103 to 7.2 × 103 TCID50/m3), with aerosol size distributions that showed peaks in the region of particle size less than 1 µm; staff offices had peaks in the region of particle size greater than 4 µm. Conclusions and Relevance In this systematic review, the air close to and distant from patients with coronavirus disease 2019 was frequently contaminated with SARS-CoV-2 RNA; however, few of these samples contained viable viruses. High viral loads found in

			toilets and bathrooms, staff areas, and public hallways suggest that these areas should be carefully considered. 
Choe PG et al Emerging Infectious Diseases https://doi.org/10.3201/eid2703.204543	Antibody Responses 8 Months after Asymptomatic or Mild SARS-CoV-2 Infection.	Elevata persistenza di anticorpi anti-SARS-CoV-2 in 58 pazienti con infezione lieve o asintomatica dopo 8 mesi dalla diagnosi. La minore durata dello shedding è associata a minore durata della positività anticorpale.	Waning humoral immunity in coronavirus disease patients has raised concern over usefulness of serologic testing. We investigated antibody responses of 58 persons 8 months after asymptomatic or mildly symptomatic infection with severe acute respiratory syndrome coronavirus 2. For 3 of 4 immunoassays used, seropositivity rates were high (69.0%-91.4%).
Preeti NM et al JAMA https://jamanetwork.com/channels/health-forum/fullarticle/2774598	Older Adults' Perspectives on a COVID-19 Vaccine	Le persone di età compresa fra 50 e 65 anni, secondo un recente sondaggio dell'Università del Michigan, sono ben disposte verso la vaccinazione anti-SARS-CoV-2 (58%) ma in buona parte (46%) vorrebbero attendere che altri si vaccinino prima	As of December 4, 2020, cases of novel coronavirus disease 2019 (COVID-19) have topped 14.3 million in the US with nearly 300 000 associated deaths. While mitigation measures such as social distancing, use of face coverings, and avoidance of crowds can help keep case counts in check, a safe and effective COVID-19 vaccine will be essential to ending the pandemic. Yet, an effective vaccine will be of limited benefit across the population unless enough people are willing to receive it.

		di loro. Il parere dei medici e delle autorità sanitarie appare rilevante (nel 52 e 42% dei casi rispettivamente) nella scelta di sottoporsi a vaccinazione.	
Jarjour NN et al Immunity https://www.cell.com/immunity/fulltext/S1074-7613(20)30537-9	T Cell Memory: Understanding COVID-19	Come funziona l'immunità T-cellulare e caratteristiche dei linfociti T di memoria.	As the SARS-CoV-2 pandemic has progressed, increasing attention has focused on establishing natural and vaccine-induced immunity against this coronavirus and the disease, COVID-19, that it causes. In this Primer, we explain the fundamental features of T cell memory and their potential relevance for effective immunity to SARS-CoV-2. 
Pilarowski G et al Clinical Infecitous Diseases https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa1890/6052342?searchresult=1	Field performance and public health response using the BinaxNOW TM Rapid SARS-CoV-2 antigen detection assay during community-based testing	Performance di un test antigenico rapido per SARS-CoV-2 a confronto con PCR: entro 35 cicli soglia alla PCR (il limite convenzionale oltre il quale si assume improbabile presenza di virus infettante) l'antigenico risulta positivo.	Among 3,302 persons tested for SARS-CoV-2 by BinaxNOW TM and RT-PCR in a community setting, rapid assay sensitivity was 100%/98.5%/89% using RT-PCR Ct thresholds of 30, 35 and none. The specificity was 99.9%. Performance was high across ages and those with and without symptoms. Rapid resulting permitted immediate public health action.

		
Lazar MH et al Critical Care Medicine https://journals.lww.com/ccmjournal/Abstract/9000/Racial_Differences_in_a_Detroit,_MI,_ICU.95403.aspx	Racial Differences in a Detroit, MI, ICU Population of Coronavirus Disease 2019 Patients	Studio di coorte retrospettivo condotto su 365 pazienti ricoverati in rianimazione per COVID19 a Detroit, di cui 60% afroamericani, i quali presentano una minore mortalità a 28 giorni ma nessuna differenza di mortalità, di durata della degenza in rianimazione o di tassi di intubazione rispetto alle altre etnie.	Objectives: To investigate the potential influence of racial differences in outcomes of patients infected by coronavirus disease 2019-positive patients who require intensive care in an urban hospital. Design: Retrospective cohort study. Setting: Henry Ford Health System Multidisciplinary ICU, a total of 156 beds spread throughout the hospital in Detroit, MI. Patients: We obtained data from the electronic medical record of all adult severe acute respiratory syndrome coronavirus-2-positive patients managed in the ICU of Henry Ford Hospital in Detroit, MI, between March 13, 2020, and July 31, 2020. Included patients were divided into two groups: people of color (including Black, Asian, Hispanic/Latino, and Arab) and White.

			Interventions: None. Measurements and Main Results: A total of 365 patients were evaluated: 219 were Black (60.0%), 129 were White (35.3%), two were Asian (0.6%), eight were Hispanic/Latino (2.2%), and seven were Arab (1.9%). People of color were younger (62.8 vs 67.1; p = 0.007), with equal distribution of sex. People of color had less coronary artery disease (34 [14.4%] vs 35 [27.1%]; p =0.003) and less self-reported use of regular alcohol consumption (50 [21.2%] vs 12 [9.3%]; p = 0.004) than Whites, with no differences in diabetes (125 [53.0%] vs 66 [51.2%]; p = 0.742), hypertension (188 [79.7%] vs 99 [76.8%]; p = 0.516), congestive heart failure (41 [17.4%] vs 32 [24.8%]; p = 0.090), or chronic kidney disease (123 [54.1%] vs 55 [42.6%]; p = 0.083). There was no difference in ICU length of stay between people of color (18 d [CI, 7–47 d]) and Whites (18 d [CI, 6–48 d]; p = 0. 0.979). Neither frequency (72.5% vs 71.3%; p = ns) nor median time to mechanical ventilation between people of color (9 d [CI, 6–15 d]) and Whites (10 d [CI, 5–16 d]; p = 0.733) was different. Overall, 188 patients (51.5 %) died in the hospital. The 28-day mortality was lower in people of color (107/236; 45.3%) versus Whites (73/129; 56.6%) (adjusted odds ratio 0.60; p = 0.034), and there was an increased median survival time in people of color (20 d) versus Whites (13.5 d; hazard ratio 0.62; p = 0.002). The inhospital mortality was lower in people of color versus White, but the difference was not statistically significant (113 [47.9%] vs 75 [58.1%], respectively; p = 0.061). Finally, there was no significant difference in days of symptoms prior to admission, frequency of presenting symptoms, or frequency or severity of acute respiratory distress syndrome between the two groups.

			Conclusions: In critically ill patients infected with coronavirus disease 2019, people of color had a lower 28-day mortality than Whites with no difference in hospital mortality, ICU length of stay, or rates of intubation. These findings are contrary to previously held beliefs surrounding the pandemic.
Tambyraja AL et al NEJM https://www.nejm.org/doi/full/10.1056/NEJMp2016142?query=featured_home	New Order, New Hope	Le riflessioni di un Chirurgo, messo momentaneamente "da parte" dalla pandemia di COVID-19, sulla capacità di adattarsi e perseguire il bene comune.	In the Covid-19-and-beyond landscape of hospital medicine, all doctors' own hitherto irrefutable self-worth is very much open to question. The saying "Idle hands are the devil's workshop" has never seemed more true. From all the adversity that this novel virus brings springs the unquenchable hope of opportunity. Society and doctors alike will have to evolve to negotiate this latest trial that nature has placed in front of us. Many doctors have a catalyst to find ways in which we can work with more agility and patient focus, build a foundation of truly value-based health care, and perhaps most important, be reminded of the virtues of humility and the pursuit of the greater good.
Hossain MB et al Heliyon – Cell Press https://www.cell.com/heliyon/fulltext/S2405-8440(20)32642-6	Do knowledge and attitudes matter for preventive behavioral practices toward the COVID-19? A cross-sectional online survey among the adult population in Bangladesh	Sondaggio online sostenuto da 1056 adulti in Bangladesh in merito alle conoscenze e all'attitudine riguardo COVID-19: il grado di istruzione è il solo fattore predittivo di comportamenti preventivi nei confronti di COVID-19. Troppo tardi per accorgersi del divario educativo fra gli strati della società?	The Government of Bangladesh has adopted several non-therapeutic measures to tackle the pandemic of SARS-CoV-2. However, the curve of COVID-19 positive cases has not significantly flattened yet, as the adoption of preventive measures by the general population is predominantly a behavioral phenomenon that is often influenced by people's knowledge and attitudes. This study aimed to assess the levels of knowledge, attitudes, and preventive behavioral practices toward COVID-19 and their interrelationships among the population of Bangladesh aged 18 years and above. This study adopted a web-based cross-sectional survey design and collected data from 1056 respondents using the online platform Google Form. We employed the independent sample t-test, one-way ANOVA, Pearson's product-moment correlation, and Spearman rank-order correlation to produce the bivariate level statistics. We

			also run multiple linear and logistic regression models to identify the factors affecting knowledge, attitudes, and preventive behavioral practices toward COVID-19. The respondents had an average knowledge score of 17.29 (Standard Deviation (SD) = 3.30). The average score for attitude scale toward COVID-19 was 13.6 (SD = 3.7). The respondents had excellent preventive behavioral practices toward COVID-19 (mean 7.7, SD = 0.72). However, this study found that knowledge and attitudes did not matter for preventive behavioral practices toward COVID-19. Instead, education appeared as a sole predictor for preventive behavioral practices toward COVID-19; that means preventive behavioral practices toward COVID-19 was lower among the less educated respondents. This study suggests increasing education as a long-term strategy and taking immediate action to increase knowledge and decrease negative attitudes toward COVID-19 through targeted health education initiatives as a short-term strategy.
Kupferschmidt K et al Science https://science.sciencemag.org/content/370/6523/1395	A divisive disease	COVID-19 ha segnato una spaccatura fra il mondo scientifico e una parte dell'opinione pubblica, il cui risanamento attraverso la fiducia e la corretta informazione deve essere una priorità per il futuro.	As scientists struggled to understand and quell COVID-19, a second pandemic of misinformation and political mayhem raged.
European Medicine Agency https://www.ema.europa.eu/en/documents/product-information/comirnaty-	Comirnaty concentrate for dispersion for injection COVID-19 mRNA Vaccine Summary of Product Characteristics	Scheda tecnica del vaccino Pfizer- BioNTech contro SARS-CoV-2 approvato dall'EMA e attualmente in distribuzione in Europa	[…]In the second primary analysis, compared to placebo, efficacy of COVID-19 mRNA Vaccine in participants from first COVID-19 occurrence from 7 days after Dose 2 compared to participants with or without evidence of prior infection with SARS-CoV-2 was 94.6% (95% credible interval of 89.9% to 97.3%) in participants 16 years of age and older. Additionally, subgroup analyses of the primary efficacy endpoint showed similar efficacy point

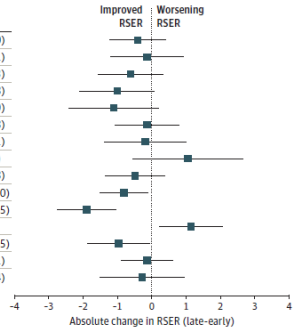
epar-product-information_en.pdf			estimates across genders, racial and ethnic groups, and participants with medical comorbidities associated with high risk of severe COVID-19.
Asch DA et al JAMA https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2774572	Variation in US Hospital Mortality Rates for Patients Admitted With COVID-19 During the First 6 Months of the Pandemic	Studio di coorte su 38517 adulti ricoverati per COVID-19 in 955 ospedali degli USA da gennaio a giugno 2020: la mortalità a 30 giorni varia ampiamente, si è tendenzialmente ridotta nel tempo ma soprattutto è minore nei luoghi ove è minore la prevalenza di infezioni da SARS-CoV-2 nella comunità.	Importance It is unknown how much the mortality of patients with coronavirus disease 2019 (COVID-19) depends on the hospital that cares for them, and whether COVID-19 hospital mortality rates are improving. Objective To identify variation in COVID-19 mortality rates and how those rates have changed over the first months of the pandemic. Design, Setting, and Participants This cohort study assessed 38 517 adults who were admitted with COVID-19 to 955 US hospitals from January 1, 2020, to June 30, 2020, and a subset of 27 801 adults (72.2%) who were admitted to 398 of these hospitals that treated at least 10 patients with COVID-19 during 2 periods (January 1 to April 30, 2020, and May 1 to June 30, 2020). Exposures Hospital characteristics, including size, the number of intensive care unit beds, academic and profit status, hospital setting, and regional characteristics, including COVID-19 case burden. Main Outcomes and Measures The primary outcome was the hospital's risk-standardized event rate (RSER) of 30-day in-hospital mortality or referral to hospice adjusted for patient-level characteristics, including demographic data, comorbidities, community or nursing facility admission source, and time since January 1, 2020. We examined whether hospital characteristics were associated with RSERs or their change over time. Results The mean (SD) age among participants (18 888 men [49.0%]) was 70.2 (15.5) years. The mean (SD) hospital-level RSER for the 955 hospitals was 11.8% (2.5%). The mean RSER in the

worst-performing quintile of hospitals was 15.65% compared with 9.06% in the best-performing quintile (absolute difference, 6.59 percentage points; 95% CI, 6.38%-6.80%; P < .001). Mean RSERs in all but 1 of the 398 hospitals improved; 376 (94%) improved by at least 25%. The overall mean (SD) RSER declined from 16.6% (4.0%) to 9.3% (2.1%). The absolute difference in rates of mortality or referral to hospice between the worst- and best-performing quintiles of hospitals decreased from 10.54 percentage points (95% CI, 10.03%-11.05%; P < .001) to 5.59 percentage points (95% CI, 5.33%-5.86%; P < .001). Higher county-level COVID-19 case rates were associated with worse RSERs, and case rate declines were associated with improvement in RSERs.

Conclusions and Relevance Over the first months of the pandemic, COVID-19 mortality rates in this cohort of US hospitals declined. Hospitals did better when the prevalence of COVID-19 in their surrounding communities was lower.

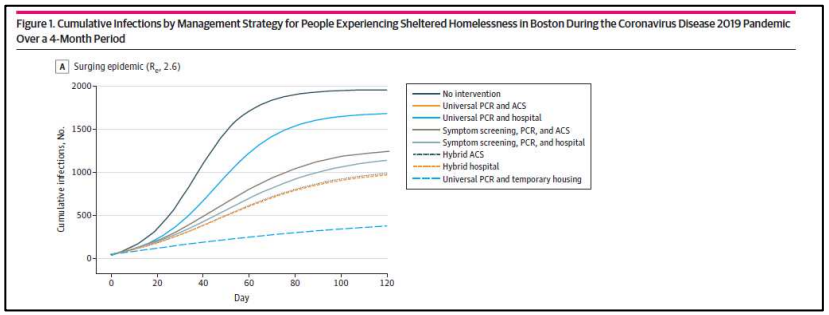
Figure 3. Hospital Characteristics Associated With Change in Risk-Standardized Event Rates Between the Early and Late Periods in 398 Hospitals

Size	Characteristic	Reference	Estimate (95% CI)	P value
135	No. of ICU beds: (≥20 to <60)	(<20)	-0.41 (-1.22 to 0.40)	.32
156	No. of ICU beds: (≥60)	(<20)	-0.14 (-1.20 to 0.91)	.80
121	No. of beds: (≥150 to <300)	(<150)	-0.61 (-1.56 to 0.33)	.20
88	No. of beds: (≥300 to <450)	(<150)	-1.00 (-2.09 to 0.08)	.07
126	No. of beds: (≥450)	(<150)	-1.10 (-2.40 to 0.19)	.10
307	Profit status: nonprofit	For profit	-0.14 (-1.07 to 0.78)	.76
45	Profit status: other	For profit	-0.19 (-1.39 to 1.01)	.76
385	Location: urban	Rural	1.05 (-0.55 to 2.66)	.20
304	Hospital affiliation: nonacademic	Academic	-0.49 (-1.36 to 0.38)	.27
111	Cases (early) per 10 000: (≥20 to <40)	(<20)	-0.80 (-1.51 to -0.10)	.02
132	Cases (early) per 10 000: (≥40)	(<20)	-1.90 (-2.75 to -1.05)	<.001
299	Cases change: increase	Decrease	1.14 (0.23 to 2.05)	.01
126	Region: Northeast	Central	-0.96 (-1.87 to -0.05)	.04
133	Region: Southeast	Central	-0.14 (-0.89 to 0.61)	.71
26	Region: West	Central	-0.28 (-1.51 to 0.94)	.65



Negative change in risk-standardized event rates from the late period to the early period (shown to the left of the dotted line) reflect characteristics associated with an improvement in hospital risk-standardized event rates. Higher early period community coronavirus disease 2019 (COVID-19) case rates were associated with decreases in late period risk-standardized event rates, and increases in community COVID-19 case rates were associated with increases in late period risk-standardized event rates, adjusting for other factors. ICU indicates intensive care unit.

Baggett TP et al JAMA https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774424	Clinical Outcomes, Costs, and Cost-effectiveness of Strategies for Adults Experiencing Sheltered Homelessness During the COVID-19 Pandemic	Simulazione dell'efficacia di strategie per prevenire la diffusione di SARS-CoV-2 in una popolazione di 2258 adulti senza fissa dimora, con R_0 di partenza diversi: monitoraggio dei sintomi, accesso a strutture sanitarie extraospedaliere per i paucisintomatici e test molecolare ogni due settimane appaiono soluzioni efficaci e sostenibili.	Importance Approximately 356 000 people stay in homeless shelters nightly in the United States. They have high risk of contracting coronavirus disease 2019 (COVID-19). Objective To assess the estimated clinical outcomes, costs, and cost-effectiveness associated with strategies for COVID-19 management among adults experiencing sheltered homelessness. Design, Setting, and Participants This decision analytic model used a simulated cohort of 2258 adults residing in homeless shelters in Boston, Massachusetts. Cohort characteristics and costs were adapted from Boston Health Care for the Homeless Program. Disease progression, transmission, and outcomes data were taken from published literature and national databases. Surging, growing, and slowing epidemics (effective reproduction numbers [Re], 2.6, 1.3, and 0.9, respectively) were examined. Costs were from a health care sector perspective, and the time horizon was 4 months, from April to August 2020. Exposures Daily symptom screening with polymerase chain reaction (PCR) testing of individuals with positive symptom screening results, universal PCR testing every 2 weeks, hospital-based COVID-19 care, alternative care sites (ACSs) for mild or moderate COVID-19, and temporary housing were each compared with no intervention. Main Outcomes and Measures Cumulative infections and hospital-days, costs to the health care sector (US dollars), and cost-effectiveness, as incremental cost per case of COVID-19 prevented. Results The simulated population of 2258 sheltered homeless adults had a mean (SD) age of 42.6 (9.04) years. Compared with no intervention, daily symptom screening with ACSs for pending tests or confirmed COVID-19 and mild or moderate disease was associated with 37% fewer infections (1954 vs 1239) and 46% lower costs ($6.10 million vs $3.27 million) at an Re of 2.6, 75% fewer

			infections (538 vs 137) and 72% lower costs ($1.46 million vs $0.41 million) at an Re of 1.3, and 51% fewer infections (174 vs 85) and 51% lower costs ($0.54 million vs $0.26 million) at an Re of 0.9. Adding PCR testing every 2 weeks was associated with a further decrease in infections; incremental cost per case prevented was $1000 at an Re of 2.6, $27 000 at an Re of 1.3, and $71 000 at an Re of 0.9. Temporary housing with PCR every 2 weeks was most effective but substantially more expensive than other options. Compared with no intervention, temporary housing with PCR every 2 weeks was associated with 81% fewer infections (376) and 542% higher costs ($39.12 million) at an Re of 2.6, 82% fewer infections (95) and 2568% higher costs ($38.97 million) at an Re of 1.3, and 59% fewer infections (71) and 7114% higher costs ($38.94 million) at an Re of 0.9. Results were sensitive to cost and sensitivity of PCR and ACS efficacy in preventing transmission. Conclusions and Relevance In this modeling study of simulated adults living in homeless shelters, daily symptom screening and ACSs were associated with fewer severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections and decreased costs compared with no intervention. In a modeled surging epidemic, adding universal PCR testing every 2 weeks was associated with further decrease in SARS-CoV-2 infections at modest incremental cost and should be considered during future surges.  Figure 1. Cumulative Infections by Management Strategy for People Experiencing Sheltered Homelessness in Boston During the Coronavirus Disease 2019 Pandemic Over a 4-Month Period

Burki T et al The Lancet https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30949-X/fulltext	Equitable distribution of COVID-19 vaccines	L'approvazione di numerosi vaccini contro SARS-CoV-2 negli ultimi mesi apre una prospettiva di speranza verso il futuro, ma determina anche la necessità di uno sforzo organizzativo da parte di tutti i Paesi.	If everything goes according to plan, November 2020 will be remembered as the beginning of the end of the COVID-19 pandemic. The past few weeks have seen a remarkable run of developments. Four manufacturers reported efficacy rates in excess of 90% for each of their candidate COVID-19 vaccines. As The Lancet Infectious Diseases went to press, the UK had started vaccinating priority groups. The US Food and Drug Administration (FDA) is expected to approve two COVID-19 vaccines in mid-December; the USA will probably start vaccinating healthcare workers before Christmas.COVID-19 vaccine hesitancy among medical students
Lucia VC et al Journal of Public Health https://academic.oup.com/jpubhealth/advance-article/doi/10.1093/pubmed/fdaa230/6048931	COVID-19 vaccine hesitancy among medical students	Il 23% dei 168 studenti di medicina americani intervistati tramite questo sondaggio non vorrebbe essere vaccinato contro SARS-CoV-2 immediatamente dopo l'approvazione FDA: l'esitazione vaccinale non è propria solo della popolazione generale.	Background: Medical students are among the group of frontline healthcare providers likely to be exposed to COVID-19 patients. It is important to achieve high COVID-19 vaccination coverage rates in this group as soon as a vaccine is available. As future healthcare providers, they will be entrusted with providing vaccine recommendations and counseling vaccine-hesitant patients. Methods: This project used self-report to assess vaccine hesitancy and acceptance among medical students towards the novel COVID-19 vaccine. Results: Nearly all participants had positive attitudes towards vaccines and agreed they would likely be exposed to COVID-19; however, only 53% indicated they would participate in a COVID-19 vaccine trial and 23% were unwilling to take a COVID-19 vaccine immediately upon FDA approval. Students willing to immediately take the vaccine were more likely to trust public health experts, have fewer concerns about side effects and agree with vaccine mandates ($P < 0.05$). Concern for serious side effects was independently predictive of lower odds of intent to participate in a COVID-19 vaccine trial (AOR = 0.41, P = 0.01). Conclusion:

			This is the first study to evaluate COVID-19 vaccine hesitancy among US medical students and highlights the need for an educational curriculum about the safety and effectiveness to promote uptake of the COVID-19 vaccine.