

Dentons Flashpoint

Novel Coronavirus Daily Update

May 13, 2020

Novel Coronavirus Update: May 13, 2020

KEY TAKEAWAYS

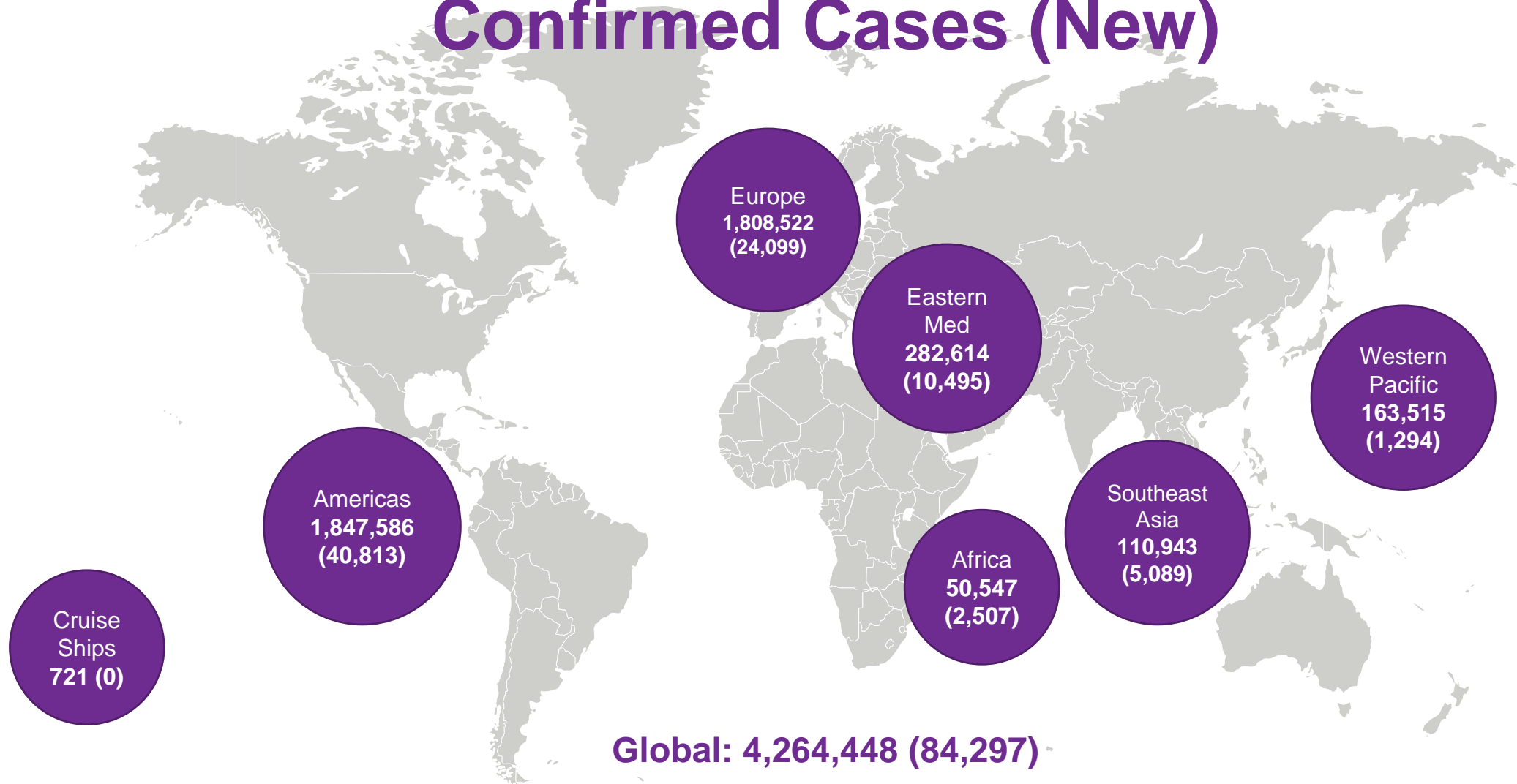
The IMF will further downgrade the global economic outlook.

WHO expressed optimism for coronavirus treatments.

World's largest container shipping line forecasts a drop in volume up to 25 percent in Q2 as supply chains are disrupted.

Note: This report is based on sources and information deemed to be true and reliable, but Dentons makes no representations to same.

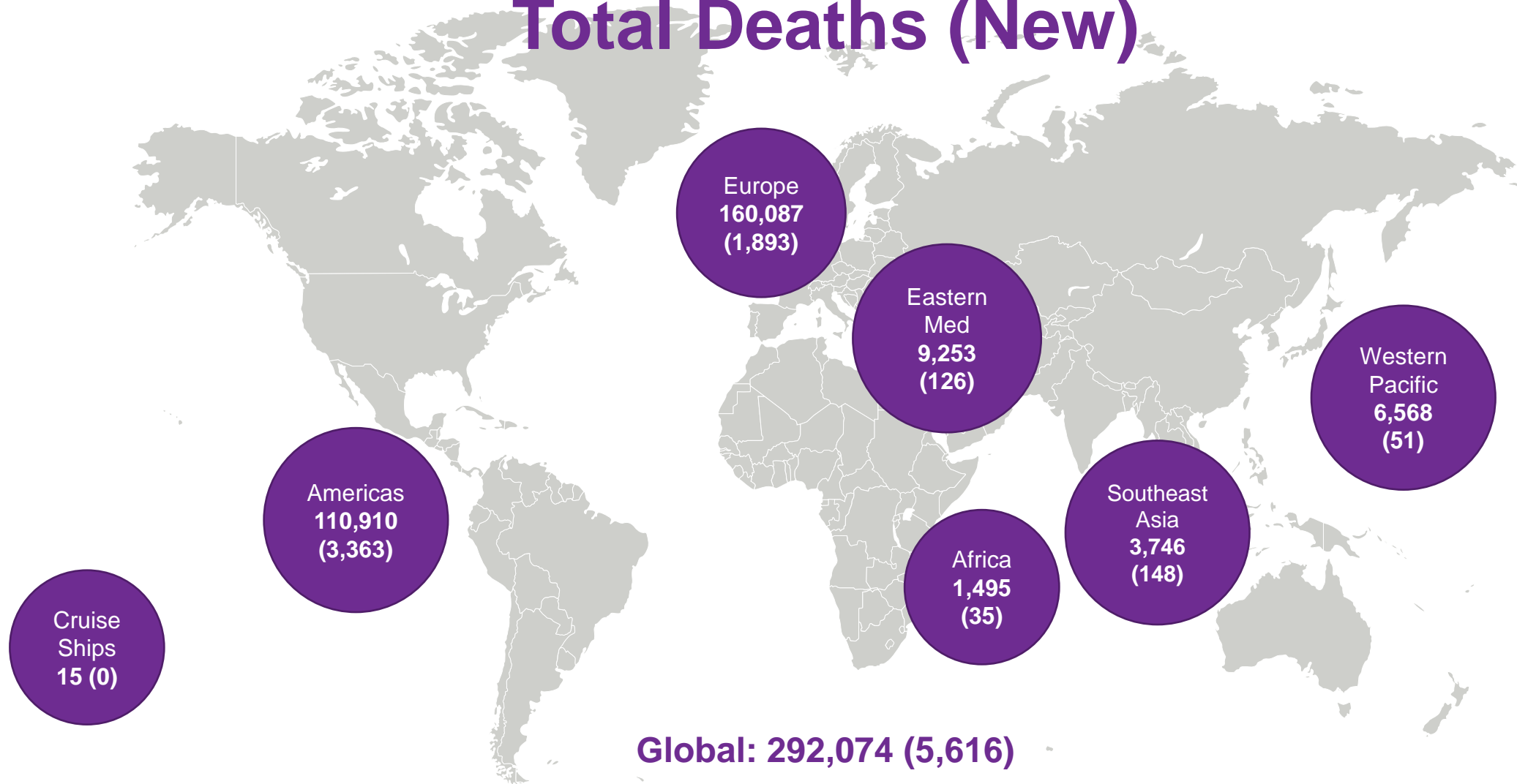
Confirmed Cases (New)



Reflects data as of 2100 hours the evening before the date of the situation report.
Data Source: Johns Hopkins University

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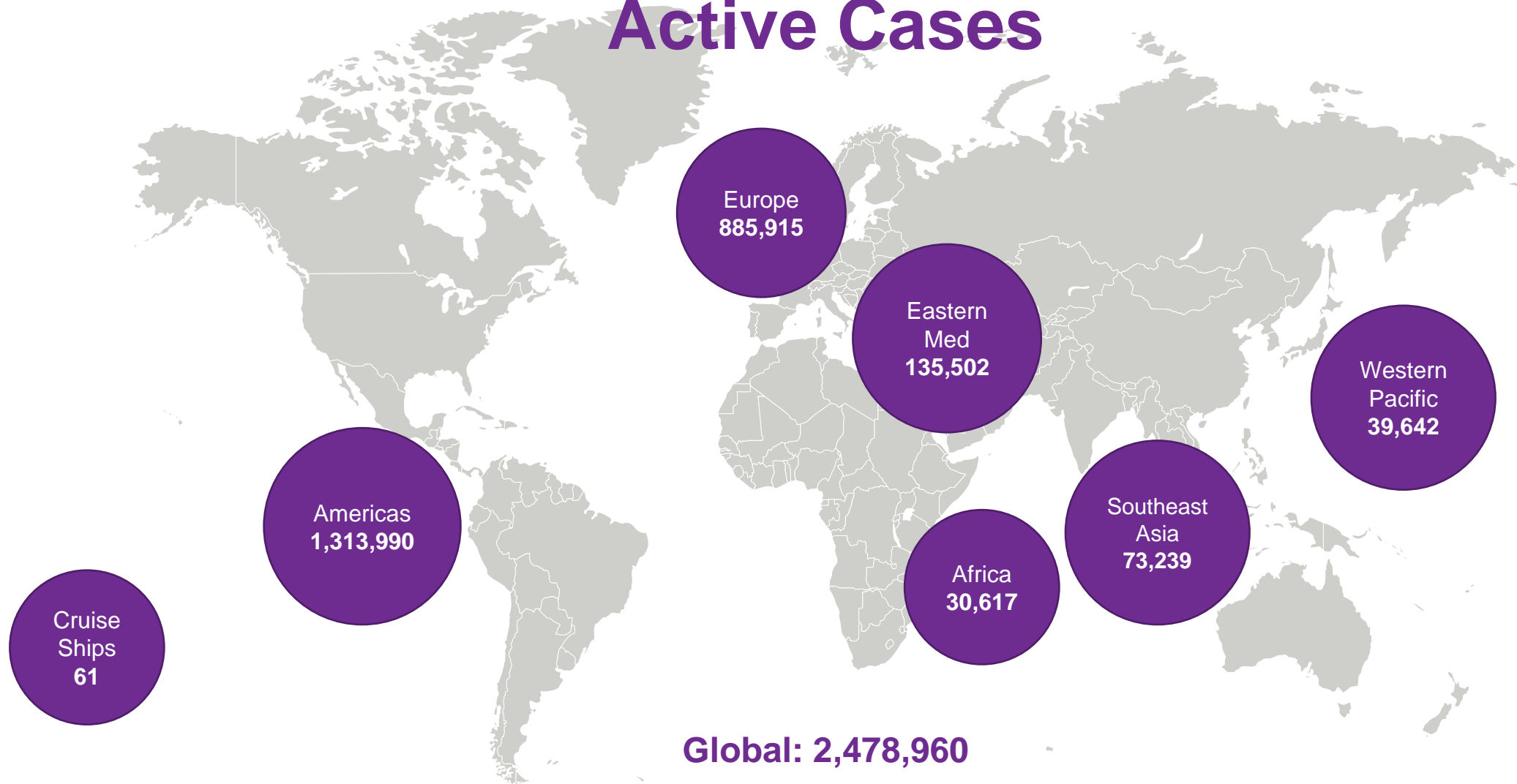
Total Deaths (New)



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Active Cases



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Condition Updates

As of A.M. US EDT on May 13

Global

Overnight, confirmed cases grew to 4,357,565 in 212 countries and territories, with 293,216 deaths.

- The WHO said that “*four or five*” **treatments** appear to be limiting the severity or length of COVID-19 infection, without naming the treatments.
- The IMF will further downgrade its **global economic outlook**; a revised report will be released in June.
- OECD warns extra **debt** will '*haunt*' companies and governments.
- The head of the World Travel and Tourism Council called for global health and testing standards for the **travel industry**.

Markets

The US Fed began to buy corporate bond exchange-traded funds, boosting junk bond ETCs.

- On Tuesday, **US stocks** dropped about 2 percent, accelerated by proposed legislation that would impose sanctions on China.
- Wednesday morning, **European and Asian stocks** also slid in early trading.
- US core **consumer inflation** saw its largest monthly decline on record in April.
- The Bank of England's deputy governor did not rule out **negative interest rates** in an interview, affirming that the bank is prepared to continue taking unprecedented steps.
- Private equity firm BC Partners' CEO said that **corporate profits** were unlikely to fully recover by 2021.
- Eventbrite stocks slid as **event cancellations** crater demand for booking services.

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Business

Digital health entrepreneurs are seeing increased opportunities for innovation amid the pandemic.

- **Uber** is in talks to acquire **Grubhub**. **Instacart** is in talks to raise several hundred million dollars of new investment.
- **Twitter's** CEO said that employees can work from home "forever" if they want.
- **Walmart** will give another round of \$150-\$300 bonuses to its employees.
- Theater distribution company **Solstice Studios** announced it would release its next movie in theaters on July 1. **Broadway** will remain closed until September.
- **Ryanair** will resume 40 percent of its flight network July 1. **Boeing's** CEO predicted that a major airline would go out of business this year, as Boeing orders slipped below 5,000 for the first time in seven years. **American, Delta and United** airlines told flight crew not to force passengers to comply with face mask rules.
- **Steak 'n Shake** will close 57 stores for good.
- Brazilian card processor **StoneCo** laid off 20 percent of its workforce.
- French shipping line **CMA CGM** receives €1.05bn loan and state guarantee.
- The number of corporate **bankruptcies in Japan** rose by 15 per cent compared with a year earlier in March.
- **Aston Martin** posted a £120m loss in the first quarter and withdrew guidance for the year.
- The UK government is to guarantee **trade credit insurance** in a bid to ensure that the market does not seize up because of the crisis.
- **AP Moller-Maersk**, the world's largest container shipping line, forecasts that volumes across its business will fall by up to 25 per cent in Q2 as supply chains are disrupted.

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Africa

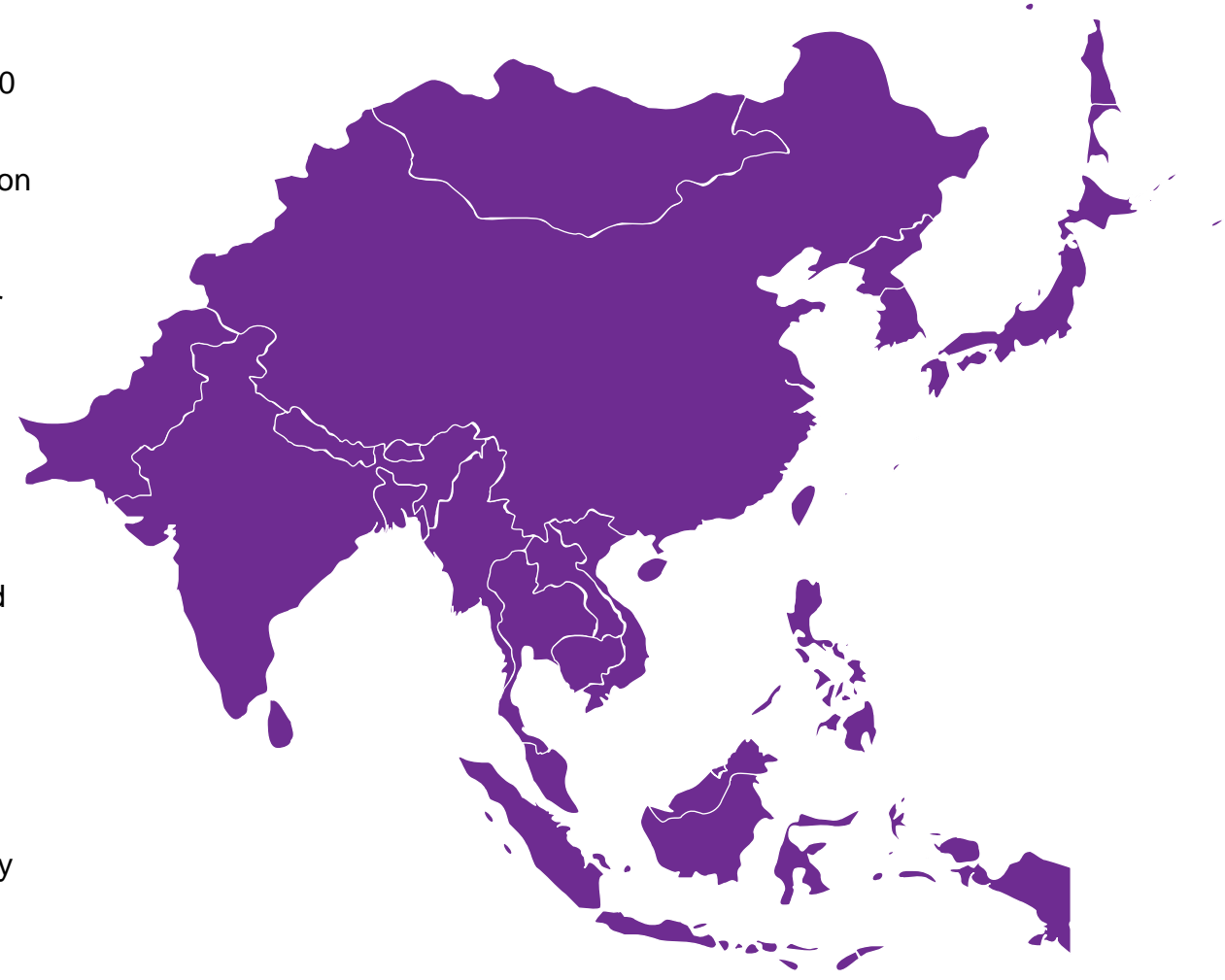
- Two people tested positive in a UN-run protection-of-civilians camp in Juba, **South Sudan**.
- **Mauritius** is officially virus free, with 322 recovered cases and no new infections in fifteen days; **Eritrea** has just one active case.
- **Nigeria** will accept a shipment of Madagascar's proposed cure COVID-Organics but will subject the supplement to the standard pharmaceutical verification process.
Madagascar's president, meanwhile, implied skepticism of the cure is due to its African origin.
- **Uganda's** president said it would be “madness” to hold the presidential election scheduled for early next year if the virus persists.



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Asia

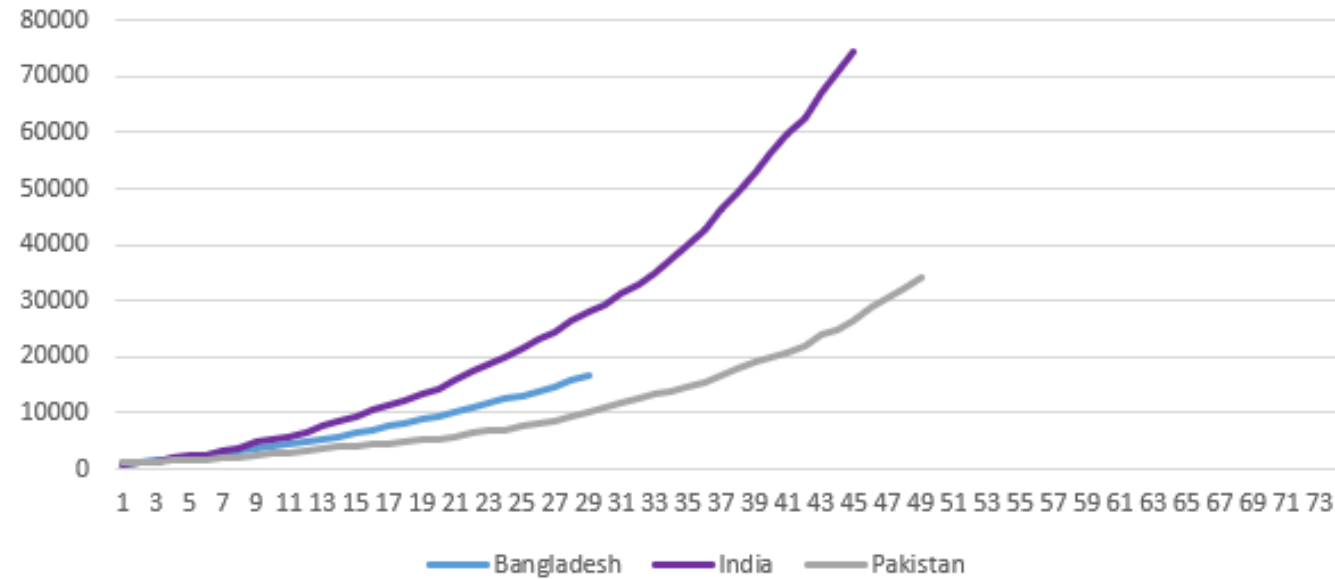
- **Indian** PM Modi announced a \$260b economic rescue package, nearly 10 percent of India's GDP. India's industrial production contracted by 16.7 percent in March, an early sign of severe economic damage, and its carbon emissions have dropped for the first time in four decades.
- The city of Wuhan will test all its inhabitants by the end of next week after six new infections surfaced. A coalition of over 4,200 Hong Kong and mainland **Chinese** companies pledged to avoid layoffs during the coronavirus crisis.
- **Singapore** is preparing to test all of its 300,000+ migrant workers.
- In **Japan**, Kyoto and Fukuoka prepare to reopen while Tokyo, Osaka, and Hokkaido will remain under restrictions.
- Two former **Australian** foreign ministers said that the public push for an inquiry into virus origins is likely to fail, and that Australia should instead employ 'quiet diplomacy.' Researchers from China and Australia discovered a new 'close relative' to COVID-19 in bats in China, which may support the consensus that the virus occurred naturally.



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Asia

Rate of Confirmed Cases on Indian Subcontinent Picks Up Pace
(Cases since first 1,000 registered)

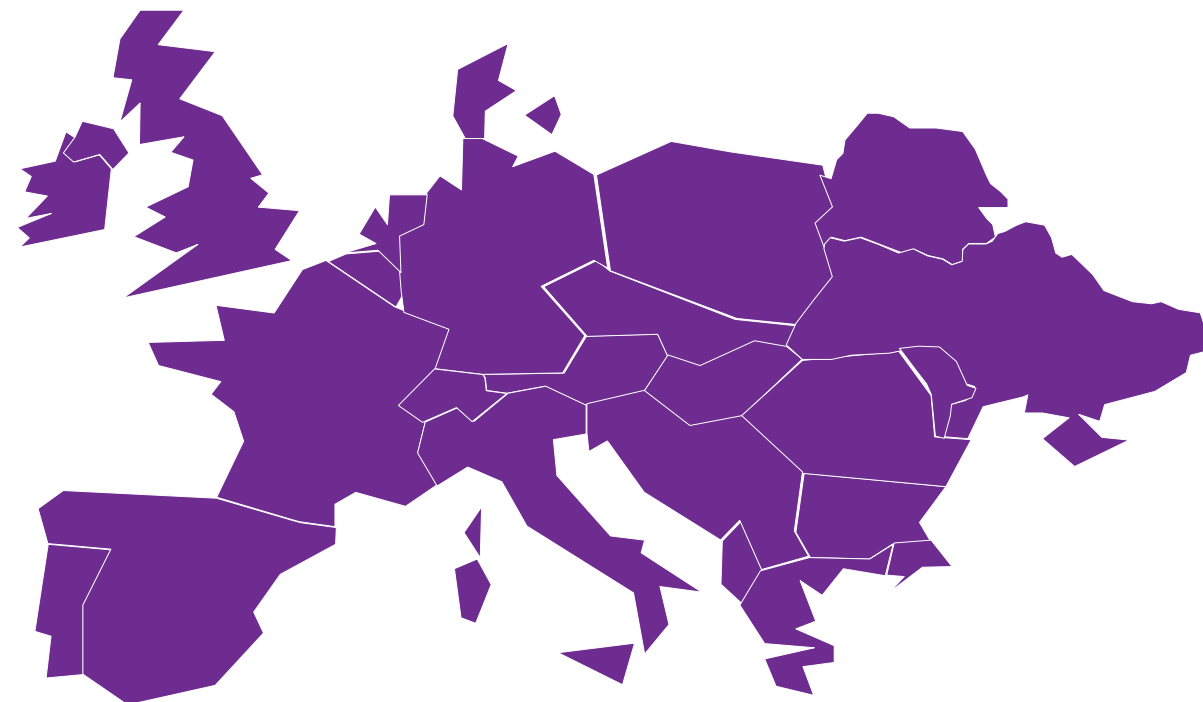


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Europe

- The European Asylum Support Office reported that asylum-seekers to the **EU** fell by half in the last three months.
- **Russia** displaces the UK as the country with the second highest number of confirmed cases in the world. The Kremlin's chief spokesperson and Putin confidant, Dmitry Peskov, tested positive for the coronavirus.
- The **UK** finance ministry predicts a budget deficit of £337b. The UK Gambling Commission released rules for online betting after identifying a spike amid lockdowns. The UK economy shrank at the fastest monthly pace on record in March. The UK will extend its private-sector wage subsidies through October.
- Paris will ban drinking by the Seine after groups gathered in the warm weather, violating distancing measures. **French** PM Edouard Philippe and other ministers are the targets of 63 legal complaints so far over their management of the coronavirus crisis.
- Relatives of COVID-19 victims have filed a class action lawsuit against **Spanish** PM Sánchez alleging "homicide due to grave negligence."
- **German** officials sought to reassure the public over a string of local outbreaks, predicting cases are on a plateau.
- **Austria** will fully reopen its border with Germany by mid-June.
- **Turkey** remains under strain to avoid a currency crisis.



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Middle East

- The **Israeli** official leading the coronavirus response resigned amid complaints of a haphazard reopening process.
- **Lebanon** will return to a full lockdown for four days after easing restrictions last week after a sharp jump in cases.
- **Saudi Arabia** announced a national 24-hour curfew during the upcoming five-day Eid al-Fitr holiday. Most governorates are under a 5 pm to 9 am curfew, while some hard-hit areas including Mecca, Baish and Jizan are under full lockdown.
- **Algeria** extended movement restrictions to May 29.
- **Dubai's** Emirates has announced plans to reopen scheduled flights to nine destinations from May 21.
- **Kuwait** and **Egypt** surpassed 10,000 confirmed cases.



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Americas

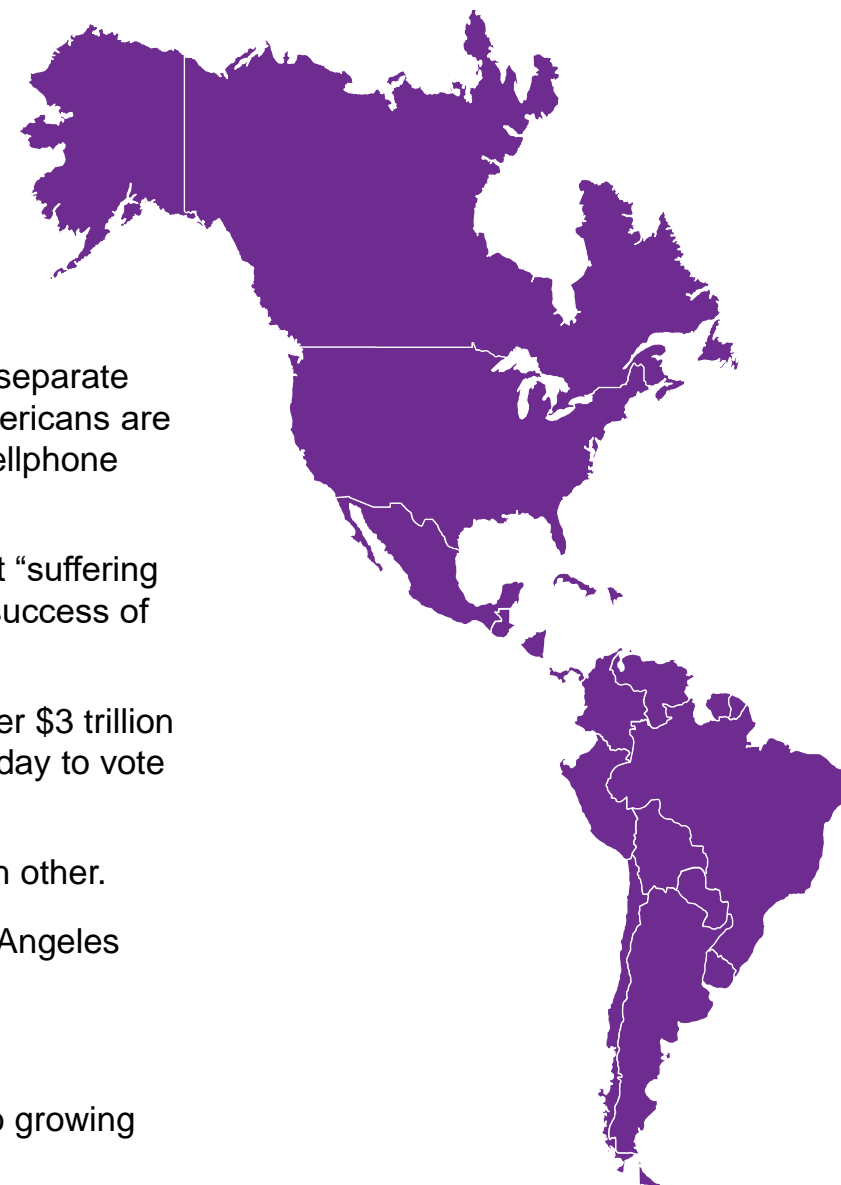
- **Brazilian** President Bolsonaro said that local leaders who disagree with his decree reopening some businesses can file lawsuits; negative perception of his government is up 10 percent since January. New research suggests that a patient died of coronavirus in Brazil in late January, earlier than previously thought.
- The Pan American Health Organization pointed to the worryingly high number of deaths by “severe respiratory distress” in **Nicaragua** and suggested undercounting.
- **Mexico** will today unveil plans to reopen its economy.
- **Chile’s** president said it will see the worst of its outbreak in the next two weeks.
- A UN report said that in **Latin America**, women, indigenous people, migrants and people of African descent will be hardest hit economically.



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Americas: US

- The US posted a record \$738bn April **budget deficit**.
- Scientists now estimate that the looming **second wave** may not be in the fall, but in separate “wavelets” in different cities throughout the summer. While a survey shows 4 in 5 Americans are concerned or afraid of a second wave, more Americans are **leaving their homes**, cellphone data suggests.
- In a much-anticipated Senate hearing with top health officials, **Dr. Fauci warned** that “suffering and death” would result if the country opened up too quickly and cautioned that the success of potential treatment drug remdesivir has been limited.
- In Congress, House Democrats unveiled a **fourth economic rescue package** of over \$3 trillion in aid to states and a second round of stimulus checks. The House plans to meet Friday to vote on the bill and consider **remote voting**.
- For the first time, **President Trump and VP Pence** will likely be kept away from each other.
- Multiple states cracked down on businesses that defy coronavirus **regulations**. Los Angeles County will keep stay-at-home orders in place for at least three months.
- Trump ordered the primary federal pension fund not to invest in **Chinese stocks**.
- In response to demand changes, some US farmers are shifting from growing **corn** to growing **soybeans**.



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The World Health Organization

Four months ago, the World Health Organization (WHO) was far from the forefront of public attention. Amid an unprecedented pandemic, however, the WHO has gained notoriety not only for its public health recommendations and frequent press briefings, but also for its role in global controversy surrounding China's involvement in the pandemic. As the World Health Assembly, the decision-making body of the WHO, approaches on May 18th, controversy is only set to increase as Taiwan lobbies for the right to participation. While the WHO has officially stated that it has no mandate to invite Taiwan to the assembly, support for the island's inclusion remains a divisive issue among member states. In order to judge the functions and biases of the organization, it is important to understand the context of its funding and institutional structure.

Functions of the WHO

As the UN branch tasked with coordinating international public health initiatives, the WHO serves several important functions. It

is perhaps best known for its successful child vaccination drives, which led to the eradication of smallpox and the near eradication of polio. The organization also plays a key role in shaping international norms and regulations around public health, from creating lists of essential medicines hospitals should stock to coordinating information campaigns around tobacco, genetically modified foods, and other issues of public health concern. .



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The World Health Organization

In its health security capacity, the WHO is intended to coordinate epidemic and pandemic responses at an international level. Prior to 2020, it has seen both successes and failures in this role. While the organization was commended for its leadership during the SARS epidemic of 2003, it drew wide criticism for a delayed response to the 2014 Ebola outbreak in West Africa. The WHO's role concerning global health security is focused on acting as an international coordinator. Once the WHO declares a Public Health Emergency of International Concern (PHEIC), as it did for COVID-19 on January 30, it issues non-binding guidance for how its members should respond, from travel and trade restrictions to treatment guidelines. It is notable, however, that the WHO relies on the reporting of individual member states about new diseases, a feature which has curbed its efficacy in the 2003 SARS outbreak and current COVID-19 pandemic. The WHO also directs supplies and experts to where they are most needed and can marshal existing infrastructure and staff across the world.

Amid the coronavirus pandemic, the WHO is providing medical and technical guidance, acting as a centralized hub for information about the pandemic, from scientific studies to daily situation reports and public health policy recommendations. The organization is also distributing key supplies to member states, including test kits and PPE, and is working to coordinate the race to a vaccine. However, most of the WHO's efficacy relies on two things: political compliance and funding. WHO guidelines are nonbinding, meaning they are only as effective as individual states make them. The coronavirus pandemic has not only embroiled the WHO in new heights of controversy but has also seen many of its recommendations ignored. For example, the WHO has been repeatedly urging countries to move cautiously on reopening, a call which has done nothing to prevent many governments from lifting lockdowns even while case trajectories accelerate. WHO funding also relies on external contributions, which has proven a primary challenge even during a global pandemic.

The World Health Organization

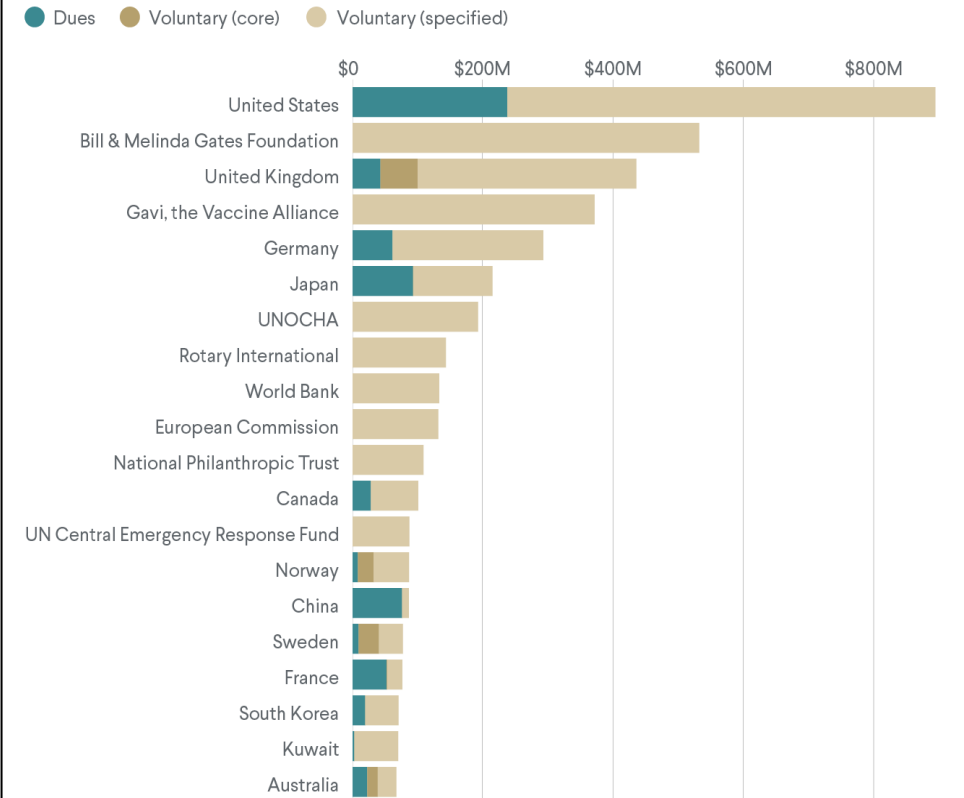
WHO Funding

The WHO budget consists of two sources of funding: about 20 percent comes from mandatory member dues, while the rest depends on voluntary contributions from governments and private actors. Unlike the member dues, these voluntary donations can be designated for specific uses, which complicates the WHO's ability to decide its own agenda. The WHO has become more dependent on these voluntary contributions over the past decade, which often politicizes its actions. Moreover, reliance on such funds threatens the WHO's long-term budget stability; for example, the organization's success in almost eliminating polio brings into jeopardy funds that cover a disproportionate amount of WHO employee salaries. WHO funding has come under scrutiny during the coronavirus pandemic, as President Trump in mid-April suspended US funds for the organization, citing mishandling of the crisis and complicity with China. The move was part of the Trump Administration's wider efforts to direct blame for the pandemic onto China and drew condemnation from health experts and politicians of both parties. While it remains unclear exactly how this withdrawal of funds will impact the WHO's operations, it is likely to reduce the organization's capacity to deliver needed supplies to developing countries and may impede research initiatives.

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U.S. Has Been WHO's Largest Funder

Top 20 contributors to the WHO for the 2018–19 funding period. Core voluntary contributions are flexible funds, while specified voluntary contributions are earmarked for particular projects.



Source: World Health Organization.

COUNCIL on
FOREIGN
RELATIONS

The World Health Organization

Director-General Tedros Adhanom Ghebreyesus

The coronavirus pandemic has brought health experts to the forefront of public visibility. From Dr. Anthony Fauci in the US to the recently fired Luis Mandetta in Brazil, public health experts have both gained public respect and become newly politicized. WHO Director-General Tedros Adhanom Ghebreyesus has become a globally familiar face, providing frequent press conferences on the pandemic situation. He is also the source of significant controversy; he came under criticism early in the year for failing to act faster in declaring a pandemic, and most famously has been scrutinized for close ties to China. Dr. Tedros is no stranger to controversy. He was selected to lead the WHO in the first equal election in the organization's history, winning two-thirds of all member state votes, gaining strong backing from China and most African nations. He is the first African and first nonphysician to hold the role, having a public health and infectious diseases background. While he has been widely applauded for his success in expanding the Ethiopian public health system during his tenure

as the country's health minister, he stands accused of covering up several cholera outbreaks, and human rights groups have criticized his participation in Ethiopia's authoritarian government. While he was backed by the Obama Administration, Tedros had a rocky relationship with the Trump Administration since 2017, as Trump backed an opponent in the election, and Tedros used Trump's anti-WHO rhetoric in his campaign to argue for a broadened donor base. Some analysts have pointed out that the US move away from the WHO will be damaging to relations with Africa, as many cooperative initiatives in the continent focus on public health and involve the WHO. At present, Tedros stands at the center of controversy over accusations that the WHO is too biased towards China. Often pictured shaking hands with President Xi, Tedros is widely considered to have close ties to Chinese political leadership, forged both during his time at the WHO and in Ethiopian government. Notably, the only government he has explicitly criticized is Taiwan, accusing the island of being involved in racist attacks against his person. Taiwan vehemently denied these claims, and no definitive proof ever emerged.

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The World Health Organization

Is the WHO biased?

Since early in the pandemic, the WHO has been accused of bias towards China. The organization accepted Chinese reporting on case numbers without skepticism, and heaped praise on China's effective virus response. Analysts have posited that WHO statements reflect clear Chinese Communist Party (CCP) influence. However, it is important to understand that the WHO is not designed to be independent of its members – in fact, for most of its history it has been under the de facto control of Western powers and agendas. As China has sought to become a global leader in public health, introducing a Tedros-approved “Health Silk Road” initiative of its own, the CCP has been actively working to expand its influence in the WHO. Some analysts believe that Tedros may see China as simply a more reliable partner than the US, or more important for achieving his goal of expanding universal healthcare in the developing world. The WHO's commentary on China, which some call complicity with the CCP's initial cover-up of the Wuhan outbreak, certainly reflects the

organization's unwillingness to oppose the CCP. The WHO's choice to deliberately ignore warnings from the Taiwanese government, that the early outbreak in mainland China was not being accurately reported, further reflects deference to the CCP. However, this does not mean that the WHO is wholly controlled by China. A breakdown of funding shows that even with the additional \$30mn China pledged to the WHO after Trump froze US funding, China is far from the organization's top donor. The WHO has been historically accused of bias towards multiple member states, and the selection of its leader has long provided controversy as different countries conducted pressure campaigns for preferred candidates. In order for the organization to truly put public health before politics, it will need significant reform. Some analysts have suggested that the pandemic is an opportunity to make the WHO more objective, proposing IMF-style internal reports into its role in the crisis. However, most of the world seems to be moving in the opposite direction of investing more power and objectivity in international institutions.

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The World Health Organization

The perceived China bias of the WHO may simply be a reflection of China's conduct in international institutions. The CCP is less tolerant of criticism or contradiction than the Western powers that have previously dominated the WHO, and it is likely that opposition to China would have much more dire consequences for the organization. While it may not be a top donor, China is a key supplier of global medicine, and the WHO therefore relies on its cooperation. China has also historically been the source of many new diseases, due to environmental and population density factors, and therefore WHO access to information from China is of key strategic importance for global health security. The past decade has seen an increase in CCP efforts to gain influence in international institutions, which is interpreted as part of wider efforts to heighten soft power and prevent opposition from regulatory bodies. While many of the actions of international institutions are non-binding or primarily symbolic, they still help China attain strategic goals. For example, a growing number of

low-income countries have decided not to recognize Taiwan's sovereignty in UN forums. Through raising its institutional profile, China is able to maintain the image of international support for its actions, through mechanisms such as UN General Assembly votes. Controversy over Chinese bias in international institutions is certain not to end with the WHO.

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Sports and COVID-19

By Alex Lucaci

The effects of the coronavirus have rippled through every industry in the global economy, and the sports environment is no different. The disappearance of sports over the last several months has caused billions of dollars in damage across the world, including at least \$12 billion in revenue and hundreds of thousands of jobs across the US. According to the analysis from the Bureau of Labor Statistics, there are almost 3 million jobs within 524 occupations in the US that are related to sports - almost all are likely to be affected in one way or another. Entire leagues across the international sporting spectrum have been delayed, postponed, or entirely canceled, including quadrennial events such as the Summer Olympic Games and UEFA European Championship. Despite the unprecedented disruptions since the beginning of March, governments and leagues around the world have been working hard to rearrange schedules and re-open competition to the public. The rate of re-openings and decision makings has been largely dependent on the advice on local public health experts and virologists, with extreme precautions taken to protect the health of athletes, coaches and referees, both professional and amateur

alike. While we will start to see live televised sports again the coming days and weeks, significant questions remain about the future status of leagues and events, especially should we see a global resurgence of the coronavirus in the fall, as is projected by numerous public health experts and virologists.

With the notable exceptions of Belarus, Tajikistan, Burundi, and Nicaragua(all of whom ignored international criticism to keep their soccer leagues running) the last two months have seen professional sports leagues around the world grind to a halt. However, in certain parts of the world with a firmer handling of the virus, some sports are beginning to take baby steps towards reopening. The Korean baseball league opened on Monday without fans, while the Taiwanese season got underway in April with a limit of 1,000 spectators per game. Germany's Bundesliga (the top soccer division) was given the green light by the government to resume league play this weekend, without any fans. NASCAR is scheduled to resume racing on Sunday, May 17 in front of empty stadium tracks, and horse racing will resume on Saturday with the spectator-less Churchill Downs in Kentucky.

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Sports and COVID-19

The US's major sports leagues, including the MLS, NBA, and NFL, have begun to gradually allow limited training at practice facilities with strictly enforced social distancing. The logistics of socially-distanced training are also under scrutiny - for example, passing balls between players in team sports will be limited so as to prevent the spread of the virus, while tennis players can hit alone, but not with another player. Though these optimistic developments have given hope to fans around the US and the world, the full resumption of competitive sports will be heavily contingent on widespread testing and enforced athlete quarantines - the US still lags behind in testing per capita, while many athletes do not want to be separated from their families for extended periods of time.

The short and medium-term futures of professional sports in the US remain uncertain. As with most other sectors of the economy, the professional sports industry depends on federal and local governments having the key capabilities to reopen safely and without the risk of resurgence. When star athletes began testing positive in early March, professional leagues almost immediately shut down - high-profile infections in the NBA such as Kevin Durant and Rudy Gobert were almost as responsible for bringing

attention to the pandemic as public health officials. The same was true in Europe, where numerous prominent soccer stars such as Juventus's Paulo Dybala and Arsenal manager Mikel Arteta began to fall ill and helped to convince the public of the serious nature of the disease. Upon professional sports leagues reopening, spectators will be scrutinizing every health-related development of their favorite players and teams. What is known as that when games resume, they will occur without most fans for an extended period of time. This will have knock-on effects in terms of revenue, advertisement, and community employment for professional organizations. Furthermore, the delays in seasons that were in already in progress will affect subsequent seasons and schedules of other leagues. Should the NFL and NCAA start as scheduled in September, the resumption of other leagues such as the NBA will cause massive scheduling and logistical headaches for TV advertisers and fans. As both professional and amateur sports provide a point of community and connection for so many around the world, there is enormous pressure to resume competition. However, fans should be prepared to accept a new normal for following their favorite teams - most likely at a distance or exclusively through a TV screen for the foreseeable future.

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Science Under the Scope: What's the Deal with the IHME Model?

Contributed by Scowcroft Institute of International Affairs

A number of experts have questioned the IHME model's methodology and its low morbidity and mortality predictions.

At the beginning of the COVID-19 pandemic in the United States, the disease prediction model produced by the University of Washington's Institute for Health Metrics and Evaluation (IHME) was held up as the national model. The use of a university model rather than a White House or CDC model was, in and of itself, unusual and the use of the IHME model has since gone by the wayside. At the beginning of the outbreak, the model predicted deaths nationally and per state based on the current policy measures taken at the state level and information gathered from state public health authorities on cases, deaths, and hospital capacity. As states across the country began to enact stay-at-home and shelter-in-place orders, the IHME model adjusted predictions based on lowered contact rates and made the assumption that everyone would shelter-in-place until the end of

May. Even as these adjustments were made, however, a number of experts began to question the model's methodology and its low morbidity and mortality predictions.

Recently, the model was again adjusted, this time upwards, as states began lifting stay-at-home and shelter-in-place orders a full month before the original model had assumed. In many states, the number of deaths is now predicted by the IHME model to be more than twice as high as the model predicted only a few weeks ago. The experience with the IHME model shows the challenge of predictive modeling for epidemics and pandemics, because the predictions are entirely dependent on both the quality of the input data and the assumptions made in the model.

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COVID-19 and Automation

By Briana Boland

The coronavirus pandemic has caused an unprecedented surge in job losses over the past two months. From the newly unemployed to top government economists, the question at the front of many minds is many of these jobs will return after the pandemic subsides. Looking beyond the short-term, automation will be a key element in how many jobs are restored and how businesses adapt to the dual challenges of a recession and a public health emergency. Automation is nothing new, and many analysts believe that the pandemic will only accelerate existing trends. The uniquely human element of transmission provides potential for a surge in automation beyond that seen in previous recessions; after all, robots cannot be infected with this virus, and automation could prove an asset in creating safe and productive workplaces. From floor cleaning robots to advanced factory management AI software, automation has emerged as a solution to many challenges of doing business amid a global pandemic. Fringe products such as Amazon Go, a fully automated store, look

Automation potential and labor productivity growth for 20 major "industry groups"

| Industrial family | Annual labor productivity growth, 2000-16 | Automation potential |
|--|---|----------------------|
| Accommodation and Food Services | -0.8% | 73% |
| Manufacturing | 2.9% | 59% |
| Transportation and Warehousing | 0.2% | 58% |
| Agriculture, Forestry, Fishing and Hunting | 3.3% | 57% |
| Retail Trade | 0.9% | 53% |
| Mining, Quarrying, and Oil and Gas Extraction | 3.2% | 51% |
| Other Services (except Public Administration) | -1.6% | 49% |
| Construction | -1.0% | 47% |
| Wholesale Trade | 1.7% | 44% |
| Utilities | -0.2% | 43% |
| Finance and Insurance | 1.1% | 42% |
| Arts, Entertainment, and Recreation | 0.4% | 41% |
| Administrative and Support and Waste Management and Remediation Services | 2.1% | 41% |
| Real Estate and Rental and Leasing | 2.1% | 40% |
| Government | -0.1% | 37% |
| Health Care and Social Assistance | 0.2% | 36% |
| Information | 6.2% | 35% |
| Management of Companies and Enterprises | 0.1% | 34% |
| Professional, Scientific, and Technical Services | 0.9% | 34% |
| Educational Services | -0.7% | 27% |
| U.S. total | 0.8% | 46% |

Source: Brookings analysis of BLS, Census, EMSI, Moodys, and McKinsey data

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COVID-19 and Automation

much more viable in a world of social distancing. While it remains too early to determine the extent of automation's advance, it will play a key role not only in pandemic response, but in shaping life after COVID-19.

Brookings Institute Senior Fellow Mark Muro, who has emerged as a prominent voice on the impact of COVID-19 on automation, predicts that the pandemic will induce a burst of automation. Past studies have showed that automation does not occur at a slow, steady pace, but rather happens in cycles, which are often instigated by economic shocks. It may seem counterintuitive that during economic recession, characterized by tight budgets and high unemployment, businesses would choose to invest in new technology. However, despite labor surpluses driving down wages, human workers still become relatively expensive as firm revenues fall, pressuring businesses to shift towards technology. A cyclical pattern emerges; businesses trend towards automation in the long term, and each period of economic hardship pushes decisions to automate more labor functions, creating automation bursts. The coronavirus pandemic is set to outpace the automation

effect of past recessions, as technology has never been cheaper, and reducing human exposure has never been more important. A National Bureau of Economic Research study of three recessions in the past 30 years found that 88 percent of job loss happened in automatable occupations, indicating that the prospect of permanent job losses will certainly return in the current crisis.

Automation will not fall evenly across the labor force. 2019 assessments of automation potential predicted that occupations in food service, manufacturing, warehousing, and transportation sectors were most vulnerable to becoming automated. In the US, this translates to 36 million jobs at risk of disappearing by 2030 – a pre-pandemic estimate, that may well be negatively impacted. As the coronavirus spreads, incentives for automation increase across different industries. Automated cleaning technology, such as floor cleaning robots, has proven extremely useful in multiple industries. Robots in South Korea have been employed to take temperatures. The hospitality sector has been exploring further ways to automate processes from checking into a hotel to ordering food. Grocery stores are using robots to take inventory and

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COVID-19 and Automation

process deliveries so that human workers can focus on staffing stores. In crowded factories, such as meatpacking plants, automating processes can make workplaces safer for remaining human workers. At present, most industry leaders maintain that automating processes is primarily designed to augment human work, rather than replace it.

Amazon is still hiring delivery and fulfillment workers, evidence that even a company that embraces automation still needs human employees. However, it is likely that a significant number of routine, low-paying jobs will be permanently lost to the pandemic, and the automation risk of certain occupations, particularly in the service industry, may increase. In many ways, this is good news for employees – automation has the potential to make workplaces safer, and often creates new higher-paying jobs in oversight and technology management. However, it also risks erasing the long-term livelihoods of millions of people.

High-paying sectors are not insulated from the impact of automation. The pandemic is also giving AI a moment to shine and may accelerate development of software to replace white

collar jobs. With offices closed, more companies are relying on AI to operate. PayPal has increased use of chatbots and automated translation services in order to give staff more flexibility, and online companies such as YouTube and Facebook have increased reliance on AI for content moderation and fact checking. High-paid data and financial analysts, who have already been competing with AI, may face a new degree of automation risk. The rapid development of AI over the past decade means that it has yet to be tested in a major recession, but if the cyclical nature of automation identified by Mark Muro holds true for AI, a new category of job losses may grow. Moreover, AI has been benefiting from good press during the pandemic, as it plays a role in fighting coronavirus and is seen as an increasingly viable solution to a host of technical problems. For example, reopened factories in China have successfully used machine learning solutions to arrange remote inspections of key technology, as experts were barred from entering the country. Through solving such issues and allowing for companies to continue operating, the pandemic is promoting both AI adoption and new innovation.

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COVID-19 and Automation

Perhaps the most important question surrounding the progression of automation amid the pandemic is its political implications. Many economists and politicians have pointed to the need for supply chain diversification and building the resiliency of key industries against shocks like the pandemic. Automation provides a solution to many of these long-term initiatives. For example, it may be easier to handle the increased labor costs of moving factories out of developing countries if automation is promoted. However, job losses are political poison, and automation threatens vast numbers of livelihoods. Automation also makes a difficult scapegoat; politicians have long deflected blame for job losses onto other causes, from migrant workers to foreign factories. If automation and contactless systems become more mainstream, replacing highly visible jobs such as grocery clerks and receptionists, it will be increasingly difficult to ignore. Moreover, automation tends to disproportionately threaten vulnerable populations; for example, in the US, occupations with high automation risk are largely low-income, and would disproportionately affect certain minority

groups and geographic regions. Permanent job losses could lead to a continuing paradigm shift in government spending, which has already swelled to address the coronavirus crisis.

Automation will likely influence policy discussions of benefits such as unemployment and universal basic income. The US presidential democratic primary has provided a platform for such ideas over the last year, as candidate Andrew Yang popularized the idea of universal basic income specifically to address the issue of increased automation. While Yang never gained much ground in polls, his ideas sparked conversations on government responses to automation. As the pandemic accelerates automation, more political dialogue is sure to follow.

Country Risk Assessment

VERY HIGH RISK (>5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|--------------|--------------|-----------------|--------------|----------------|----------------|
| US | 1056882 | 1369528 (21495) | 82359 (1674) | 4256 | 252 |
| UK | 193861 | 227489 (3406) | 32757 (628) | 3336 | 482 |
| Russia | 186615 | 232243 (10899) | 2116 (107) | 1591 | 14 |
| Brazil | 93156 | 178214 (8620) | 12461 (808) | 836 | 58 |
| France | 92632 | 176198 (719) | 26951 (347) | 2730 | 414 |
| Italy | 81266 | 221216 (1402) | 30911 (172) | 3659 | 511 |
| Spain | 62130 | 228030 (594) | 26920 (176) | 5765 | 576 |
| India | 47457 | 74292 (3524) | 2415 (121) | 54 | 2 |
| Peru | 46678 | 72059 (3237) | 2057 (96) | 2185 | 62 |
| Turkey | 38692 | 141475 (1704) | 3894 (53) | 1677 | 46 |
| Netherlands | 37474 | 42984 (196) | 5510 (54) | 2509 | 322 |
| Canada | 33064 | 72419 (1155) | 5300 (185) | 1885 | 137 |
| Belgium | 31286 | 53779 (330) | 8761 (54) | 4640 | 756 |
| Saudi Arabia | 27404 | 42925 (1911) | 264 (9) | 1233 | 8 |
| Pakistan | 24787 | 34336 (2255) | 737 (31) | 148 | 3 |
| Ecuador | 24659 | 30419 (910) | 2327 (182) | 1724 | 132 |
| Portugal | 23737 | 27913 (234) | 1163 (19) | 2737 | 114 |
| Qatar | 22116 | 25149 (1526) | 14 (0) | 8729 | 5 |
| Singapore | 20799 | 24671 (849) | 21 (0) | 4217 | 4 |
| Sweden | 18988 | 27272 (602) | 3313 (57) | 2700 | 328 |

VERY HIGH RISK (>5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|---------------|--------------|-----------------|--------------|----------------|----------------|
| Germany | 18233 | 173171 (595) | 7738 (77) | 2067 | 92 |
| Belarus | 17757 | 24873 (967) | 142 (7) | 2632 | 15 |
| Chile | 17261 | 31721 (1658) | 335 (12) | 1659 | 18 |
| Iran | 15677 | 110767 (1481) | 6733 (48) | 1319 | 80 |
| UAE | 13446 | 19661 (783) | 203 (2) | 1988 | 21 |
| Bangladesh | 13263 | 16660 (969) | 250 (11) | 101 | 2 |
| Ukraine | 12225 | 16023 (375) | 425 (17) | 366 | 10 |
| Indonesia | 10679 | 14749 (484) | 1007 (16) | 54 | 4 |
| Poland | 9951 | 16921 (595) | 839 (28) | 447 | 22 |
| Colombia | 8808 | 12272 (659) | 493 (14) | 241 | 10 |
| Philippines | 8493 | 11350 (264) | 751 (25) | 104 | 7 |
| Mexico | 8463 | 38324 (1997) | 3926 (353) | 282 | 28 |
| Norway | 7897 | 8157 (25) | 228 (4) | 1505 | 42 |
| Dominican Rep | 7277 | 10900 (266) | 402 (9) | 1005 | 37 |
| Egypt | 7223 | 10093 (347) | 544 (11) | 99 | 5 |
| Kuwait | 7101 | 10277 (991) | 75 (10) | 2406 | 18 |
| Romania | 7091 | 15778 (190) | 1002 (20) | 820 | 52 |
| South Africa | 6787 | 11350 (698) | 206 (0) | 191 | 3 |
| Japan | 6780 | 15968 (121) | 657 (24) | 126 | 5 |
| Serbia | 6423 | 10243 (67) | 220 (2) | 1172 | 25 |

Data Source: Johns Hopkins University

** Indicates moved up a risk category

Note: This report is based on sources and information deemed to be true and reliable, but Dentons makes no representations to same.

Country Risk Assessment

HIGH RISK (1,000-5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|-------------|--------------|-----------------|--------------|----------------|----------------|
| Ireland | 4644 | 23242 (107) | 1488 (21) | 4707 | 301 |
| Ghana | 4611 | 5127 (427) | 22 (0) | 165 | 0.7 |
| Argentina | 4382 | 6563 (285) | 319 (5) | 145 | 7 |
| Afghanistan | 4226 | 4963 (276) | 127 (5) | 127 | 3 |
| Israel | 4186 | 16529 (23) | 260 (2) | 1910 | 30 |
| Nigeria | 3670 | 4787 (146) | 158 (8) | 23 | 0.8 |
| Bahrain | 3330 | 5531 (295) | 9 (1) | 3251 | 5 |
| Morocco | 3239 | 6418 (137) | 188 (0) | 174 | 5 |
| Czechia | 3049 | 8221 (45) | 283 (1) | 766 | 26 |
| Kazakhstan | 3024 | 5279 (72) | 32 (0) | 281 | 2 |
| Moldova | 2903 | 5154 (159) | 182 (7) | 1278 | 45 |
| Algeria | 2554 | 6067 (176) | 515 (8) | 138 | 12 |
| Bolivia | 2523 | 2964 (133) | 128 (6) | 243 | 10 |
| Panama | 2510 | 8783 (167) | 252 (3) | 1997 | 58 |
| Oman | 2454 | 3721 (148) | 17 (0) | 729 | 3 |
| Puerto Rico | 2185 | 2299 (43) | 114 (1) | 679 | 34 |
| Armenia | 2061 | 3538 (146) | 47 (1) | 1194 | 16 |

HIGH RISK (1,000-5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|-----------------|--------------|-----------------|--------------|----------------|----------------|
| Hungary | 1881 | 3313 (29) | 425 (4) | 343 | 44 |
| Honduras | 1748 | 2080 (-20) | 121 (5) | 210 | 12 |
| Switzerland | 1713 | 30380 (36) | 1867 (22) | 3510 | 216 |
| Denmark | 1484 | 10591 (78) | 527 (-6) | 1828 | 91 |
| Guinea | 1471 | 2298 (152) | 11 (0) | 175 | 0.8 |
| Bulgaria | 1452 | 2023 (33) | 95 (2) | 291 | 14 |
| Finland | 1428 | 6003 (19) | 275 (4) | 1083 | 50 |
| Malaysia | 1410 | 6742 (16) | 109 (0) | 208 | 3 |
| Sudan | 1408 | 1661 (135) | 80 (6) | 38 | 2 |
| Senegal | 1234 | 1995 (109) | 19 (0) | 119 | 1 |
| Greece | 1218 | 2744 (18) | 152 (1) | 263 | 15 |
| Austria | 1190 | 15961 (79) | 623 (3) | 1772 | 69 |
| Slovenia | 1100 | 1461 (1) | 102 (0) | 703 | 49 |
| Guatemala** | 1052 | 1199 (85) | 27 (1) | 62 | 1 |
| Cameroon | 1040 | 2689 (0) | 125 (0) | 101 | 5 |
| Cote d'Ivoire** | 1016 | 1857 (127) | 21 (0) | 70 | 0.8 |
| South Korea | 1008 | 10962 (26) | 259 (1) | 213 | 5 |

Data Source: Johns Hopkins University

* Indications moved down a risk category ** Indicates moved up a risk category

Note: This report is based on sources and information deemed to be true and reliable, but Dentons makes no representations to same.

US Risk Assessment

VERY HIGH RISK (>5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|---------------|--------------|-----------------|--------------|----------------|----------------|
| New York | 252522 | 338485 (1430) | 27284 (296) | 17922 | 1397 |
| New Jersey | 115744 | 140917 (711) | 9531 (191) | 15996 | 1074 |
| Illinois | 79420 | 83021 (4014) | 3601 (142) | 6552 | 284 |
| Massachusetts | 74191 | 79332 (870) | 5141 (33) | 11510 | 746 |
| California | 68099 | 70978 (1649) | 2879 (100) | 1795 | 73 |
| Pennsylvania | 57396 | 61310 (851) | 3914 (82) | 4798 | 306 |
| Florida | 40144 | 41923 (941) | 1779 (44) | 1952 | 83 |
| Georgia | 33426 | 34924 (922) | 1498 (54) | 3282 | 141 |
| Maryland | 29911 | 34061 (688) | 1756 (73) | 5634 | 290 |
| Connecticut | 25879 | 34333 (568) | 3041 (33) | 9630 | 853 |
| Ohio | 23814 | 25250 (473) | 1436 (79) | 2161 | 123 |
| Indiana | 23549 | 25127 (500) | 1578 (38) | 3732 | 234 |
| Virginia | 21508 | 25800 (730) | 892 (42) | 3023 | 104 |
| Michigan | 20661 | 48021 (469) | 4674 (90) | 4808 | 468 |

Data Source: Johns Hopkins University

VERY HIGH RISK (>5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|----------------------|--------------|-----------------|--------------|----------------|----------------|
| Texas | 18573 | 41432 (877) | 1146 (29) | 1444 | 41 |
| Washington | 16368 | 17330 (208) | 962 (17) | 2372 | 127 |
| Colorado | 16033 | 20157 (278) | 1010 (23) | 3500 | 175 |
| Rhode Island | 10307 | 11614 (164) | 444 (14) | 10963 | 419 |
| Alabama | 10029 | 10464 (300) | 435 (32) | 2134 | 89 |
| Missouri | 9740 | 10269 (112) | 529 (15) | 1667 | 87 |
| Nebraska | 8631 | 8734 (158) | 103 (3) | 4493 | 53 |
| Arizona | 8265 | 11736 (353) | 562 (20) | 1612 | 77 |
| Tennessee | 7509 | 16111 (567) | 266 (15) | 2359 | 39 |
| Louisiana | 7095 | 32050 (235) | 2347 (39) | 6894 | 505 |
| Iowa | 7005 | 12912 (539) | 289 (18) | 4092 | 92 |
| Kansas | 6680 | 7240 (81) | 184 (4) | 2485 | 63 |
| North Carolina | 5907 | 15622 (348) | 600 (25) | 1490 | 57 |
| Nevada | 5807 | 6313 (160) | 321 (8) | 2049 | 104 |
| District of Columbia | 5263 | 6485 (96) | 336 (8) | 9189 | 476 |

** Indicates moved up a risk category

Note: This report is based on sources and information deemed to be true and reliable, but Dentons makes no representations to same.

US Risk Assessment

HIGH RISK (1,000-5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|-------------|--------------|-----------------|--------------|----------------|----------------|
| Wisconsin | 4822 | 10611 (193) | 418 (9) | 1822 | 72 |
| Minnesota | 4344 | 12494 (695) | 614 (23) | 2215 | 109 |
| Kentucky | 4335 | 7003 (293) | 333 (8) | 1534 | 72 |
| Delaware | 3702 | 6741 (176) | 237 (12) | 6923 | 243 |
| New Mexico | 3693 | 5212 (143) | 219 (11) | 2486 | 104 |
| Mississippi | 3183 | 9908 (234) | 457 (22) | 3329 | 154 |

** Indicates moved up a risk category

Data Source: Johns Hopkins University

HIGH RISK (1,000-5,000 cases)

| Country | Active Cases | Confirmed (New) | Deaths (New) | Cases/ 1M Pop. | Deaths/ 1M Pop |
|---------------|--------------|-----------------|--------------|----------------|----------------|
| Utah | 3092 | 6432 (70) | 73 (5) | 2006 | 23 |
| Oregon | 2103 | 3358 (72) | 130 (0) | 796 | 31 |
| New Hampshire | 1866 | 3239 (79) | 142 (9) | 2382 | 104 |
| South Dakota | 1315 | 3663 (49) | 39 (5) | 4141 | 44 |
| Oklahoma | 1031 | 4732 (119) | 278 (4) | 1196 | 70 |

Note: This report is based on sources and information deemed to be true and reliable, but Dentons makes no representations to same.

Contacts

This summary is based on reports sourced from among the 75 countries in which Dentons currently serves clients as well as from firms in other locations, some of which will formally join Dentons later in 2020. We are pleased to share this complimentary summary and contemporaneous assessment, with the caveat that developments are changing rapidly. This is not legal advice, and you should not act or refrain from acting based solely on its contents. We urge you to consult with counsel regarding your particular circumstances.

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