If you would like to be added to the mailing list for COVID-19 and other educational reports and webinars, please send a note opting in to info@grf.org.
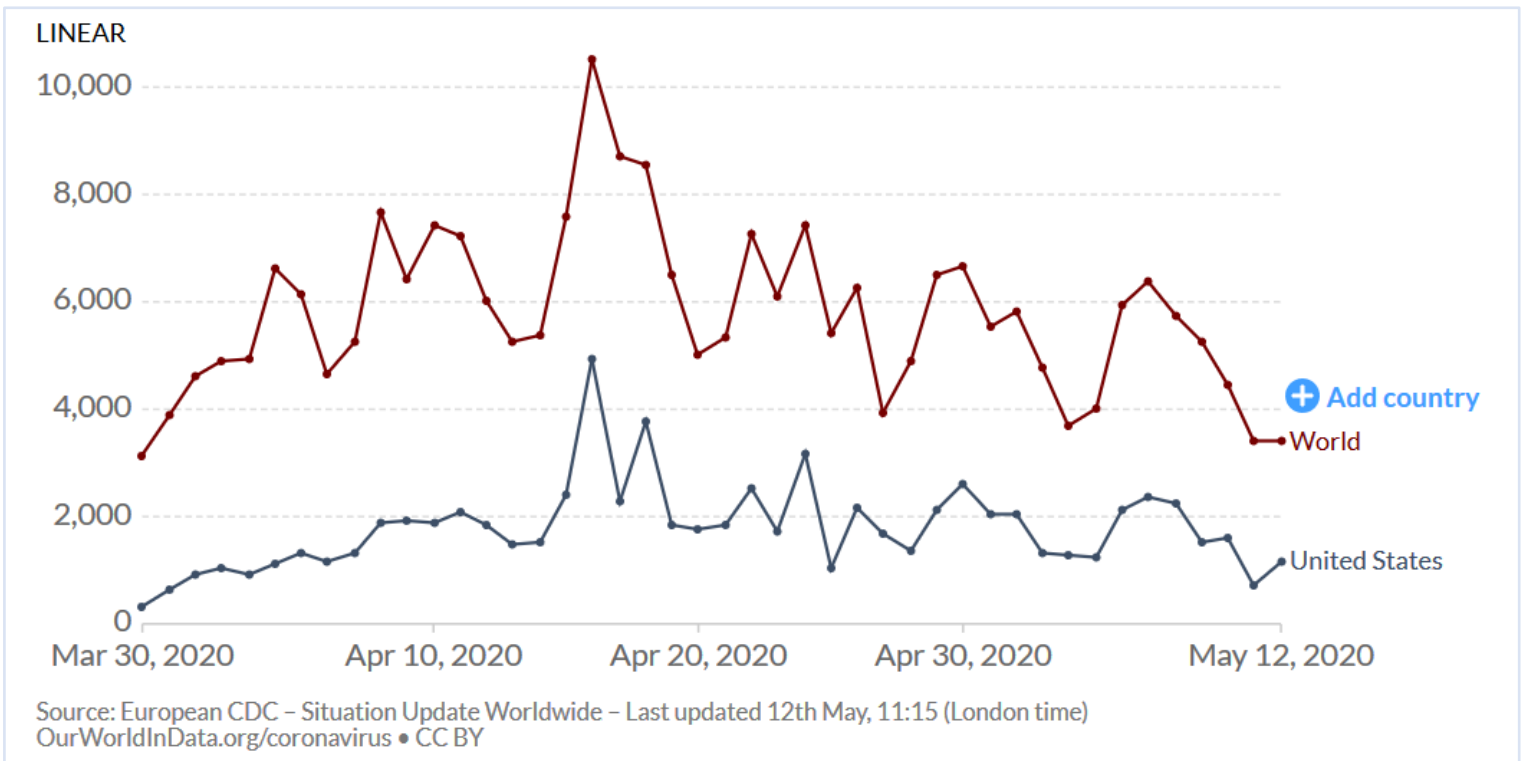
https://grf.cyware.com/webapp/
https://grf.org/

(The most recently updated information in this report is green)

Daily Confirmed COVID-19 Deaths

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

Source: European CDC – Situation Update Worldwide – Last updated 12th May, 11:15 (London time)
OurWorldInData.org/coronavirus • CC BY

https://ourworldindata.org/grapher/daily-deaths-covid-19?time=2020-03-30..&country=OWID_WRL+USA

Synopsis –
COVID-19 is the disease caused by the novel coronavirus SARS-CoV-2, initially discovered in Wuhan China in late 2019, that has since become a global pandemic. The outbreak has negatively impacted the global economy and supply chain operations as governments mandate social distancing rules, lockdowns and travel restrictions to minimize viral spread. A draft government report by the CDC projects that the number of COVID-19 cases in the US will reach around 200,000 a day and more than 3,000 deaths a day by June 1. On the bright side, South Korean public health researchers announced that previous findings suggesting that people who survived COVID-19 might be susceptible to reinfection appear now to have been false positives caused by virus remains in those recovered patients who were retested. The WHO recently acknowledged potentially positive data related to four or five of the coronavirus treatments currently being researched. These treatments appear to shorten the length of illness caused by the virus and limit its severity, but there is still no known cure or vaccine. More than 100 COVID-19 vaccines are currently in development or clinical trials.

President Donald Trump announced a 3-phase reopening plan called Opening up America Again for states to gradually ease lockdowns. Each phase will last at minimum of 14 days and Phase 1 will focus on opening restraurants, places of worship and sports venues with restrictions on non-essential travel and avoiding large group gatherings. Phase 2 will feature the resuming of non-essential travel and allow schools and bars to open. Phase 3 will allow states that have downward trends in COVID-19 cases and symptoms to fully staff worksites and engage in public interactions while maintaining physical distancing. Each phase will be carried out at the state level so impacts to critical infrastructure sector operations in the US will vary by state.

Public Health Guidelines -
The US Center for Disease Control (CDC) added six new possible symptoms of COVID-19 to its coronavirus public health information site. New symptoms listed are chills, repeated shaking with chills, muscle pain, headache, sore throat and new loss of taste or smell. Previous symptoms listed are fever, cough and shortness of breath or difficulty breathing. The CDC recommends wearing cloth face coverings in public places where social distancing measures are hard to maintain.

The CDC's public health risk assessment says:

- People in places where ongoing community spread of the virus that causes COVID-19 has been reported are at elevated risk of exposure, with the level of risk dependent on the location.
- Healthcare workers caring for patients with COVID-19 are at elevated risk of exposure. Close contacts of persons with COVID-19 also are at elevated risk of exposure.
- Travelers returning from affected international locations where community spread is occurring also are at elevated risk of exposure, with level of risk dependent on where they traveled.

Best Practices –
The following are suggestions for keeping employees and workplaces safe from infection.

- CDC reopening guidance for cleaning and disinfecting spaces: https://www.cdc.gov/coronavirus/2019-ncov/community/reopen-guidance.html
- Wash hands frequently with soap and water or alcohol-based rub (at least 60% alcohol).
- Consider telework options or leave-taking for at-risk individuals (those who have encountered infected persons, traveled in affected areas, are elderly or with underlying health conditions, or feel ill).
- Cover your mouth and nose with tissue or elbow when coughing or sneezing.
- Stay at least six feet away from other people while in public (the virus is thought to spread person-to-person by those in close contact with one another).
- Consider obtaining and maintaining supplies for this and other possible outbreaks (as infection spreads demand for personal protective equipment like surgical face masks and hand sanitizer rises but supplies may not meet demand during a crisis).

Treatments and Vaccines

- The FDA gave emergency approval for a new antigen test to be used in the US. The new test is able to be reviewed in a doctor's office or testing location immediately and is cheaper to produce than previous tests. It works by detecting proteins in the virus and is conducted via nasal swab. This simpler, more affordable test is an important step forward as countries reopen their economies since it will be cheaper to provide more tests to frontlines healthcare workers, supporting more widespread testing. It is important to be aware, however, that the antigen test may not be as sensitive as the more expensive PCR test already used around the country. A negative test result might not truly indicate a lack of virus, so the FDA is recommending that all antigen tests be confirmed by a PCR test.
- The most recent observational study of hydroxychloroquine shows that the drug does not help patients with severe symptoms and needs (such as being on a breathing tube) recover any better than those who did not receive the drug at all. With or without azithromycin (thought to make hydroxychloroquine more effective at treating COVID-19), the malaria drug did not lower the risk of death for seriously ill patients any more than a placebo.
- An FDA-authorized antibody test by Pfizer and BioNTech claims to have 100% sensitivity and more than 99% specificity. It has been granted the FDA's Emergency Use Authorization. However, research is still needed to determine if someone has immunity or how long that immunity might last. The FDA Commissioner stated that antibody tests at this time should (in his opinion) not be used to determine if someone should return to work.
- Two medical research companies are delivering doses of a possible vaccine for human testing trials in the US. If the vaccine is safe and effective it may be available for widespread distribution by the end of 2020. Clinical trials of this potential vaccine began in Germany in April.
- Famotidine, the active ingredient in over-the-counter heartburn medications is being tested and shows anecdotal evidence that high doses may improve COVID-19 patients' conditions.
- Anecdotal evidence shows that remdesivir (originally tested in Ebola patients) may be effective in stopping the novel coronavirus' replication mechanism, which causes COVID-19. Research and development company Gilead Sciences has reported positive data from a trial of the drug, showing that patients treated with remdesivir recovered faster than those treated with a placebo (recovered being defined as being able to resume normal activity or be discharged from the hospital). There are multiple concurrent remdesivir studies in progress and more data needs to be reviewed before confirming that the drug is a safe and effective, proven treatment. Further analysis will be conducted in the coming weeks by the National Institutes of Health.
- A guide to the drugs and vaccines being studied for COVID-19 can be found here.
- The National Institute of Allergy and Infectious Diseases provides news releases on clinical trials of investigational vaccines.
- There is currently no approved preventative treatment for coronavirus and self-medicating with unapproved drugs could prove dangerous.

Travel Advisories

- Each country has its own travel restrictions and safety advisories. The CDC's travel advisories for each country can be found here.
- The US State Department Global Health Advisory is Level 4: Do Not Travel.
- A list of all US states currently under stay-at-home orders can be found here and a list of states' reopening timelines can be found here.
- It is recommended that only essential travel be undertaken.
- If travel is essential, it is advisable to double check flight times and schedules for cancelations or postponements.
- Travel delays at airports should be expected due to COVID-19 symptom screenings.
- Self-quarantine for at least 14 days after traveling to areas with confirmed COVID-19 outbreaks.

Critical Infrastructure Impacts – Please note that the pandemic situation is fluid, so information changes rapidly.

Cross-sector Impacts – General effects of the pandemic on all infrastructure sectors worldwide.

- ADP Research Institute's jobs report shows that in April, private companies lost more than 20.2 million jobs from their payrolls, double the number lost in February 2009 following the 2008 financial crisis.
- States reopening their economies in the next few weeks can be found here.
- On April 17 CISA released a document detailing which employees should be considered essential for COVID-19 pandemic response.
- Interconnectivity affects how COVID-19 impacts infrastructure sectors. The interdependency of all critical infrastructure sectors means that instability in one is likely to cause cascading impacts to others.
- Workforce absenteeism could become a major cause of instability for all sectors, but especially for sectors that need high levels of niche expertise to sustain operations.
- The negative impacts of pandemics on critical infrastructure increase during global economic downturns or recessions, seasonal weather damages and emergency response needs, and risks from unnecessary travelers further straining healthcare infrastructure.
- General known impacts of COVID-19 include decreased demand for oil, global market instability, the cancelation or postponement of public and business events, pharmaceutical shortage concerns, quarantines, lockdowns, and supply chain disruptions.
- Be alert for scams and cyberattacks increases. Security firms, law enforcement and the FBI all warn of increased phishing and cybercriminal scams targeting teleworkers and the healthcare industry. Critical infrastructure sectors and the general public may also be vulnerable to cyber threats based around companies selling fraudulent cures and treatments for COVID-19 or using phishing emails to gain access to private financial information.

Energy, Oil & Natural Gas

- Saudi Arabia is implementing policies to mitigate effects of declining global oil demand on government finances, including 100 billion riyals in spending cuts, increasing the value-added tax, and ending a program giving government workers a monthly stipend to help offset that same tax. The higher tax could lead to social unrest or a reduction in private sector spending but might help offset some financial hardships from the pandemic's effects on the global oil market.
- Oil prices have been declining again after a brief rise, due to near-term lack of demand and a growing lack of storage capacity for oil being produced that isn't sent to refineries. As oil companies cut expenditures, lack of investment could create a price spike a few years from now.
- Policymakers are being pressured to create legislature that will encourage energy sector businesses to fundamentally change their processes to lower carbon emissions. Some environmental advocates are suggesting renewable energy tax credits, more government direct spending in the renewables sector, and tax credits for electric vehicles and appliances. The coronavirus pandemic has been hard on the oil industry especially, but it could be a good opportunity for the clean energy industry to lobby for near-future adjustments in global energy investments toward more sustainable practices.

Finance

- Retail banks may have a hard time determining how to comply with social distancing restraints and customer expectations post-pandemic. Some bank branches might choose to close for a time or implement "by appointment only" visits rather than walk-in assistance. It will be important in the long run for retail banks to emphasize positive customer relations and incorporate relief and remediation into business continuity plans.
- A Wall Street Journal report indicates that many bankers are discovering they are able to do their jobs just as well from home as they did with frequent business trips. As organizations return-to-work, it is

possible that continuing telework options can save money and time for many employees and corporations. Face-to-face meetings remain an important part of business and client trust, but banks may still be able to spend less money and wasted time on business trip flights and airport waiting. Investment banking in particular could see an increase in job applications as potential employees who may have been turned off by the long hours required for that job see that working from home can enable them to pursue that career track but still have valuable family time with flexible telework hours.

- The US Federal Reserve has kept interest rates near zero and stated that only small lenders and small business customers (lending institutions with less than $1 billion in assets) will be eligible to access the Paycheck Protection Program, which provides businesses with eight weeks of cash-flow assistance to keep workers on payroll.

Retail

- New rules regarding small business loans as part of the US government's financial stimulus package Paycheck Protection Program are causing confusion among retailers about whether they are eligible for loans after all and if they can keep money they have already been loaned, even if they are not technically eligible for the loan now under new rules. Many companies' costs have increased because of safety requirements surrounding infection spread so new eligibility rules could have a drastic impact on some small businesses' abilities to stay in the market. It remains to be seen how unemployment numbers and permanently closed businesses will impact consumer spending as areas attempt to return to normal and rebuild economic growth.
- Meat shortages are leading to higher prices and less availability of certain kinds of meats in the US so grocers might need to adjust to shortages and panic buying by implementing limits on how much meat one person or family can buy at a time, and advising customers ahead of time about potential, intermittent future shortages.
- According to the US Commerce Department, consumer spending decreased in March by 7.5% and millions of Americans have filed for unemployment benefits.
- According to Green Street Advisors, over half of all American mall department stores could end up permanently closing by the end of next year. This could lead to closures of other apparel stores in those malls and eventually lead to malls shutting down completely since department stores make up 60% of malls' anchor space.

Legal

- Health privacy questions continue to be raised as many companies return to normal operations. Some common questions include whether employees are required to inform employers if they are symptomatic for COVID-19. While temperature checks would not normally be legal (because of tbe Americans with Disabilities Act), the US Equal Employment Opportunity Commission stated that during the coronavirus pandemic, because of the high public health risks of COVID-19, employers are legally allowed to take their employees' temperatures as part of work safety procedures. Employers will also be legally allowed to require that employees be vaccinated once a coronavirus vaccine is available, unless employees are exempted because of medical conditions or religious beliefs. See the EEOC's website with information on COVID-19 and the Americans with Disabilities Act for more information.
- The EEOC has updated and clarified its guidance on accommodating employees returning to work with medical vulnerabilities that could be aggravated by COVID-19. Employees must be responsible for notifying their employers of any medical conditions that require accommodation and the employer is allowed to request medical documents. Employers may not stop an employee from going to the workplace even if that employee has a known medical condition that could put him/herself at greater risk of coronavirus infection. Employers can, however, keep employees exhibiting COVID-19 symptoms away from work since symptoms constitute a potential threat to coworkers.
- The US Equal Employment Opportunity Commission released guidance on how businesses can conduct medical screening of employees, including taking temperatures, asking employees about symptoms, and requiring a medical exam if someone is reasonably believed to have COVID-19.

Transportation

- It is possible that COVID-19-related disruptions to global trade and the related global recession will result in long-term business loss and security concerns for the maritime shipping industry. Governments may turn to more protectionist policies even as container shipping demand increases post-pandemic, so the industry could remain in decline for several years to come. Current uncertainties about US-China relations, trade tensions, and the US' drive to bring back domestic manufacturing could all amplify negative impacts of container shipping oversupply, especially if the US replaces offshore manufacturing with inexpensive labor and goods from Mexico, requiring trucking rather than maritime shipments.
- Trucking companies are stopping expansion plans because economic struggles have slowed down production at transportation equipment companies' manufacturing plants. As manufacturers begin operations in states lifting lockdown restrictions, many will likely have backlogged orders and trucking companies may be forced to continue delaying fleet expansions.
- Several US lawmakers want Congress to provide new aid to the automobile industry, but no legislation has yet been finalized. Manufacturers and employees in the Midwest have been especially impacted. Stay-at-home orders and consumer fear of making large purchases in uncertain times are likely behind the auto industry's massive economic decline.
- The World Road Association (PIARC) has produced several free webinars (linked here) about pandemic best practices from countries around the world related to road transportation.
- TSA has a website that is updated with information about confirmed COVID-19 cases among TSA officers so that people who have traveled recently can take appropriate precautions if they may have visited airport locations where infections were confirmed.

Healthcare and Public Health

- Doctors in the US and Europe are investigating a new condition occurring in children affected by COVID-19, called pediatric multisystem inflammatory syndrome. Symptoms include children experiencing skin, eye, blood vessel, and heart inflammation. The novel coronavirus has mostly affected older generations and doctors are unsure why this new condition seems to be impacting children in a less lung-specific way. Children from the age of infants to teenagers have been reported as having this condition but much is unknown about its cause and death rate. Some of the children that have fallen ill with pediatric multisystem inflammatory syndrome tested positive for either the novel coronavirus or antibodies, meaning they could have had a novel coronavirus infection sometime prior without even knowing. The syndrome may not affect adults because children have less developed immune systems but families should remain cautious about possible infection since no one knows why some children develop the illness but others do not, even within the same households.
- Although several countries and US states are considering using so-called immunity passports to determine if employees should return to the workplace, antibody testing is not one hundred percent certain and there is no concrete evidence at this time to show that someone who recovered from COVID-19 is immune to receiving or transmitting it again. In addition, immunity passports raise complicated issues regarding future public health protections if people become less willing to seek medical care because of fear of health history discrimination and subsequent care and insurance costs. It is also possible that immunity passports could incentivize people to become infected or feign infection to be excluded from certain societal or economic duties only available to people with coronavirus immunities. It remains to be seen how accurate antibody tests will become.
- A new, less intrusive coronavirus test may be safer for those being tested and for healthcare workers conducting tests. The saliva-based test does not provide results as rapidly as swab tests, but it means that healthcare workers need not wear PPE while testing. This could save valuable PPE for hospitals and emergency rooms that need it most, and possibly increase the number of tests each state will be able to do because they use widely available equipment and should be able to be quickly manufactured.

Awareness and Resiliency Resources

Return-to-Work

- National Restaurant Association Coronavirus Information
  https://restaurant.org/covid19
- National Governors Association Reopening and Recovery Resources
  https://www.nga.org/coronavirus/#reopen
- Working Remotely in Energy and Materials
  https://www.mckinsey.com/industries/oil-and-gas/our-insights/a-safer-smarter-future-working-remotely-in-energy-and-materials
- Pharma Operations and the Path to Recovery
  https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/pharma-operations-the-path-to-recovery-and-the-next-normal
- DHS Report on How Long the Virus May Last on Certain Surfaces and at Certain Temperatures
  https://www.scribd.com/document/456897616/DHSST#from_embed
- Health and Human Services HIPPA and Coronavirus Announcements
  https://www.hhs.gov/hipaa/for-professionals/special-topics/hipaa-covid19/index.html
- International Air Transport Association Travel Updates by Country (updated frequently)
  https://www.iatatravelcentre.com/international-travel-document-news/1580226297.htm
- US Equal Employment Opportunity Commission Guidance on Workplace Medical Screening
  https://www.eeoc.gov/coronavirus/

Cyber

- The Cyberthreat That Could Derail Vaccine Development
  https://www.cnbc.com/2020/05/12/this-cyberthreat-could-derail-race-to-develop-a-coronavirus-vaccine.html
- Free Cybersecurity Training and Awareness Courses
- https://www.darkreading.com/threat-intelligence/6-free-cybersecurity-training-and-awareness-courses/d/d-id/1337781
- FBI Warning About Cyber Scams
  https://www.ic3.gov/media/2020/200320.aspx
- ZNet's Roundup of Cybersecurity Challenges
  https://www.zdnet.com/article/roundup-the-coronavirus-pandemic-delivers-an-array-of-cyber-security-challenges/

Graphics, Charts, and Tracking

- Death and Case Rates in the US (Total and by State)
  https://www.washingtonpost.com/graphics/2020/national/coronavirus-us-cases-deaths/?itid=lb_coronavirus-what-you-need-to-read_2
- Cumulative Record of US Historical Data (Tracking COVID-19)
  https://covidtracking.com/data/us-daily
- US State-by-State COVID-19 Tracking Data
  https://covidtracking.com/data
- Johns Hopkins University Center for Health Security
  http://www.centerforhealthsecurity.org/resources/COVID-19/index.html
- Johns Hopkins County-by-County Reporting for the US
  https://coronavirus.jhu.edu/us-map
- Charts and Graphics Showing Viral Spread and More
  https://ourworldindata.org/grapher/covid-confirmed-cases-since-100th-case?time=2020-01-22..2020-04-14

- Johns Hopkins University Global Outbreak Tracker
  https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html%23/bda7594740fd40299423467b48e9ecf6

Situational

- How Long Virus is Known to Last on Surfaces in Different Temperatures
  https://www.c-span.org/video/?c4871125/user-clip-outdoor-sunlight-amp-isopropyl-alcohol-kill-covid-19-virus-warm-moist-weather-research
- FEMA Site for Local Disaster Assistance Resources
  https://www.disasterassistance.gov/
- WHO Situation Reports
  https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/
- FDA Press Announcements
  https://www.fda.gov/news-events/fda-newsroom/press-announcements
- CDC Travel Advisories
  https://wwwnc.cdc.gov/travel/notices
- Resilience Readiness from KPMG
  https://www.kpmg.us/insights/2020/covid-19-resilience-readiness.html?postID=f838d5da-8bd5-4305-a42c-1fe4f8becc19
- CISA Guidance on Essential Critical Infrastructure Workforces
  https://www.cisa.gov/publication/guidance-essential-critical-infrastructure-workforce

Recent GRF Portal Analysis Briefs and Resources

- GRF Portal #7f74e7d8 & FS-ISAC Report ID #956595
- GRF Portal #f201e22b & FS-ISAC Report ID #956564
- GRF Portal #c437ce47 & FS-ISAC Report ID #956539