

Testimony of

John Q. Doyle,  
President and Chief Executive Officer, Marsh,  
Before the United States House Committee  
on Financial Services

Insuring against a Pandemic:  
Challenges and Solutions for Policyholders and Insurers

November 19, 2020  
Washington, D.C.

Good morning Chairman Clay, Ranking Member Stivers, and members of the Subcommittee.

My name is John Doyle, and I am President and CEO of Marsh. Thank you for giving me the opportunity to appear before you today and share Marsh & McLennan's perspective on the need for a public private partnership to insure pandemic risk.

As the world's leading insurance broker and risk advisor, Marsh & McLennan has a particular expertise in pandemic risk. We have a longstanding involvement with the World Economic Forum, including as a sponsor and contributor to its annual Global Risk Report, which has for many years warned of the likelihood and potentially high impact of a global pandemic. In 2017, our company helped the World Bank structure the first-ever pandemic risk bonds. In 2018, Marsh developed an innovative insurance product, called PathogenRX, to provide pandemic business interruption coverage for key industries including aviation, construction, gaming, hospitality, retail, and tourism.

The ongoing COVID-19 pandemic has affected us all, personally and professionally. And while the pandemic is first and foremost a human tragedy, we are deeply concerned about its impact on the economy and our clients. Helping clients manage risk is our core business, and today we are here to give voice to our policyholders. I'd like to emphasize that point: Our role as an insurance broker is, first and foremost, to be an advocate for our clients.

### **Why we need a pandemic risk solution now**

Pandemics are by definition global in nature, which means that clients and insurers cannot diversify against them in the way that they might with other local or regional catastrophe risks. And the stakes for policyholders — and these include businesses of all sizes and sectors, educational institutions, non-profit organizations, public entities, and more — regarding pandemic risk are too high to defer action. At Marsh & McLennan, we believe there is a need to:

1. Establish, by working with Congress, a viable insurance market for pandemic risk with sufficient, affordable capacity for all policyholders.
2. Create greater certainty for businesses and their employees during a recurrence or future pandemic. This can be achieved by providing greater clarity in program policy coverage.
3. Facilitate clients' access to capital from lenders who will require assurance against future pandemic risks.
4. Enhance the resilience of the US economy and its capacity to bounce back more rapidly from a future pandemic event. This includes linking risk mitigation to premiums, or price and coverage could be impacted by the steps a business takes to meet certain mitigation requirements. A federally backed pandemic risk insurance program should encourage improvements in health and safety practices.

5. Support greater investment by the insurance industry, as well as the government, in data collection and modeling tools to help insurers, brokers, and businesses to anticipate and quantify potential risks.

### **We can create a workable solution**

The insurance industry has a strong track record of helping businesses of all sizes mitigate critical risks, including natural catastrophes, workplace hazards, cyber threats, and more. That institutional knowledge and expertise can be used to help businesses understand and manage pandemic risk.

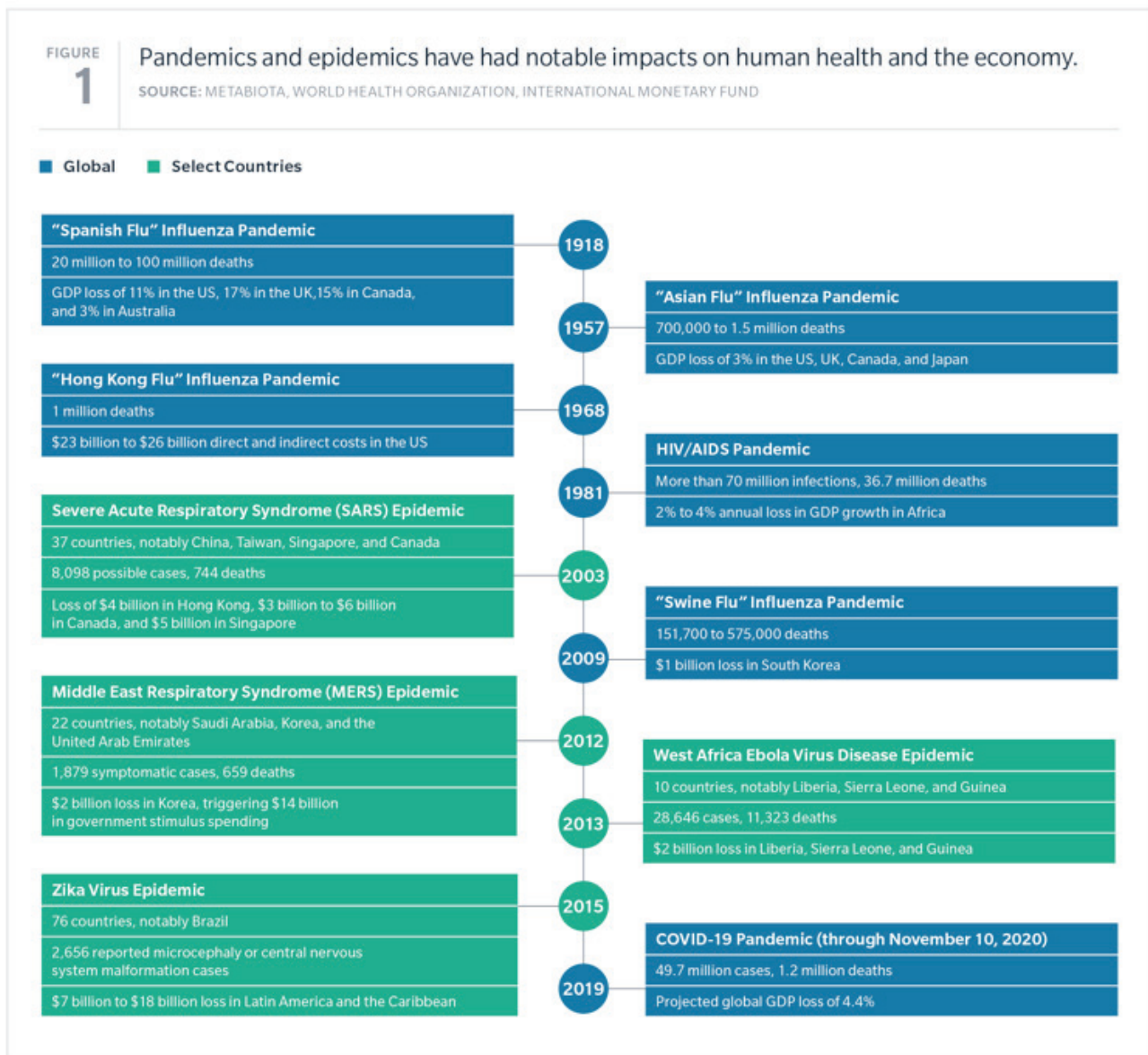
We believe a public-private partnership with the right incentives for all parties is the best option to mitigate the potential future economic impacts of pandemics, and accelerate economic recovery from COVID-19. We understand that the attributes of pandemic risk cannot be compared equally to other risks, such as natural catastrophes or terrorism, but the process for developing a solution for pandemics is comparable.

We use the following principles to guide our thinking about how to create a workable solution:

- Risk Mitigation and Resilience: How should the scheme’s design embed measures to encourage resilience in the community — for example, by incentivizing preventative measures on the part of insureds, by investing pool reserves in resilience initiatives, or by linking the scheme to ongoing government commitments to building resilience in the system.
- Funding Model: Could the public private partnership facilitate increased private market participation over time with the appropriate level of industry commitment.
- Scope of Coverage: Should coverage be compulsory to offer, and sold as a standalone product depending on the client segment, and should it be compulsory at some level to purchase coverage.
- Distribution and Operating Model: A solution must contemplate the infrastructure required to operate the scheme on an ongoing basis, and the technology necessary to meet its objectives.
- Claims Process: A solution must include a well-defined trigger that defines relevant thresholds and specifies how and when claims are paid.

## SECTION ONE: Pandemics In Context

With that, let me offer a brief view on the nature and trajectory of pandemics. Going back to the Spanish flu just over 100 years ago, the world has witnessed many outbreaks, epidemics, and pandemics. The Spanish flu caused as many as 100 million deaths; other outbreaks have killed fewer, but brought billions of dollars of economic damage.



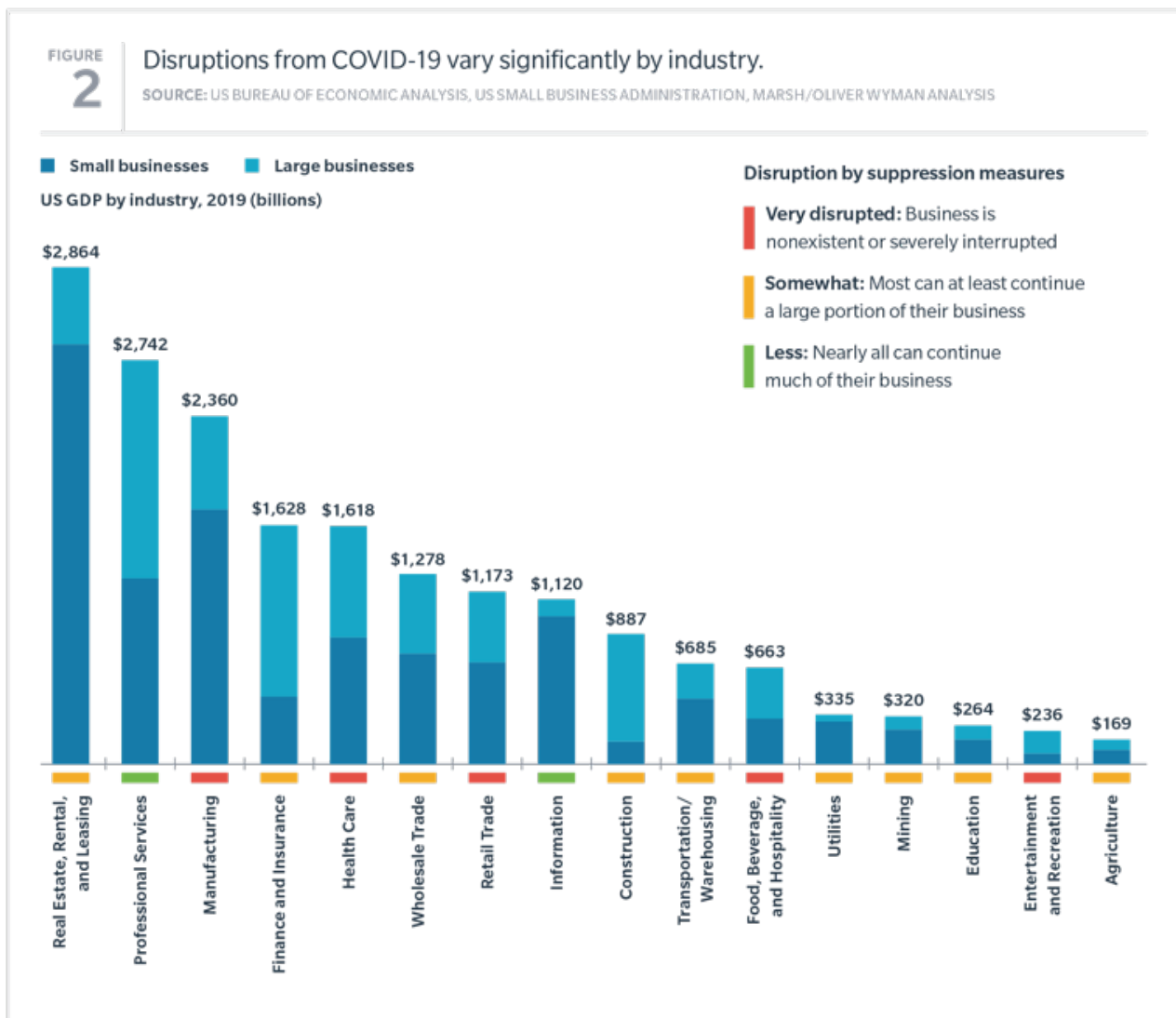
Despite advances in medicine and health care, the frequency and potential severity of infectious disease has increased over time. The ease of global travel, urbanization, and land use changes all make it easier for disease to spread. Just since 2003, we have seen outbreaks of SARS, Swine Flu, MERS, Ebola, Zika, and now COVID-19.



At the same time, global supply chains and economies have become increasingly interconnected. This makes the potential economic disruptions from a pandemic far greater today than in the past.

Indeed, the economic damage from COVID-19 has been immense, measured in trillions of dollars in the US alone, as organizations, states, the federal government, and other countries have implemented a variety of measures to try to slow the virus' spread. As noted in the report that we provided in the appendix to our testimony, some industries — such as manufacturing, health care, travel, and entertainment — have been especially hard hit. But every industry has been affected.

It is this widespread economic damage from COVID-19 that has us here today.



We see three particular ways in which COVID-19 has been more complex than past epidemics and pandemics:

1. It was sudden and spread quickly. Within 60 days of the first case being reported in late December, nearly a year ago, the virus had spread to more than 50 countries, according to the World Health Organization.
2. The ensuing economic downturn was driven not by a reduction in supply and demand, but by concerted actions from governments to curtail social interactions and other activity.
3. The interconnectivity and interdependence of global supply chains exacerbated the impact of the steps aimed at stopping the spread.

For these reasons and because we are witnessing an increase in the number of outbreaks, Marsh believes that creating a public-private pandemic risk solution can instill confidence in businesses, accelerate our economic recovery, and provide needed protection against future pandemics. A pandemic risk insurance program is essential for all of our policyholders, no matter their size.

The credit and power of the US government is essential to create a risk program to harness the financial and social benefits of insurance to mitigate pandemic-related economic losses and provide greater certainty about a sustained recovery.

At the same time, the insurance industry has a role to play.

## **SECTION TWO: Impact on the Availability and Affordability of Insurance**

One of the main questions you may have today is: Are pandemics insurable? The question has sparked considerable debate and, like the pandemic itself, the answer is complex. The last several months have demonstrated that traditional insurance solutions — and the commercial insurance market — cannot fully provide businesses and others with the protection they need from the enormous costs of pandemics.

The reality is that pandemic insurance has existed for a long time, but is rarely purchased, given its cost and the low likelihood of an event. Oftentimes, various insurance policies explicitly exclude pandemic risk. The reason for that is grounded in both math and psychology: The payouts, while sporadic, can be so enormous they dramatically exceed insurers' capacity to bear them.

On the math side, most insurance policies cover events like a fire, which may affect a single property, or like a hurricane or earthquake that may impact a region. Pandemics can affect the entire world, which boosts the potential cost of insuring them exponentially.

On the psychology side, pandemics are rare, and policyholders are reluctant to buy insurance against a risk that hasn't occurred in decades, or that seems theoretical.

Despite that, many companies are now looking to their insurance policies for help with the ongoing financial loss from COVID-19.

Even without specific pandemic insurance in place, insurers will undoubtedly pay out tens of billions of dollars in COVID-19-related losses. Nevertheless, some policyholders will be disappointed.

The last several months have demonstrated that there may be significant limitations regarding the extent to which property and liability policies respond to pandemic-related losses. While some specialty policies may include coverage for pandemic claims, the vast majority of policies do not explicitly cover this risk. And, given the specific and extensive effects of COVID-19, many insurers have started to exclude pandemic risk and communicable disease risk going forward.

I'd like to highlight a few forms of standard coverage for you, to provide an indication of the many challenges policyholders face. As with any discussion of insurance coverage, it's important to note that the specific language in individual policies will ultimately determine any COVID-19 or future pandemic coverage.

### **Business Interruption**

Perhaps the most contentious area of insurance related to the pandemic at this time involves business interruption coverage, which is typically also one of the greatest areas of need for policyholders in a disaster. Put simply, this is the coverage that policyholders seek from their property insurance for financial losses incurred due to a disaster such as a fire, a hurricane, or an earthquake.

Marsh clients globally have made more than 11,000 business interruption claims related to the pandemic.

### **PROPERTY AND BUSINESS INTERRUPTION**

APPROX.  
**11K** **claims** reported  
by Marsh  
clients globally.

Some policyholders are finding it difficult to demonstrate physical damage or the actual presence of COVID-19 at insured locations.

But most property policies have terms that preclude coverage for COVID-19 related losses. For example, they may say that there has been no physical loss or damage to trigger coverage, that fear on the part of the public does not trigger coverage, or that a “contamination” exclusion prevents coverage.

There are arguments in favor of policyholders that Marsh and others have been advocating since the COVID-19 outbreak began, most of which stem from policy language that could be mitigated through a dedicated line of pandemic coverage. But as litigation arises, it may be months, or even years, before issues are ultimately resolved.

And even where insurers may have provided coverage in the past, many are now reducing or eliminating coverage, regardless of pricing and terms, leaving fewer options for insureds.

### **Event Cancellation**

Another area of concern is event cancellation coverage. Available capacity for this risk was already on the decline in 2019. COVID accelerated that trend. We have seen a 25% reduction in insurance market capacity over the last two years. Efforts to slow the spread of the virus included canceling thousands of events, from mega-events like the 2020 Olympics to smaller concerts, lectures, and more. As with business interruption, event cancellation policies are subject to exclusions. And, following considerable losses on these policies related to COVID-19, we are seeing exclusions for communicable diseases coverage going forward.

### **Workers’ Compensation**

The last coverage area I’ll touch on today is workers’ compensation insurance.

Although workers’ compensation statutes and case law can vary by state, compensability generally requires that an illness or disease be “occupational.” As COVID-19 has spread, it has become increasingly difficult to determine whether an employee has contracted the illness in the workplace.

Whether a specific case is compensable will be determined by the facts established during an investigation of the claim, as well as the governing law in the jurisdiction where the claim is reported. As of today, at least 20 states have introduced COVID-19 related workers’ compensation laws and regulations, including some that shift the burden of proof from employees to employers for claims in select occupations.



## CASUALTY/WORKERS' COMPENSATION

**20** states introduced workers' compensation laws and regulations, including some that shift the burden of proof from employees to employers for claims in select occupations.

Building large excess casualty insurance programs is becoming increasingly difficult for buyers across many industries.

Because insurers cannot explicitly exclude occupational illnesses as a result of communicable diseases from their workers' compensation policies — and because employers are required in nearly all states to purchase workers' compensation insurance — the options for buyers could become limited amid future outbreaks, epidemics, and pandemics.

### **SECTION THREE: The Role of Public-Private Insurance Partnerships**

The complex nature of pandemic risk means that we need strong, national pandemic risk management. This requires insurers, backed by the federal government, to write pandemic insurance policies and brokers to contribute our risk knowledge and infrastructure. Widespread pandemic coverage would make the insurance sector the first line of economic response in future outbreaks.

Indeed, I would argue that we need to position the insurance sector at the forefront of efforts to help prevent the next pandemic. Key to building a more proactive and agile response to the next pandemic will be an insurance and risk management partnership that helps facilitate coverage and aligns the needs of insurance buyers and insurers to avoid losses while incentivizing pandemic risk preparedness and mitigation.

Recent history provides examples of just how this has been accomplished. A range of risk-pooling models — from pure private partnerships to state-financed funds for non-insurable risks — can be used to address difficult risks.

## A public-private insurance/reinsurance mechanism could be developed in several ways.

SOURCE: GUY CARPENTER, MARSH

← Private ————— Public →



### SEMI-PRIVATE POOLING REINSURANCE SCHEME

- Joint entity created by insurers to pool risk and share knowledge.
- Participation may be voluntary or legally mandated.
- Financing primarily provided by the private sector, with limited (if any) initial government financing and typically no committed reserve.



### PUBLIC-PRIVATE PARTNERSHIP (PPP) REINSURANCE SCHEMES

- Structured risk sharing model between policyholders, insurers, and government.
- Government explicitly provides backing to the private sector to cap exposure and drive affordability.
- Participation may be voluntary or legally mandated.



### PUBLIC FUNDS FOR NONINSURABLE RISKS

- Pure government setup, without any direct private involvement (other than aligning coverage).
- Fund is created with a reserve, built up over time, that can be used to pay out claims in the event of a pandemic.
- Claims against the fund should be aimed at covering risk events that cannot be covered by existing insurance offerings.

#### RELEVANT OPTIONS FOR MANAGING PANDEMIC RISK

Given their global nature, pandemics are unlikely to offer insurers and reinsurers any diversification. Some form of public support will likely be required to enable viable insurance and reinsurance markets.

Although circumstances between pandemics and terrorism differ, the Terrorism Risk Insurance Act, or TRIA, provides one example for such a public private partnership. Before the attacks of September 11, 2001, terrorism was generally not a clearly defined coverage in commercial property insurance policies. Most standard property policies covered terrorism either as part of the policy or without specifically mentioning terrorism — that is, the policies did not directly address terrorism, so they effectively covered it.

In the aftermath of 9/11, reinsurance for terrorism risks was withdrawn and commercial insurers stopped covering them. Insurers' general view at that point was that the risk of loss was unacceptably high, unpredictable, and difficult to price. In November 2002, to address concerns that the lack of terrorism risk insurance could have significant effects on the economy and to ensure its continued availability and affordability, Congress passed TRIA.

The federal backstop created by TRIA — and reauthorized several times since — has enabled a more resilient society. It created a viable commercial insurance market for terrorism, and it provided much-needed assurances to lenders — without which commercial property development would not be possible — and helped stabilize the overall economy.

FIGURE  
**7**

Existing risk pooling structures can offer several lessons.

SOURCE: MARSH

Key Learning	Selected Examples
Significant loss events or changes in how risks are modeled can lead to market-wide capacity withdrawal.	<p>TRIA was passed in 2002 following a widespread withdrawal of commercial terrorism cover by reinsurers after the September 11, 2001, terrorist attacks.</p> <p>Flood Re was developed to provide affordable flood risk cover to the approximately 3% of UK homeowners living in high flood risk areas. Industrywide improvements in flood risk modeling had made coverage unaffordable for this cohort.</p>
Extreme risks typically require some form of government backstop.	<p>Government treasuries are the insurer of last resort on multiple loss sharing schemes. For example, the US National Flood Insurance Program (NFIP), the UK's Pool Re, and France's CCR Cat Nat and Gestion de l'Assurance et de la Réassurance des risques Attentats et actes de Terrorisme (GAREAT) have unlimited guarantees. TRIA, the Australian Reinsurance Pool Corporation (ARPC), Germany's Extremus, and the Netherlands' Nederlandse Herverzekeringsmaatschappij voor Terrorismeschaden (NHT) have limited guarantees.</p>
Public-private partnerships provide credibility and can be structured to gradually shift risk to the private sector.	<p>The US government's terrorism backstop enabled insurers to access affordable reinsurance for terrorism coverage. Over time, federal reinsurance participation in the program has fallen from 90% in 2002 to 80% in 2020, while insurer deductibles have risen from 7% of premium in 2002 to 20% in 2020. Insurer retentions have also increased, from \$5 million in 2002 to \$200 million in 2020.</p> <p>The UK government's backing of Pool Re similarly enabled insurers to access affordable terrorism reinsurance. Over time, the Pool Re fund grew and private reinsurer confidence was restored, to the point that £2.4 billion of reinsurance cover is now purchased. As a result, a loss fund of approximately £10 billion (including member retentions) sits between the consumer and the government needing to step in.</p>
Programs can be used to incentivize the adoption of preventive measures.	<p>Eligibility for the US flood risk program, NFIP, requires communities to adopt and enforce strict floodplain ordinances and offers premium discounts for outstanding performance.</p> <p>While there is no direct requirement for risk mitigation by Pool Re stakeholders, premium discounts of up to 7.5% are available for insureds that proactively undertake such initiatives.</p> <p>The US crop insurance industry supports continued agronomic research to determine how farmers can best incorporate risk management best practices in their operations and the impact those practices may have on insured crops.</p> <p>The US SAFETY Act of 2002 was created to spur the adoption of improved security measures by offering to limit liability of companies providing anti-terrorism products and services for qualified vendors. Similar policies, coupled with a robust public-private insurance market, could incentivize private sector adoption of prophylactic measures to drive down exposures.</p> <p>Flood Re is intended as a temporary solution to be phased out by 2039. As such, the government has committed to major investments in preventive measures, while Flood Re has prompted insurers to work to enhance their understanding, mapping, and modeling of flood risk and their collection of data for improved underwriting.</p>

And as you can see in the chart in Marsh's Pandemic Risk report regarding existing risk pooling structures, there are other examples: crop insurance here in the US and a variety of government-backed pools in other countries. At Marsh & McLennan we have been a party to the formation and ongoing support of most of these facilities around the world and understand the rationale as to why and how each of them have been structured and how they help policyholders.



If we create the right economic incentives for insurers, policyholders, and the government, insurance can serve its traditional function of mitigating risk. Over time, the right risk program can spur new technologies, ways of working, services, insurance products, and processes to ultimately chip away at the enormous losses associated with pandemics. That, in turn, can help make pandemic risk more manageable and enable our economy to build the necessary resilience it needs for the future.

Over the past few months, there have been a number of proposals for addressing pandemic risk.

We need the market dynamics of the private insurance sector to help promote risk mitigation strategies and actively engage policyholders through education and incentives to lower their risks.

Engaging private capital as part of a potential solution can incentivize an effective long-term outcome. For example, under TRIA the government did not assume all financial responsibility. Insurers wrote terrorism policies, businesses improved their security practices, and the country became more resilient to the threat.

For pandemics, the financial commitment from the insurance sector at first will need to be modest as capital is already committed to support other critical risk areas like hurricanes, earthquakes, terrorism and cyber. In addition, the ability to assess the frequency and severity of pandemic risk is relatively unknown and managing the accumulation of the globally correlated exposure is difficult as this exposure impacts all lines of insurance and geographies.

Over time, if the program is structured effectively with the right incentives to mitigate the risk, we would anticipate a gradual transfer of an increasing stake in this risk to the private sector.

Many people in the insurance industry believe pandemic risk is best managed through a standalone policy using what is known as a parametric trigger, which is index-based with a predetermined payout mechanism that triggers according to predefined parameters. The policy would provide a predetermined fixed limit, which would cover essential operating expenses, such as wages and/or rents for a period of one to three months following a governmental order to shut down business or a stay at home order.

The policy limits would vary by customer segment and pricing could be influenced by risk mitigation measures that insureds enact. This type of approach would enable the efficient dissemination of funds to ensure business continuity in the event of another pandemic.

A number of other proposals have been put forward by insurers, policyholders, and trade groups. For example, the recently formed Business Continuity Coalition (BCC) represents a broad range of business insurance policyholders from across the economy, employing an estimated 50 million of Americans.

The BCC advocates for the development of a public/private business continuity insurance program to help businesses protect their employees' jobs and limit future economic damage from pandemics and other national emergencies. The group consists of organizations from industries including restaurant, entertainment, film, hospitality, gaming, communications, broadcasting, health care, and the apartment, industrial, office, and retail real estate sectors. BCC's members include the American Gaming Association, American Hotel & Lodging Association, Fox Corporation, Marriott International, Motion Picture Association, National Association of Broadcasters, National Association of Realtors, Nareit, National Restaurant Association, National Retail Federation, The Real Estate Roundtable, Sony Pictures Entertainment, ViacomCBS, and the Walt Disney Company.

Marsh & McLennan agrees with the BCC that the key to building a more proactive and agile response to the next pandemic will be an insurance and risk management partnership that helps facilitate coverage, aligns the desires of both insurers and policyholders, and requires mitigation practices.

You will find a brief comparison of various proposals in the appendix to our testimony.

#### **SECTION FOUR: The Time to Act is Now**

There are some suggesting that Congress should not act on a new pandemic insurance solution until the COVID-19 crisis is over and we know its full economic fallout.

At Marsh & McLennan, we see three broad areas that make us feel strongly that now is the time for a public-private pandemic risk solution.

First, acting now will accelerate economic recovery by reducing uncertainty. Moving forward, lenders will seek assurance that companies have protection against prospective pandemic risk. The pace of recovery will depend on the nature and degree of confidence in the marketplace.

Second, it will provide financial protection against future pandemics, in part by absorbing some of the initial financial shock of a pandemic. Insurance coverage enables businesses to retain employees and meet financial obligations through the peak of uncertainty.

Third, acting now works to bend the risk curve. Insurance creates the right economic incentives to drive change in society, and acting quickly will help to harness risk management to build a more resilient US economy.

Delaying may slow the pace of recovery as lenders and investors fear the absence of a safety net for the next pandemic.

There is also a need to break the [panic-neglect cycle](#) around pandemics: A disease arises, there is a momentary flare of concern, followed by action and funding, then the disease dissipates and attention moves to other problems.

Acting now will aid economic recovery, provide confidence to businesses, and enable them to do what they do best: be entrepreneurial, take risks, and rebuild the world's economy. Our view is based on experience with past events, including 9/11, after which Congress' swift action on TRIA helped restore business.

### **Conclusion:**

To summarize, the reality is that our world is highly and increasingly interconnected. Epidemics and pandemics are more frequent, and the potential economic ripples for our clients are truly immense, as we are seeing with COVID-19.

As we work our way through the current pandemic, there are risk mitigation steps that we can, should and, indeed, are taking.

As we manage through the financial implications of additional waves of COVID-19, we must also strengthen and better [coordinate a global event monitoring system](#). We can't wait but must act now to help companies anticipate and plan to better manage the risks of future epidemics and pandemics.

The complex nature of pandemic risk necessitates close cooperation by the public and private sectors in managing its impacts and restoring confidence in the functioning of markets, economies, and society. The key to building a more proactive and agile response to the next pandemic will be an insurance and risk management partnership that helps facilitate coverage, aligns the desires of both insurers and policyholders, and requires mitigation practices. An efficient and effective pandemic insurance program will accelerate recovery and build resilience.

Over the past several months, we have engaged in many discussions regarding the need for a public private partnership to insure pandemic risk. Our clients and companies represented by groups such as BCC, employ tens of millions of Americans, and they've expressed to us that a solution must be implemented now to help manage future shock events.

COVID-19 made clear that we all underestimated our susceptibility to a pandemic and the toll it could take on the global economy. Like terrorism and massive cyber-attacks, pandemic risk is too big for the private sector to manage alone, and too important to ignore.

A strong pandemic insurance system can make the country more resilient to the risk and build confidence about our future.

Thank you and I look forward to taking your questions.


## **Appendix A**


1. Marsh Infographic
2. Pandemic Proposals Comparison Chart
3. Pandemic Risk Report


# COVID-19's Effect on Commercial Insurance Markets

Considerable uncertainty about the ultimate cost of COVID-19 is making an already challenging market for insurance buyers even more difficult. The pandemic, a record hurricane season, civil unrest, and more are disrupting the industry, worrying insurers, and prompting action.

Driven by preexisting market factors and 2020 trends, insurers are:

 Restricting capacity — the amount of coverage made available to policyholders — and raising prices.

 Excluding communicable disease coverage or tightening relevant policy language, terms, and conditions.

 Scrutinizing risks in industries such as retail, health care, higher education, hospitality, restaurants, habitational real estate, and public entity.

## PROPERTY AND BUSINESS INTERRUPTION

APPROX. **11K** claims reported by Marsh clients globally.

Some policyholders are finding it difficult to demonstrate physical damage or the actual presence of COVID-19 at insured locations.

## EVENT CANCELLATION

MORE THAN **25%** reduction in market capacity over the last two years, accelerated by the pandemic.

7 leading insurers have exited the market since mid-2018 — including 4 in 2020 — and more departures are expected.

## CASUALTY/WORKERS' COMPENSATION

**20** states introduced workers' compensation laws and regulations, including some that shift the burden of proof from employees to employers for claims in select occupations.

Building large excess casualty insurance programs is becoming increasingly difficult for buyers across many industries.

## DIRECTORS AND OFFICERS LIABILITY

**42% OR MORE** increase\* in pricing for public companies each month since February.

Many insurers are narrowing coverage terms, including adding exclusions and taking away prior enhancements.

## EMPLOYMENT PRACTICES LIABILITY


ON PACE FOR OVER **1K** employment suits related to COVID-19 in 2020.

With litigation and claims on the rise, many insurers are restricting capacity for certain risks.

## A Public-Private Pandemic Risk Solution Is Needed NOW

Commercial insurers alone cannot fully provide businesses with pandemic risk protection. A public-private partnership can:

 Enhance market capacity and coverage.

 Create incentives for government, insurers, and businesses to mitigate pandemic risk.

 Build resilience to future pandemics.

To learn more, read Marsh's report on the need for a [pandemic risk protection solution](#).

\*Average year-over-year pricing changes recorded each month.

Sources: Marsh, Oliver Wyman, Fisher Phillips LLC; data and information as of November 2020

COMPARISON OF PROPOSED PANDEMIC SOLUTIONS

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
Product Design	Business revenue reimbursement program; not an insurance product	Creates Federal Pandemic Insurance Corporation (FPIC) that reinsures: (1) Business Expense Insurance Program – an insurance product (BIP) (2) Other covered lines including event cancellation Designed as an “amendment in the form of a substitute for H.R. 7011”	Incorporated as part of private business interruption insurance (BI)	Part I (BIP): Added to existing business owners or workers compensation insurance policy  Part II (Pandemic Re): Government reinsured business interruption coverage on modified standard industry forms	Based on the Federal Crop Insurance Program.  Insurance program which creates three federally backed insurance pools, with an option for insurers to offer a 100% federally guaranteed product carried on insurer paper.  Insurers determine which risks to place on a policy-by-policy basis in which pool based on their risk appetite. Insurers can place all risks in 100% federal guaranteed pool. Each commercial risk would be individually placed.  Ceding commissions set by reinsurance pool equally across all carriers, with the 100% ceded pool paying the lowest ceding commission and the 90% ceded pool paying the highest.
Business Eligibility for Participation	Any firm incorporated in the US or US territory w/bona fide operations in the US. For-profit	Any commercial or non-profit policyholder that accepts the	Any business policyholder that accepts the offer of BI coverage from a participating insurer	<i>Part I (BIP):</i>	Any firm incorporated in the US or US territory w/bona fide operations in the US. For-profit

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
	and non-profit entities, no size limitation.	offer of BI insurance coverage from a participating insurer or BEI Pool		<p><i>Businesses with fewer than 500 employees and a valid Federal Tax ID.</i></p> <p><i>Part II (Pandemic Re): Businesses with more than 500 employees and a valid Federal Tax ID</i></p>	and non-profit entities, no size limitation.
Insurer Participation	Federal program sold on a voluntary basis by agents and brokers. Insurers and other third-party entities would provide administration services.	No policy of commercial multi-peril or similar property insurance may be issued or delivered or, renewed by any PRIA-eligible insurer unless named insured is offered coverage substantially equivalent to BIP Parametric Insurance Policy. Insurer could also satisfy this requirement by arranging affiliate to insure or by supporting BEI Pool and making available to insured.	<ul style="list-style-type: none"> <li>(1) Licensed insurance companies;</li> <li>(2) Federally approved specialty carriers;</li> <li>(3) Residual market operators;</li> <li>(4) State WC funds</li> </ul> Participating insurers must offer viral BI coverage on the same terms and conditions as underlying coverage in covered lines	Part I (BIP): All P&C insurers issuing business insurance coverage for the covered lines and mandatory offer (earlier documents and graphics specify that the mandatory offer would be tied to workers compensation and BOP policies)  Part II (Pandemic Re): Federally reinsured program sold on a voluntary basis.	Mandatory offer by insurers providing property insurance  Insurers cede policies to the federal government in one of three pools: 100%, 95% or 90%.
Program Trigger	<ul style="list-style-type: none"> <li>(1) State governor requests Presidential declaration of “viral emergency” due to state-mandated closure;</li> <li>(2) Presidential viral emergency declaration; and</li> <li>(3) Closure applies to the type of business (using identified NAICS codes)</li> </ul>	<ul style="list-style-type: none"> <li>(1) States can request a federal public health emergency declaration because of viral infection</li> <li>(2) Presidential emergency declaration; and</li> <li>(3) Closure applies to the business (using identified NAIC codes)</li> </ul>	(1) Specific outbreak of infectious disease or pandemic for which a Covered Public Health Emergency is declared by HHS Secretary under the PHSA	Part I (BIP): <ul style="list-style-type: none"> <li>(1) CDC declaration of pandemic;</li> <li>(2) Public Health Declaration by HHS or Emergency Declaration by POTUS; and</li> <li>(3) State orders are in force that close and/or curtail normal business activity</li> </ul>	Tiered parametric trigger based on state ordered business closures and a federal emergency disaster declaration. Federal emergency disaster declaration must be declared for the individual state.



Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
			(2) \$250 million in insured losses across participating insurers	(4) Excludes COVID-19  Part II (Pandemic Re): (1) CDC declaration of pandemic; (2) Public Health Declaration by HHS or Emergency Declaration by POTUS; and (3) State orders are in force that close and/or curtail normal business activity (4) Excludes COVID-19	
Administration	Treasury	Treasury	Treasury	Treasury	Federal
Mandatory Issue	Yes – from Federal Government	Participation is mandatory for fixed property insurers, but they may satisfy requirement by supporting BEI Pool (non-recourse) through purchase of surplus notes. BEI Pool governed by subscribing insurers subject to disapproval by Treasury (also on board); Pool provided 80% quota share plus stop-loss R/I by FPIC.	Participation is voluntary for insurers, but participating insurers must offer BI covered for covered lines on the same terms and conditions as underlying non-viral coverage	Part I (BIP): Yes – by any insurer issuing business insurance coverage (again, earlier documents and graphics specify that the mandatory offer would be tied to workers compensation and BOP policies)  Part II (Pandemic Re): No – Participation is voluntary.	Participation is mandatory for fixed property insurers, but they may offer a 100% federally backed product.
Guaranteed Renewal	Yes – with updated tax information.	Same as PRIA	Participating insurers must re-offer pandemic coverage annually if they are offering underlying coverage in covered lines	? – Annual renewal is contemplated, but unclear whether guaranteed.	N/A

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
Time Frame	Available six (6) months after date of enactment; certificate is valid for one (1) year. Purchase must occur 90 days prior to any formal declaration of viral emergency.	14-day waiting period after qualifying event	Covers public health emergencies commencing after Treasury regulations are promulgated. Covers all claims during the period when Covered Public Health Emergency is in effect.	Part I (BIP): 14-day waiting period after qualifying event  Part II (Pandemic Re): 30-day waiting period (or longer) after qualifying event	Business deductible based on an unspecified waiting period (“x days”).
Private sector retention (Basic and Excess)	<p>No private sector retention for primary protection program.</p> <p>Title II Designed for larger businesses which may be concerned about caps and limits in the primary program.</p> <ul style="list-style-type: none"> <li>Participation voluntary for both insurers and purchasing businesses. Businesses would need to participate in the BCPP to participate in the excess coverage program.</li> <li>Broad cross section of insurers eligible to participate including those admitted in any state and non-admitted insurers that are eligible surplus lines insurers. Treasury could apply the program to</li> </ul>	<p>Participating insurers could offer BIP coverage with:</p> <ul style="list-style-type: none"> <li>95% federal reinsurance</li> <li>90% federal reinsurance</li> </ul> <p>If second major event in the same calendar year, co-share re-set lower.</p> <p>Alternatively, if insurer subscribes to BEI Pool surplus notes, insurer may offer its insureds Pool coverage in lieu of writing directly.</p> <p>Title II</p> <p>For excess BI and other covered lines (ECI, cast insurance, WC, GL and PI), PRIA-eligible insurers will be offered FPIC reinsurance of 90% plus certain stop-loss to encourage market</p>	<p>Potential \$47.5 billion exposure annually;</p> <ul style="list-style-type: none"> <li>Insurers 100% responsible for events of \$250 million or less (i.e. losses below Program Trigger)</li> <li>Insurers also responsible for their insurer deductible = 5% of prior year’s DEP in covered lines (potential \$10b aggregate)</li> <li>Insurers also responsible for 5% co-share of losses above insurer deductible, up to \$750b aggregate loss cap (potential \$37.5b aggregate)</li> <li>7-year sunset</li> </ul>	<p>Part I (BIP): \$15 Billion in year 1.</p> <ul style="list-style-type: none"> <li>Increases by \$0.75 Billion annually until year 20.</li> <li>\$30 Billion over the program</li> <li>Insurer pays 6% of first-dollar claims up to insurer’s market share of industry limit, growing to 12% by year 20.</li> </ul> <p>Part II (Pandemic Re): \$15 Billion in year 1.</p> <ul style="list-style-type: none"> <li>Increases by \$1.5 Billion annually until year 10.</li> <li>\$30 Billion over the Program</li> <li>Insurer pays 5% of first-dollar claims until industry limit (\$15b) is reached, growing to 10% by year 10</li> </ul>	<p>Creates three reinsurance pools in a private/public partnership:</p> <ul style="list-style-type: none"> <li>100% federally insured</li> <li>95% government co-share, 5% insurer co-share</li> <li>90% government co-share, 10% insurer co-share</li> </ul> <p>No minimum reinsurance placement requirements by pool/treaty. No reinsurance caps or aggregates.</p>

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
	<p>captives and other self-insurance arrangements.</p> <ul style="list-style-type: none"> <li>Excess coverage program protected by a 90% Federal backstop with insurers assuming 10% of annual risk for each policy.</li> <li>Program subject to reauthorization with sunset in 2030.</li> </ul>				
What is being offered?	<ul style="list-style-type: none"> <li>BCPP – Title I - Up to 80% revenue replacement for a maximum of three (3) months with the limit chosen by policyholder. Other option to be developed by director.</li> <li>Title II – Excess coverage for larger businesses and must purchase basic BCPP</li> <li>Title II - Contemplates Treasury Department design of event cancellation revenue replacement protection to fit within primary and excess programs.</li> </ul>	<ul style="list-style-type: none"> <li>For SMEs: Parametric insurance coverage for up to 80% of 3-months' operating expenses (following 14 day waiting period)</li> <li>For larger businesses: coverage decreasing to 50% replacement for policyholders with larger operating budgets (i.e., policyholder retentions).</li> </ul>	Business Interruption ins., that includes event cancellation insurance or other non-property contingent business interruption insurance on same terms and conditions as underlying BI for covered lines	<p>Part I (BIP): Up to three (3) months of payroll, based on a multiple of monthly payroll expenses</p> <p>Part II (Pandemic Re): Up to three (3) months of expenses, with \$50 million maximum per policyholder</p>	Up to 80% of business expenses over three months capped at \$20 million per month for employers with 500 or more employees.
Eligible Expenses	Ordinary payroll and employee benefits; Payments to vendors & 3PK's;	Between 50-80% of operating expenses depending on the size of the entity. Operating expenses include:	Any loss resulting from a covered public health emergency that is covered by primary or excess BI insurance	Part I (BIP): Ordinary payroll and operating costs	Support covers business financial obligations: <ul style="list-style-type: none"> <li>Payroll</li> <li>Employee Benefits</li> </ul>

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
	Rent, mortgage, other loan obligations; Equipment rental and maintenance; Taxes and insurance; Other categories promulgated by rule.	Payroll; Rent; Utilities; Insurance; Taxes; Other fixed operating costs.		Part II (Pandemic Re): Any expenses	<ul style="list-style-type: none"> <li>• Interest Payment</li> <li>• Rent</li> <li>• Accounts Payable</li> <li>• Taxes</li> </ul>
Conditions	<ul style="list-style-type: none"> <li>• Businesses certify they will only use funds for allowed purposes (e.g., retaining employees and paying necessary operating expenses)</li> <li>• Program may audit post-payments</li> </ul>	<ul style="list-style-type: none"> <li>• Applicants certify they will only use funds for allowed purposes (e.g., retain employees and pay operating expenses)</li> <li>• Program may audit post-payments</li> </ul>	Terms and conditions of offer of viral BI coverage must match underlying BI coverage	Part I (BIP): Standard terms and conditions of the underlying policy unless modified  Part II (Pandemic Re): Standard terms and conditions of the underlying policy	Business self certifies losses to the government (e.g., via tax filings).
Partial Operations	<ul style="list-style-type: none"> <li>• Presidential declarations indicate which businesses can remain open or partially open (for partial payments) based on gubernatorial request</li> <li>• Director to determine a formula based on partially open</li> </ul>	<ul style="list-style-type: none"> <li>• Presidential declarations indicate which businesses can remain open or partially open – and</li> <li>• 14-day waiting period included along with 25% revenue loss certification</li> </ul>	Participating insurers may purchase commercial reinsurance to protect their retentions		
Application Process	(1) Form developed by director, requiring up to two years of tax returns to determine expected assistance benefit; businesses with physical locations in multiple states	(1) Form developed by director, (2) Businesses with physical locations in multiple states would specify allocation of risk at purchase (3) NAICS six-digit classification code	Treasury to develop a process by which insurers elect to participate for each calendar year.		Business works with existing property broker/agent to voluntarily select coverage level.

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
	<p>would specify allocation of risk at purchase</p> <p>(2) NAICS six-digit classification code</p> <p>(3) Attestation by owner</p>	(4) Attestation by owner			
Payment Process	Parametric trigger starts formulaic payments. No claim adjudication necessary. Payments on day 1, day 30, and day 60 following Presidential declaration.	Parametric trigger starts formulaic payments. 14-day waiting period + 25% loss certification.	Person suffering covered loss files claim with insurer, who processes and submits to Treasury with written certifications of payments already made for insured losses. Treasury to issue additional rules and procedures for claims and payments.	<p>Part I (BIP): Parametric trigger starts formulaic payments. No claim adjudication necessary. Insurers drawdown a line of credit for Government's share of payments from US Treasury.</p> <p>Part II (Pandemic Re): Company suffering covered loss files claim with insurer, who processes and submits to Pandemic Re following adjustment process.</p>	Parametric trigger starts formulaic payments subject to applicable deductible waiting periods. No claim adjudication necessary. Insurers drawdown a line of credit for government's share of payments from US Treasury.
Oversight	Annual audit and accounting of funds; Audit and clawback capability for benefits not applied to allowable categories; Expenses must be documented; Knowing fraud results in expulsion, penalties, fines, and potential jail time.	Audit and claw-back capability for benefits not applied to allowable categories	Participating insurers must submit to Treasury: lines exposed, premiums earned, geographical location, pricing, take up rate, reinsurance, and other matters deemed appropriate. Extensive reporting to Congress by Treasury.	<p>Part I (BIP): Policyholder certification and federal tax return filing process subject to IRS audit</p> <p>Part II (Pandemic Re): Insurer claims adjudication process</p>	<p>Federal government establishes a framework for monitoring fraud, waste, and abuse of the federal program.</p> <p>Any private products regulated at the federal level using a single set of rules governed at the federal level (preempting regulatory and liability state laws). Not subject to state premium tax laws.</p>

Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
Mandatory Purchase	None (although some lenders may want to see protection)	Not mandatory, but policyholders that decline BIP coverage must acknowledge they will not be covered for pandemic BI losses and that they may not be eligible for Federal pandemic disaster assistance	None. Businesses may purchase with other coverage in covered lines	Part I (BIP): Not mandatory, but “strong opt-out” requirement. Businesses who do not want the coverage must decline it and acknowledge they will be ineligible for federal program benefits.  Part II (Pandemic Re): None.	None
Pricing	Rate determined by Treasury, <u>uniform</u> % of revenue to be replaced plus administrative costs; director to develop minimums and payment plan options; aggregated data on prices and payments to be publicly available.	Rating handbook for participating insurers to be developed by FPIC in consultation with actuarial societies and NAIC  Pricing based upon intergenerational spread of pandemic cost and to encourage participation; payroll feature to be subsidized by Federal resources Discount for risk mitigation	Rate determined by insurers subject to state regulatory rate and form approval as applicable.	Part I (BIP): “Risk appropriate” premium for insurer’s share – no premium for Government’s share.  Part II (Pandemic Re): “Risk appropriate” premium for insurer’s and Government’s reinsurance share, collected by insurers. Insurers retain proportional share and cede balance to Pandemic Re for government share.	Rates set by the federal government. Premium subsidized federally and based on indexed approach by industry and region.  2% rate-on-line (ROL) for <500 employee, 3% for 500 or more.  0.5% preferred risk discount for qualifying risk mitigation programs.
Restrictions	Owner’s attestation includes future compliance with CDC, OSHA, and other specified guidelines; funds must be used to retain employees and keep business viable.	Requires certification by the business that it will only use funds for operating expenses and employee retention.	None	Part I (BIP): Policyholders must continue payroll – no layoffs.  Part II (Pandemic Re): None.	None

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Product Distribution	Licensed insurance agents and brokers	Licensed insurance agents and brokers and participating insurers	Licensed insurance agents and brokers and participating insurers	Licensed insurance agents and brokers and participating insurers	Licensed insurance agents and brokers
Aggregate limit	None	None?	\$750 Billion annually	Part I (BIP): \$750 Billion annually  Part II (Pandemic Re): \$400 Billion annually	None
Funding	In years without losses, funds can purchase Treasury securities; if exposure exceeds assets, the program may borrow from Treasury to pay recorded losses.	Line of credit established by the Federal Reserve Bank of New York for participating insurers and pools to access for FPIC payouts.	Appropriated funds as may be necessary for insured losses and administrative costs	Part I (BIP): Treasury establishes a line of credit facility with participating insurers as beneficiaries for government share of losses.  Part II (Pandemic Re): Establishes a line of credit facility with participating insurers as beneficiaries for government share of losses.	Federal government financially supports.
Mitigation and Risk Management	<ul style="list-style-type: none"> <li>Business attests to compliance with CDC, OSHA, pandemic requirements</li> <li>Leverages insurance industry capabilities with access to IBHS "Open for Business EZ" tools</li> </ul>	None?	None	None stated	<p>Preferred risk discount offered for qualifying risk mitigation programs. Expectation of 30% of businesses would qualify for the 0.5% discount.</p> <p>Risk mitigation consultation and services (e.g., resilience planning) conducted by carrier.</p>
Claims Adjudication	None- <ul style="list-style-type: none"> <li>Parametric trigger</li> <li>Formulaic payment</li> </ul>	BIP- <ul style="list-style-type: none"> <li>14-day waiting period</li> </ul>	Traditional insurance claims adjustment process	Part I (BIP): None- <ul style="list-style-type: none"> <li>Parametric trigger</li> </ul>	None- <ul style="list-style-type: none"> <li>Parametric trigger</li> <li>Formulaic payment</li> </ul>



Issue	Business Continuity Protection Program (BCPP-Plus)	Policyholder Community Proposal (BCC)	PRIA -- Rep. Maloney	Chubb – Part I, Business Expense Insurance Program (BIP) for smaller businesses; Part II, Pandemic Re, for 500+ employees organizations	Zurich Draft Concept
		<ul style="list-style-type: none"> <li>• Parametric trigger</li> <li>• Formulaic payment</li> </ul>		<ul style="list-style-type: none"> <li>• Formulaic payment</li> </ul> Part II (Pandemic Re): Traditional insurance claims adjustment process	Business self certifies losses to the government (e.g., via tax filings).
Cap	<ul style="list-style-type: none"> <li>• 3 months expenses based on co-pay</li> <li>• Limited by protection % (up to a maximum of 80 percent) chosen by purchaser</li> </ul>	<ul style="list-style-type: none"> <li>• 3 months expenses based on co-pay</li> <li>• BIP limited by protection % (up to a maximum of 80 percent) for SMEs chosen by purchaser</li> <li>• BIP further limited for larger businesses up to a maximum of 50 percent</li> </ul>	<ul style="list-style-type: none"> <li>• \$750b cap on industry/government combined payments</li> <li>• If Treasury estimates that insured losses may exceed the cap, Treasury establishes an interim pro rata loss percentage reducing compensation to policyholders who have not yet been paid by insurers;</li> <li>• Treasury can call a brief hiatus in insurer loss payments of up to two weeks to determine a subsequent pro rata loss percentage rate that insurers would then apply</li> <li>• Depending on when a policyholder files a claim and how quickly the insurer provides payment, if the cap is exceeded, the policyholder may receive full compensation partial, or none.</li> </ul>		\$20 million per month for employers with more than 500 employees. 80% of eligible expenses for all policyholders for three months.

# Pandemic Risk Protection

Accelerate Recovery and Build Resilience Now  
Through Public-Private Partnership

With contributions from:





# Pandemic Risk Protection

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# Foreword

COVID-19 has affected all of us. And while the pandemic is first and foremost a human tragedy, we are also deeply concerned about its impact on our economy. The stakes — for businesses, nonprofit organizations, workers, and the US economy — are too high to defer action.

As made clear in this report and in my recent letters to Congress and the administration, Marsh believes that creating a public-private pandemic risk solution can accelerate our economic recovery and provide much-needed protection against future pandemic risks. A pandemic risk insurance program is essential for large and small organizations alike.

The last several months have demonstrated that traditional insurance solutions — and the commercial insurance market — cannot fully provide businesses and others with the protection they need from the enormous costs of pandemics. Only the credit and power of the US government can help create the necessary risk program to harness the financial and social benefits of insurance to mitigate pandemic-related economic losses and provide greater certainty about a sustained recovery.

But the insurance industry has a role to play, too. If we create the right economic incentives for insurers, policyholders, and the government, insurance can serve its traditional function of mitigating risk. Over time, the right risk program can spur new technologies, ways of working, services, insurance products, and processes to ultimately chip away at the enormous losses associated with pandemics. That, in turn, can help make pandemic risk more manageable and enable our economy to build the necessary resilience it needs for the future.

We cannot wait until we've fought our way through COVID-19 to build a new solution. Delaying will significantly slow the pace of recovery as lenders and investors fear the absence of a safety net for the next pandemic event. A public-private pandemic risk solution is needed now, to provide confidence to businesses and enable them to do what they do best: be entrepreneurial, take risks, and rebuild the world's economy.

A public-private risk solution will:

- Facilitate access to capital from both lenders and equity markets that will require assurance against future pandemic risks.
- Limit tail risk for commercial insurers, enabling the creation of a viable, sufficiently capitalized insurance market that can offer affordable coverage for pandemic risks.
- Create greater certainty for businesses and employees in the event of a recurrence of COVID-19 or during a future pandemic.
- Enhance the resilience of the US economy and its ability to bounce back following a future pandemic.

As the COVID-19 pandemic continues, we remain committed to being there for our clients, helping to manage current impacts, and advocating for solutions to help mitigate future risks for the entire US economy.



John Doyle  
President and CEO, Marsh

# The Risks of Outbreaks, Epidemics, and Pandemics

The global influenza pandemic of 1918 — the “Spanish flu” — infected an estimated 500 million people and killed as many as 100 million. In the century since, many pandemics and epidemics have occurred, several of which caused billions or trillions of dollars in economic losses (see Figure 1). Despite advances in medicine and health care, several intensifying trends have increased the likelihood and potential reach of infectious disease, including global travel and connectivity, urbanization, and land use changes due to commercial development.

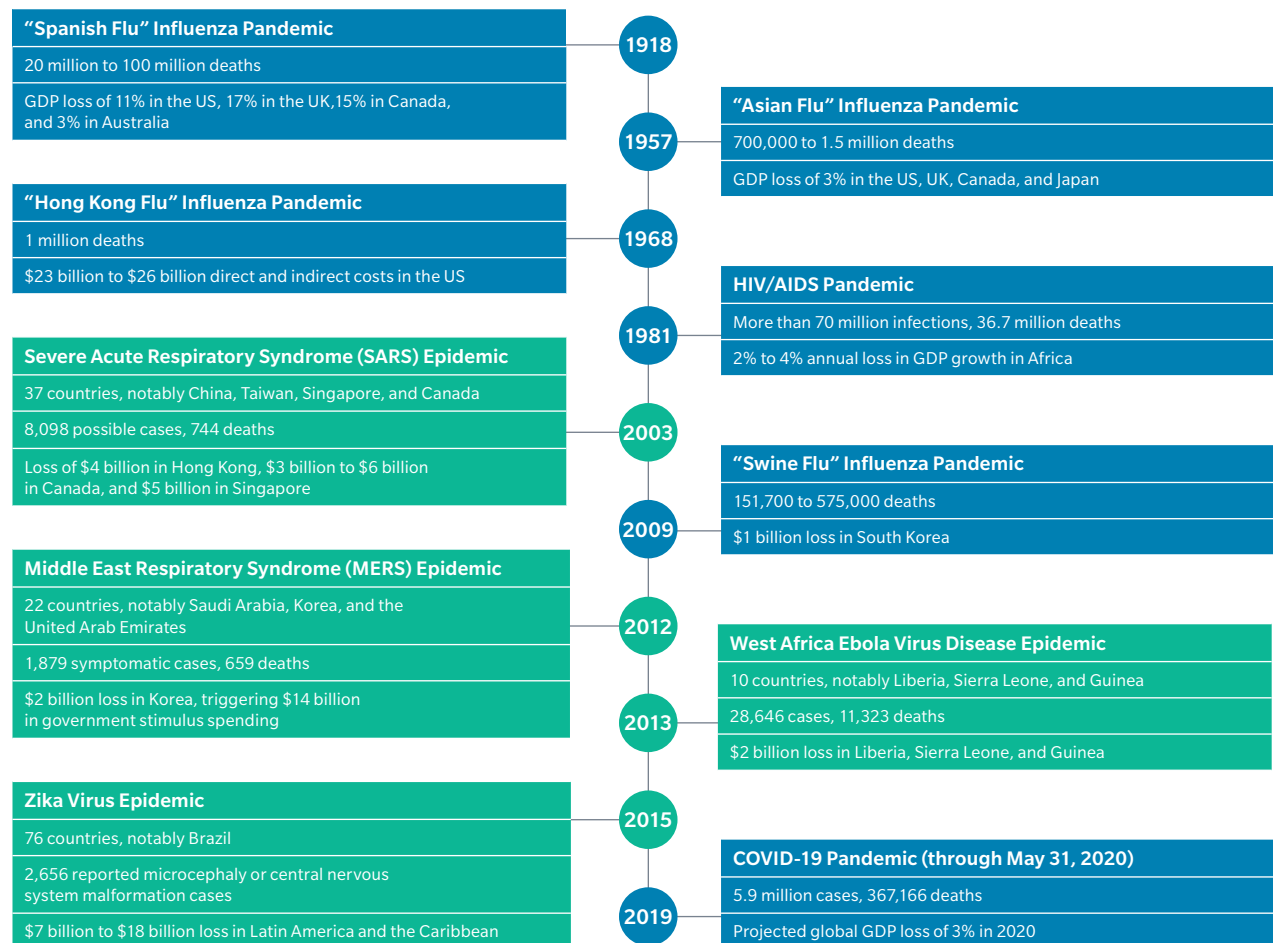
FIGURE  
**1**

Pandemics and epidemics have had notable impacts on human health and the economy.

SOURCE: METABIOTA, WORLD HEALTH ORGANIZATION, INTERNATIONAL MONETARY FUND

■ Global

■ Select Countries





The potential economic disruptions from today's health crises may be far greater than earlier ones. Frequent, unrestricted travel and far-reaching supply chains mean that an outbreak in a single country can quickly spread, while a severe epidemic or pandemic can cause lasting damage to organizations across several industries.

Some epidemics and pandemics have caused brief, sharp declines in economic activity, but this is not necessarily the norm. A highly transmissible respiratory infection, like the virus that caused the 1918 pandemic, can continue to spread and inflict compounding economic damage for several years. COVID-19 or a future pandemic could play out similarly.

This means that public and private sector organizations should be prepared for potentially extended periods of economic disruption.

Some of the potential risks for businesses include:

- Loss of workforce due to death and illness.
- Increased employee absenteeism and lower productivity due to family care obligations, social distancing, and fear of infection.
- Operational disruptions, including interruptions and delays in transportation networks and supply chains.
- Reduced or changed production or service delivery, including higher operational costs driven by public health regulations or voluntary risk mitigation or response measures.
- Reduced customer demand.
- Reputational damage, if an organization's outbreak response is seen as ineffective or if its communications with stakeholders are seen as incomplete or misleading.

## WHAT IS A PANDEMIC?

The World Health Organization (WHO) defines an epidemic as "the occurrence in a community or region of cases of an illness, specific health-related behavior, or other health-related events clearly in excess of normal expectancy." A pandemic is defined by the WHO as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people."



While some businesses and nonprofit organizations have focused on resilience in recent years and are prepared to withstand much of the short- and long-term damage from an infectious disease event, others are not. Over the last several months, many organizations have been forced to make difficult decisions simply to survive, including laying off or furloughing employees, canceling or delaying major projects and capital investments, and declaring bankruptcy. Even with these actions, it is apparent that many companies will not survive COVID-19.

The financial consequences can be particularly acute for organizations in industries that rely on consumer confidence and foot traffic, including retail, hospitality, entertainment, and airlines (see Figure 2). During the 2013-15 Ebola epidemic, for example, airline stocks fell as investors anticipated a sharp decline

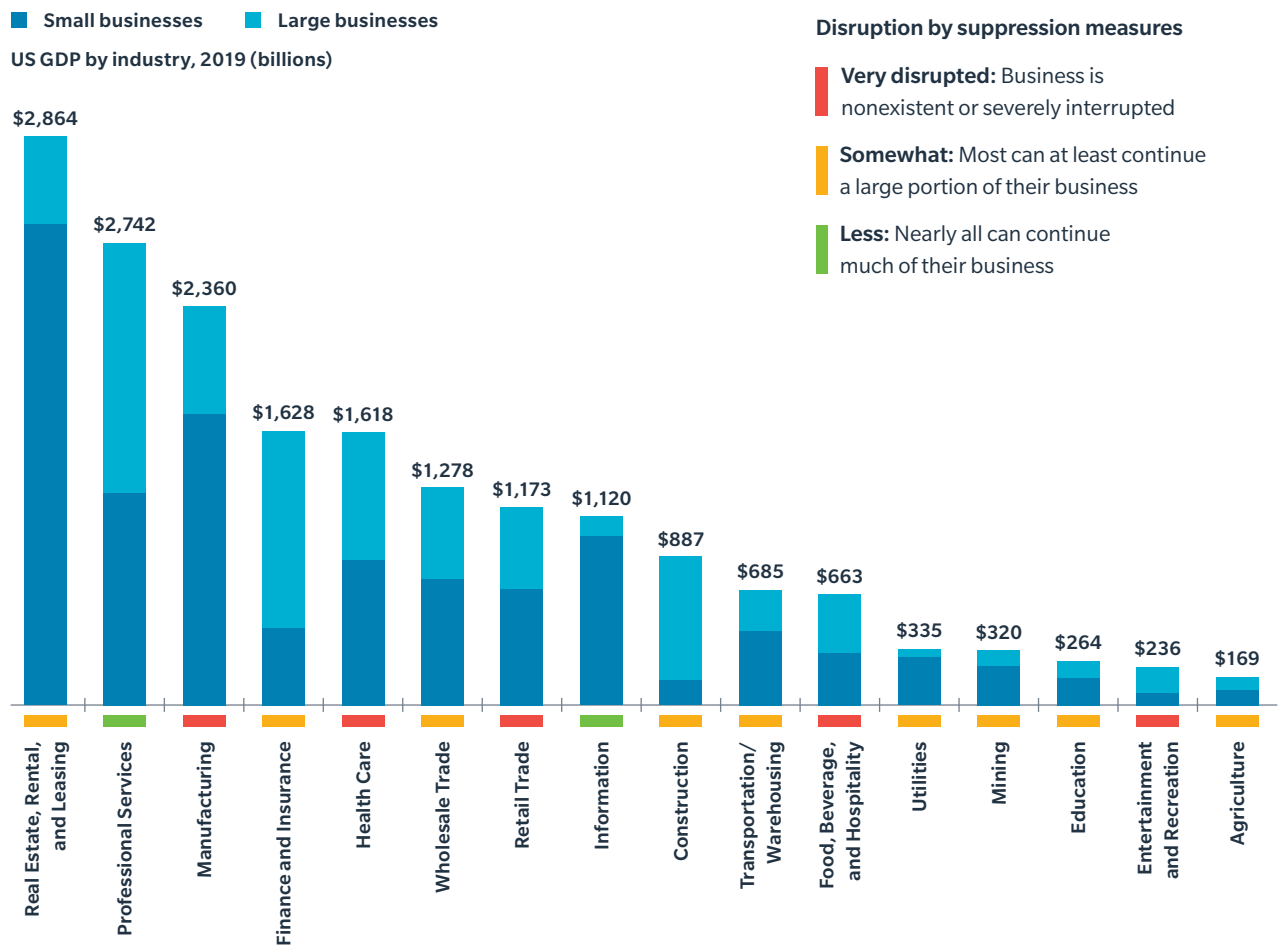
in travel after an Ebola case was reported at a Texas hospital, while several hundred airline workers did not report for work at LaGuardia Airport in New York due to concerns about their safety. And more than 80% of losses in the Caribbean from the 2015 Zika virus epidemic were tied to lower international tourism revenue, according to the United Nations Development Programme.

Public entities — including federal, state, and local governments — can also feel the economic effects of a pandemic or epidemic. For example, the decline in the economy — including a rapid rise in unemployment and lower consumer spending — and the delay of tax filing deadlines as a result of COVID-19 has “triggered a severe state budget crisis,” according to the Center on Budget and Policy Priorities. Moreover, forecasting potential government revenues is difficult given the uncertainty caused by the pandemic.

FIGURE  
2

### Disruptions from COVID-19 vary significantly by industry.

SOURCE: US BUREAU OF ECONOMIC ANALYSIS, US SMALL BUSINESS ADMINISTRATION, MARSH/OLIVER WYMAN ANALYSIS





## COVID-19's Unprecedented Nature

Past epidemics and pandemics have caused significant — and, in some cases, even greater — loss of life, both in the US and globally. But COVID-19 — and its effects on the economy — has been extraordinary in at least three ways:

1. It was sudden and spread quickly. Within 60 days of the first case being reported in late December, the virus had spread to more than 50 countries across all six populated continents, according to the WHO.
2. The ensuing economic downturn has not been driven by a reduction in supply and demand. Rather, it's mainly been the result of concerted actions by governments to curtail social interactions and other activity that would otherwise accelerate the spread of the virus.
3. The impact of various risk mitigation measures and continued uncertainty globally has been exacerbated by the interconnectivity and interdependence of global supply chains. As shutdowns spread worldwide, questions arose about the availability of raw materials, parts, and manufacturing capabilities to meet critical needs and consumer demands. Restrictions on travel and trade, a contracting workforce, and the shuttering of airports, seaports, and distribution centers has led to significant disarray and impeded economic recovery.

Even as countries and US states loosen restrictions on people and businesses, with the hope of renewed economic activity, some disruptions should be expected to continue. And as social proximity limits, herd immunity thresholds, medical treatments and vaccines, and consumer demand continue to be tested, the ultimate impact of COVID-19 will likely be severe: According to the International Monetary Fund's April 2020 World Economic Outlook, the global economy is projected to contract by 3% in 2020 — far worse than the economic decline caused by the 2008-09 financial crisis — and 5.9% in the US. Global trade, meanwhile, is expected to fall between 13% and 32% in 2020, according to the World Trade Organization.



*Even as countries and US states loosen restrictions on people and businesses, with the hope of renewed economic activity, some disruptions should be expected to continue.*



# The Evolution of Pandemic Monitoring and Modeling

Improvements in the ability to forecast the spread of a pandemic and its economic impacts are based on the growing wealth of data and analysis from recent and historical pandemics. For future pandemics, continued advances in monitoring spread and modeling potential human and financial consequences will enable the private and public sectors to make more informed risk management decisions to protect people, ensure operational and financial resilience, and facilitate recovery.

## MONITORING

Monitoring tools can allow for early warning when an epidemic or pandemic is emerging and situational awareness while it unfolds. Accurate, complete, and timely data can inform critical decision-making — for example, to determine the appropriate timing for intervention measures and to assess their effectiveness.

Monitoring epidemics and pandemics can prove challenging, however. Data often suffers from reporting delays, a lack of standardization, and limits in spatial resolution and geographic coverage. During the COVID-19 pandemic, for example, these differences have made it difficult to compare data between countries.

Experts in epidemic data monitoring can overcome such challenges by using digital surveillance methodologies that can curate, cleanse, and structure epidemic data from hundreds of reporting sources on a near real-time basis (see Figure 3). These techniques have also been applied retrospectively to construct a database of historical epidemics and further assess the availability, frequency, completeness, reliability, and accuracy of reporting

sources so that different data sources can be compared. This can generate an accurate and comprehensive view of each event, and — when coupled with modeling — can provide the full view required to underwrite the risk.

## MODELING

For epidemics and pandemics to be insurable, the public and private sectors will require reliable estimates of their potential frequency and severity. Historical data serves as an important starting point, but today's advanced modeling techniques can provide a fuller picture of potential losses.

Using probabilistic modeling techniques, a large catalog of realistic simulated pandemics representing a wide range of possibilities can be built. Such modeling can incorporate information about medical advances, population, and travel patterns. In fact, this approach previously identified coronaviruses as a family of viruses with high pandemic potential.

Epidemics and pandemics can be modeled through large-scale computer simulations that track how they spread globally from person-to-person and

place-to-place. These models incorporate input parameters and assumptions about factors such as where epidemics could spark, how frequently they occur, how easily they could transmit, and how deadly they could be. The models start from the time when the pandemic first breaks out and follows how it would progress each day. They include important factors that can change over time, such as mitigation measures and seasonality.

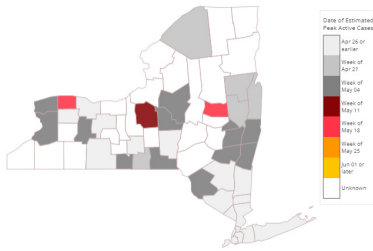
Running millions of simulations over a wide range of possible conditions can produce an event catalog that yields valuable insights about the frequency and severity of epidemic and pandemic events (see Figure 4). This approach, called “catastrophe modeling” or “extreme events modeling,” is similar to the way the insurance industry understands the risks posed by low-frequency, high-severity natural catastrophe events, such as hurricanes and earthquakes.

Applying this type of modeling for epidemics and pandemics enables the public and private sectors to better prepare for, mitigate, and manage these risks and provides the insurance industry with the tools it needs to understand and transfer this risk.

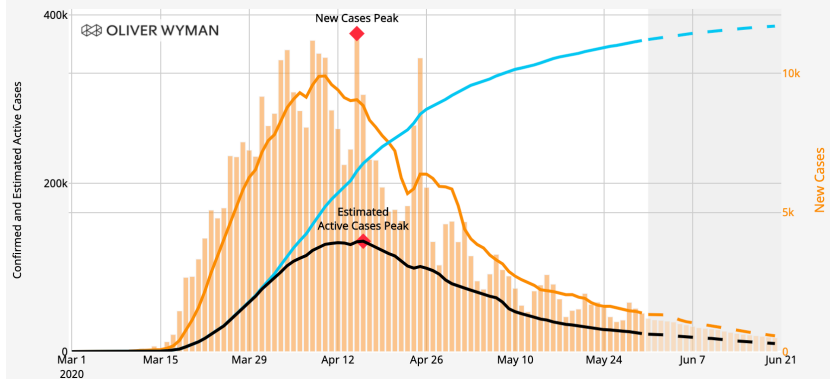
FIGURE  
**3**

New data tools can enable epidemiological monitoring on a near real-time basis.

SOURCE: OLIVER WYMAN



COVID-19 Cases (Confirmed, Estimated Active, and New)



COVID-19 Cases Adjusted for Undetected Cases (Estimated)

AS OF 2020-05-30	LOWER BOUND	BEST ESTIMATE	UPPER BOUND
% Total Population Infected	1.9%	3.8%	6.7%
Estimate for Total Cases (incl. Undetected)	6,310,197	12,586,075	22,016,504
Total Confirmed Cases (excl. Undetected)	1,766,032	1,766,032	1,766,032
Undetected to Detected Ratio	2.6:1	6.1:1	11.5:1

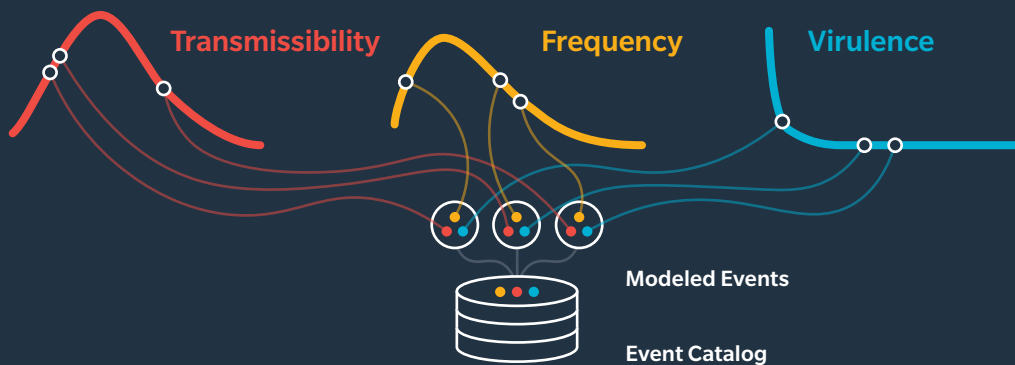
Cases last updated 2020-05-30 from [COVID-19 Data Repository](#) by the Center for Systems Science and Engineering, (CSSE) at Johns Hopkins University.

Our forecasts currently show case counts for Detected Cases (i.e., those officially captured and reported in the JHU dataset). However, there are additional Undetected Cases (e.g. untested asymptomatic or symptomatic cases, tested cases with false negatives, or tested cases with results not yet available) that are not captured in reported data. We provide estimates of the magnitude of the Undetected Cases in the table for you to better understand the progression of the virus through the population. The Undetected to Detected Ratio estimates the cumulative number of Undetected Cases in a region relative to Confirmed Cases. This ratio differs across regions and over time, with a strong correlation to the prevalence of testing. See [White Paper](#) for more details.

FIGURE  
**4**

A modeling approach for understanding epidemic and pandemic risk.

SOURCE: METABIOTA



# Why We Need a Public-Private Partnership

The enormity of the economic loss caused by COVID-19 in the US and globally, only a fraction of which will be covered by insurance, poses recovery and resilience challenges for businesses, governments, and insurers. The complex nature of pandemic risk necessitates close cooperation by the public and private sectors in managing its impacts and restoring confidence in the functioning of markets, economies, and society at large. Key to building a more proactive and agile response to the next pandemic will be an insurance and risk management partnership that helps facilitate coverage, aligns the desires of both insurers and insurance buyers to avoid losses, and incentivizes pandemic risk preparedness and mitigation efforts. Recent history provides examples of just how this has been accomplished.

## The Economic Recovery Challenge

It remains to be seen how quickly the US economy will recover from COVID-19. The scenarios being considered hold lessons for future pandemic response and recovery, as well as actions to be taken jointly by the public and private sectors.

To describe their projections, economists often turn to letters of the alphabet resembling the shape of paths observed in past recessions and recoveries. They commonly use V, U, W, and L — ranging from the quickest recovery to the slowest — to describe

the trajectory of GDP, employment, and other key metrics tracking economic conditions (see Figure 5).

Despite the various scenarios and potential paths to recovery, the answers to two questions will ultimately determine how quickly the US economy recovers from the current pandemic:

- How quickly can the imminent health threat be brought under control?
- How quickly can a vaccine be developed and distributed?

To ensure a swifter V- or U-shaped recovery, the US must get COVID-19's imminent health threat under control. The longer that shutdowns and uncertainty about a solution or a clear path persist, the more businesses will suffer and fail.

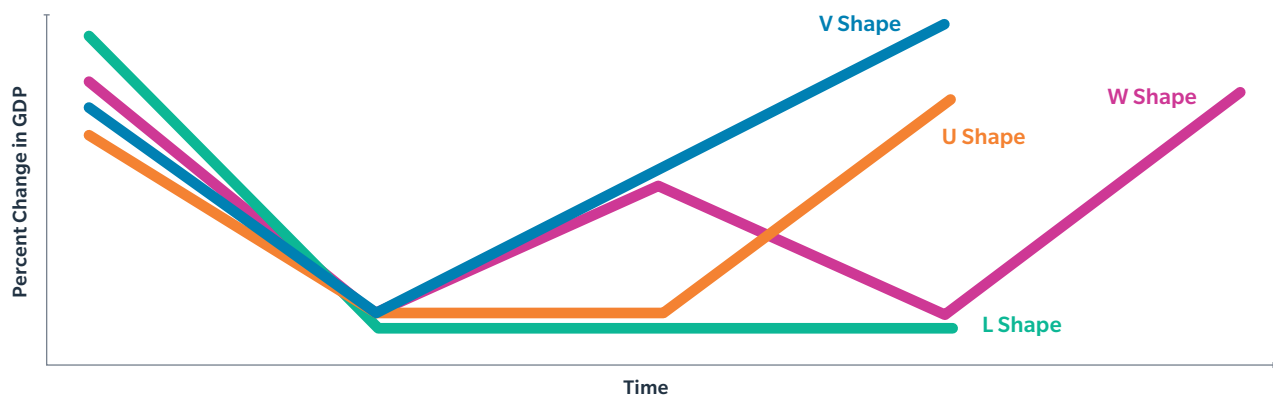
A W-shaped recovery would be characterized by a period of quick recovery followed by a second period of decline, likely attributable to a new wave of COVID-19 cases as the economy reopens or seasonality of the virus.

The actual pace of the recovery will depend on the nature and degree of uncertainty in the marketplace. In reality, no one knows when the pandemic will be behind us and when we can return to our pre-pandemic routines. And there is no certainty on the timing of a vaccine being developed. There is also the fear of other pandemics to come.

FIGURE 5

Economic recovery from COVID-19 can take many shapes.

SOURCE: MARSH



In the face of such uncertainty, businesses must make crucial decisions, such as:

- What levels of investment should be made in the business? And in what areas?
- Should employees be kept on the payroll or be laid off, which would sever employment relationships that could be difficult to rekindle when business returns to normal?
- Should idle capacity be maintained or should machinery and factories be mothballed, knowing that the eventual restart could take time?

Such decisions may be somewhat easier for those businesses with access to liquidity and the resources to pursue any claims under applicable insurance policies. However, smaller businesses lacking capital and relevant coverage are faced with a perilous gamble.

## The Foundation for a Rapid Economic Recovery

In consideration of the various recovery scenarios, steps can be taken to minimize the length of the economic downturn, expedite the economic recovery in the coming months and years, and bend the risk curve by improving the resilience of all stakeholders to future pandemics.

First, businesses, governments, the insurance industry, and all other stakeholders must address the imminent threats of the current pandemic. This includes ensuring the efficacy of critical care, the expansion of testing, and the development of effective therapies and vaccines. These efforts should also take into consideration the ability to reduce and mitigate the risk of future waves of COVID-19 infection and combat new pandemics.

Second, the government should ensure that risk mitigating measures are not only effective, but also minimally disruptive to the economy. After all, federal and state authorities will ultimately determine if, when, and how “shelter-in-place” restrictions are eased. Moreover, how the government responds will determine the business infrastructure that will exist when the health crisis is contained. For example, financial support of small businesses may help avoid business closures and high unemployment rates, which would allow businesses to reopen quickly with the staff they need to ensure the quick return of important goods and services.

Third, uncertainty should be reduced. Once businesses reopen, they will have to assure employees, customers, suppliers, distributors, regulators, and investors that it is safe to resume commercial operations. The effort required can affect the speed and enthusiasm with which individual businesses will decide to return to their pre-crisis levels of economic activity. Similarly, business owners may be reluctant to reopen if they are worried that the pandemic may return or if they lack the necessary resources to protect employees and customers. Uncertainty will weigh especially heavily on those businesses with highly interconnected and interdependent supply chains, where future shutdown risks — production slowdowns, distribution bottlenecks, revenue potential, and more — may complicate decisions to reopen. Uncertainty around managing these risks can filter down to employees who may be reluctant to return to work, investors who may be hesitant to invest or re-invest, and insurers who may be unwilling to cover future pandemic risk impacts.

While the true shape of recovery will only be evident in hindsight, the consensus is that its pace will be contingent upon our ability to manage the spread of the virus over the



*Smaller businesses lacking capital and relevant insurance coverage are faced with a perilous gamble.*



*The last several months have demonstrated that there may be significant limitations to the extent that property and liability policies respond to pandemic-related losses.*

next few months and the steps taken to mitigate continued uncertainty and risk. For a quick and sustained recovery, it is not enough to have a vaccine, ease social restrictions, and maintain the nation's business infrastructure. It will be important for the public and private sectors to work together to reduce the uncertainty across the market and for individual businesses of all sizes.

## **Commercial Insurance Coverage Limitations**

Given the far-reaching business impacts of governmental measures already taken to control the spread of COVID-19, many companies are looking to their insurance policies for potential responses to the ongoing financial loss. The last several months, however, have demonstrated that there may be significant limitations to the extent that property and liability policies respond to pandemic-related losses.

While some specialty policies may include coverage for pandemic claims, the vast majority of policies do not explicitly cover this risk. And given the specific and extensive effects of COVID-19, many insurers are expected to broadly exclude pandemic risk going forward.

The following overview of selected forms of standard coverage provides an indication of many of the challenges faced by insureds and the support and confidence that a government-backed standalone pandemic insurance solution could lend to building a better market for this risk.

Policyholders should note that the specific language in individual policies will ultimately determine any COVID-19 or future pandemic coverage. Organizations should work closely with their advisors and counsel to guide them through these various issues.

### **Property and Business Interruption**

Standard property policies generally are triggered by insured physical loss or damage. Many include coverage for business interruption loss, other time element coverages, and extensions such as interruption by civil authority, ingress/egress, attraction or leader property, and contingent business interruption/extra expense.

If COVID-19 manifests at an insured's premises, insurers may contend that there has been no physical loss or damage. Similarly, insurers may argue that possible contamination, proximity to other contaminated premises, or fear on the part of the public does not constitute physical loss or damage for purposes of triggering coverage. If physical loss or damage is established, insurers may seek to invoke "contamination" or other exclusions in the policy.

Policyholders may look to the interruption by civil authority extension in their property policies for potential coverage — for example, arising from shutdowns and closures such as those mandated by governors in several states. There is no single version of a civil authority extension that has been incorporated across all policies, and a careful review of specific policy language will be required. Insurers may argue that shutdown orders in and of themselves do not satisfy policy requirements that physical loss or damage of the type insured by the policy has occurred, which is usually a required trigger of coverage.

A variety of arguments in favor of policyholders have been discussed since the COVID-19 outbreak began, and will likely be developed further. Among the arguments voiced to date is that policies' physical loss or damage requirements are satisfied because the virus reportedly remains on physical surfaces for some time and therefore constitutes physical damage to the property — and similarly, that government shutdown orders create a “loss of functionality” at insured locations that is equivalent to “physical loss or damage.” These potential coverage arguments, and others, together with the facts of any specific loss, merit careful monitoring.

A number of coverage disputes have arisen since the pandemic began, some of which have resulted in litigation. It may be months or even years before these and future suits are ultimately resolved.

While insurers may have provided coverage in the past, many carriers are now reducing or eliminating coverage, regardless of pricing and terms. There are now fewer options for insureds.

## Workers' Compensation and Employers Liability

Although workers' compensation statutes and case law can vary by state, compensability generally requires that an illness or disease be “occupational.” This essentially means that the illness:

- Arises out of and occurs in the course and scope of employment, which will normally be determined by whether an employee was benefitting the employer when exposed.
- Is proven to be the result of a workplace exposure.
- Is “peculiar” to the employee's work, meaning that the disease is found exclusively among or presents greater risk for certain employees.

As COVID-19 has spread, it has become increasingly difficult to determine whether an employee has contracted the illness in the workplace. Health care professionals, first responders, airline and transportation workers, hospitality workers, and others in industries deemed essential are among those with a higher likelihood of exposure. But health care workers, for example, may be infected by patients, coworkers, family members, neighbors, and strangers, and in turn may infect each of these groups.

As the pandemic has progressed, some states have issued executive orders or taken other legislative action that would, in effect, create a rebuttable presumption that any employee or certain classes of employees who contract COVID-19 did so while working.

Whether a specific case is compensable will be determined by the facts established during an investigation of the claim, as well as the governing law in the jurisdiction where the claim is reported. Additionally, since there is no single “test” that can prove whether an illness or disease is compensable, it may ultimately come down to a decision by a court or state workers' compensation board.

Because insurers cannot explicitly exclude occupational illnesses as a result of communicable diseases from their workers' compensation policies — and because employers are required in nearly all states to purchase workers' compensation insurance — the options for buyers could become limited amid future outbreaks, epidemics, and pandemics. The introduction of rebuttable presumptions of illness in many states shifts the

## PANDEMIC COVERAGE OPTIONS

Currently, pandemic coverage options for businesses are limited. Marsh, together with Metabiota and Munich Re, sought to address this gap as early as 2018 by launching PathogenRX to help organizations mitigate the risks posed by outbreaks, epidemics, and pandemics.

As epidemics and pandemics are typically excluded from business interruption policies, organizations are exposed to potentially large and sustained losses in revenue due to workplace disruption, absenteeism, sharp declines in consumer confidence and demand, or public health restrictions that limit business activity. PathogenRx provides coverage for these and other losses, helping businesses protect their balance sheets and improve their ability to weather and more quickly recover from epidemic- and pandemic-related losses.





*Insurers may seek to assert a variety of potential coverage defenses.*

burden of proof; employers must prove that an illness is not work-related in order to deny a claim. This will likely affect workers' compensation market capacity and pricing, especially for employers in industries that are considered essential.

### **General Liability and Umbrella and Excess**

A claim brought by a third party for bodily injury or property damage resulting from an alleged unintentional or negligent failure to protect from the virus should fall within the basic coverage grant of a general liability policy, as well as umbrella and excess coverage. Depending on the circumstances, however, insurers may seek to assert a variety of potential coverage defenses, including:

- **Pollution exclusions:** Insurers may contend that bacteria and viruses constitute "pollutants" under the pollution exclusion. Certain policies define "pollutants" to include viruses; others specifically provide that viruses do not constitute "pollutants"; and some are silent on the issue.
- **Fungi/bacteria exclusions:** Although COVID-19 is viral, illness may occur due to secondary bacterial infections brought on by the virus.
- **Intentional act exclusion:** Depending on the circumstances, carriers may contend that coverage is excluded because the policyholder acted "intentionally." For example, if a policyholder has recently held a large event, an insurer may contend that the decision to proceed in the face of a known risk is an intentional act rather than mere negligence, and therefore excluded. Although courts often reject such defenses — restricting their applicability to situations where the insured actually intended the specific injury alleged — the merit of such a defense will depend on the facts and applicable law.
- **Communicable disease exclusions:** Removing these exclusions going forward — if possible — should be a priority for policyholders and their advisors, although insurers — driven in part by the demands of reinsurers — are likely to dig in and seek to preserve them.

The potential applicability and scope of each exclusion will likely depend on court precedent and the factual circumstances of the claim.

### **Event Cancellation**

Event cancellation insurance coverage could respond if an event must shut down because of a confirmed COVID-19 case on a venue's premises or a ban on mass gatherings by local or state government. Prior to the start of the COVID-19 outbreak, policyholders could generally add back — via endorsement — coverage for communicable diseases that has often been excluded from standard event cancellation policies.

Other forms of event cancellation coverage — for example, those related to trade shows, conventions/expositions, and other specific types of events — have typically included communicable diseases. Following considerable losses related to COVID-19, however, most insurers are now excluding coverage going forward.

Event cancellation coverage will likely not respond if an event is preemptively cancelled due to fear of the pandemic's spread. Policies also often require that an event organizer make a good faith effort to reschedule an event before cancelling it.

# What Could Be Included in a Government-Backed Solution

Although the potential risk of a severe public health crisis has been on the radars of governments and businesses for many years, the intensity of COVID-19 caught many off guard. The pandemic, however, is now the top agenda item in boardrooms, statehouses, and legislatures across the country and around the world. To manage current and future uncertainty around reopening, recovery, and resilience, it is imperative that governments, insurers, and businesses work together as they did after past events — including terrorist attacks — to develop and implement solutions that build confidence and strengthen the economy.

Prior to the attacks of September 11, 2001, terrorism was generally not a clearly defined coverage in commercial property insurance policies. Most standard property policies covered terrorism either as part of the policy or without specifically mentioning terrorism — that is, the policies did not directly address terrorism, so they effectively covered it.

In the aftermath of 9/11, reinsurance for terrorism risks was withdrawn and commercial insurers stopped covering them. Insurers' general view at that point was that the risk of loss was unacceptably high, unpredictable, and difficult to price. In November 2002, to address concerns that the lack of terrorism risk insurance could have significant effects on the economy and ensure its continued availability and affordability, Congress passed the Terrorism Risk Insurance Act (TRIA).

TRIA required the Treasury Department to administer a program through which — in the event of a certified act of terrorism — the federal government would share some of the losses with private insurers. TRIA also includes provisions for the Treasury Department to recoup the federal share of losses after a certified act of terrorism. The losses the federal government would cover before such recoupment create an explicit fiscal exposure for the government.

The federal backstop created by TRIA — and reauthorized several times since — mandates that commercial insurers offer coverage to businesses. In turn, the federal government has pledged to cover an increasing share of terrorism-related insurance losses — up to \$100 billion each year, above a “deductible” for individual companies that increased from 7% of premium in 2003 to its current level of 20%. Not only did this enable the creation of a viable commercial insurance market for terrorism, it provided much-needed assurances to lenders — without which commercial property development would not be possible — and helped stabilize the overall economy.

## A New Pandemic Partnership

A public-private partnership to establish a federally backed pandemic reinsurance program can offer similar benefits. As we are seeing, the economic impact of this pandemic event is enormous, with losses in the US alone projected to reach into the trillions of dollars.

The risk characteristics of a pandemic event are significantly different than those of a terrorist event, which is highly localized with expected losses within the \$100 billion terrorism facility. A severe pandemic event can pose even greater losses than a nuclear terrorist event, which models estimate could result in insured losses of \$800 billion or more.

Such a pandemic insurance facility is especially critical now, and commercial insurers can play a valuable role, as they do with terrorism. The US property and casualty insurance industry, however, only has an estimated \$312 billion in policyholders' surplus for commercial lines, according to A.M. Best. This figure represents the industry's financial cushion to protect against unexpected or catastrophic losses — and insurers generally consider all of it necessary to underwrite other critical business risks, including hurricanes and other natural catastrophes, workers' compensation losses, and cyber-attacks.

On their own, private insurers do not have the financial resources necessary to fully underwrite the unprecedented losses suffered by businesses since the COVID-19 pandemic began — losses that may continue to mount in the months and years ahead, especially if the virus resurges and new pandemics of equal or greater severity emerge. And while many policyholders are interested in pandemic risk coverage, insurers are reluctant to accept unlimited risk on their balance sheets.

For these reasons, a new solution is required for this systemic risk.

## BROAD BUSINESS SUPPORT FOR A PUBLIC-PRIVATE PANDEMIC RISK SOLUTION

The business community at large — and risk professionals, specifically — has expressed widespread support for a government-backed insurance solution to protect against pandemic risk and a willingness to buy pandemic coverage in addition to their current purchases. In an April 2020 survey by RIMS — the leading insurance and risk management trade organization — nine in ten (91%) risk professionals expressed support for a pandemic or epidemic risk solution similar to TRIA.

A number of other trade bodies have similarly advocated for a public-private partnership to address pandemic risk. These include the National Retail Federation, National Restaurant Association, National Multifamily Housing Council, and American Hotel & Lodging Association.

A pandemic risk insurance facility can help limit — but not eliminate — private sector risk, providing critical assurances to lenders and equity markets and helping to accelerate economic recovery. It can also limit the financial impact of a future pandemic by absorbing the initial shock, enabling businesses to retain employees and meet financial obligations through the peak of uncertainty.

A range of risk-pooling models — from pure private partnerships to state-financed funds for non-insurable risks — can be used to address difficult risks (see Figure 6).

Nearly two decades since its initial passage, the federal terrorism backstop should be seen as a model public-private partnership that has facilitated the creation of a viable insurance market for a risk that was previously considered unthinkable, and ensured the stability of both the insurance industry and overall economy. A federally backed pandemic risk insurance program can achieve many of the same goals today.

Lawmakers in the US and globally are currently exploring a variety of public-private risk pooling models. On May 26, 2020, the Pandemic Risk Insurance Act of 2020 (HR 7011) was introduced in the US House of Representatives, calling for a program that resembles the TRIA model but with more capacity to meet the potentially greater financial losses that can result from pandemics. In April, a steering committee of leading UK insurance industry executives announced it is exploring a model based on the country's public-private terrorism risk program, Pool Re. Also in April, a working group created by France's Ministry of Finance that includes the Association of Corporate Risk and Insurance Management, an industry trade group, and CCR, a public sector reinsurer, said it is developing a program that will include both public and private funds at risk.

Like public-private pooling programs for catastrophic perils, such as flooding, terrorism, and crop hazards, pandemic risk pooling programs will likely vary by country, based on the unique risk profiles and risk tolerance of each economy. Successful models will leverage the credit of central banks to drive affordability and create the economic incentives needed for all stakeholders to enact measures to mitigate pandemics.

FIGURE  
**6**

A public-private insurance/reinsurance mechanism could be developed in several ways.

SOURCE: GUY CARPENTER, MARSH

← Private ————— Public →



### SEMI-PRIVATE POOLING REINSURANCE SCHEME

- Joint entity created by insurers to pool risk and share knowledge.
- Participation may be voluntary or legally mandated.
- Financing primarily provided by the private sector, with limited (if any) initial government financing and typically no committed reserve.



### PUBLIC-PRIVATE PARTNERSHIP (PPP) REINSURANCE SCHEMES

- Structured risk sharing model between policyholders, insurers, and government.
- Government explicitly provides backing to the private sector to cap exposure and drive affordability.
- Participation may be voluntary or legally mandated.



### PUBLIC FUNDS FOR NONINSURABLE RISKS

- Pure government setup, without any direct private involvement (other than aligning coverage).
- Fund is created with a reserve, built up over time, that can be used to pay out claims in the event of a pandemic.
- Claims against the fund should be aimed at covering risk events that cannot be covered by existing insurance offerings.

#### RELEVANT OPTIONS FOR MANAGING PANDEMIC RISK

Given their global nature, pandemics are unlikely to offer insurers and reinsurers any diversification. Some form of public support will likely be required to enable viable insurance and reinsurance markets.



# Public-Private Partnership Precedents

Beyond the US terrorism backstop, several other risk pooling schemes that exist globally can provide valuable lessons for both the public and private sectors (see Figure 7).

Other risk financing mechanisms for pandemic response geared towards countries on a global and regional level are also worth examining.

**The World Bank's Pandemic Emergency Financing Facility (PEF)** is a first-of-its-kind disaster risk financing mechanism focused on large epidemics and pandemics. The intent of PEF is to provide countries and response agencies with a rapid infusion of funds to help cover the cost of disease response activities, such as additional human resources — including clinicians and community health care workers — personal protective equipment, vaccines, and therapeutics. The COVID-19

pandemic has triggered a payout of \$195 million. PEF has previously paid out smaller amounts for other epidemics, including two Ebola epidemics in the Democratic Republic of the Congo. Future iterations of PEF-like structures are likely to incorporate lessons learned from the first iteration.

One of the greatest challenges in epidemic and pandemic response is the timely identification and control of local outbreaks. Given their limited resources, low- and moderate-income countries — frequent hotspots for pandemic emergence — are often substantially slower than high-income

countries to identify and control infectious disease outbreaks, and generally lack robust contingency plans and emergency financing for disease control. An innovative pilot approach to address this problem is the **African Risk Capacity** outbreak and epidemic sovereign insurance program, which will establish a pool of capital that can be rapidly deployed early in outbreaks. The program is designed to incentivize countries to improve surveillance and report events early by linking payouts to the declaration of events and linking contingency plans to coverage in a way that encourages rapid efforts to quench early outbreaks before they become epidemic or pandemics.



FIGURE  
7

Existing risk pooling structures can offer several lessons.

SOURCE: MARSH

Significant loss events or changes in how risks are modeled can lead to market-wide capacity withdrawal.

TRIA was passed in 2002 following a widespread withdrawal of commercial terrorism cover by reinsurers after the September 11, 2001, terrorist attacks.

Flood Re was developed to provide affordable flood risk cover to the approximately 3% of UK homeowners living in high flood risk areas. Industrywide improvements in flood risk modeling had made coverage unaffordable for this cohort.

Extreme risks typically require some form of government backstop.

Government treasuries are the insurer of last resort on multiple loss sharing schemes. For example, the US National Flood Insurance Program (NFIP), the UK's Pool Re, and France's CCR Cat Nat and Gestion de l'Assurance et de la Réassurance des risques Attentats et actes de Terrorisme (GAREAT) have unlimited guarantees. TRIA, the Australian Reinsurance Pool Corporation (ARPC), Germany's Extremus, and the Netherlands' Nederlandse Herverzekeringsmaatschappij voor Terrorismeschaden (NHT) have limited guarantees.

Public-private partnerships provide credibility and can be structured to gradually shift risk to the private sector.

The US government's terrorism backstop enabled insurers to access affordable reinsurance for terrorism coverage. Over time, federal reinsurance participation in the program has fallen from 90% in 2002 to 80% in 2020, while insurer deductibles have risen from 7% of premium in 2002 to 20% in 2020. Insurer retentions have also increased, from \$5 million in 2002 to \$200 million in 2020.

The UK government's backing of Pool Re similarly enabled insurers to access affordable terrorism reinsurance. Over time, the Pool Re fund grew and private reinsurer confidence was restored, to the point that £2.4 billion of reinsurance cover is now purchased. As a result, a loss fund of approximately £10 billion (including member retentions) sits between the consumer and the government needing to step in.

Programs can be used to incentivize the adoption of preventive measures.

Eligibility for the US flood risk program, NFIP, requires communities to adopt and enforce strict floodplain ordinances and offers premium discounts for outstanding performance.

While there is no direct requirement for risk mitigation by Pool Re stakeholders, premium discounts of up to 7.5% are available for insureds that proactively undertake such initiatives.

The US crop insurance industry supports continued agronomic research to determine how farmers can best incorporate risk management best practices in their operations and the impact those practices may have on insured crops.

The US SAFETY Act of 2002 was created to spur the adoption of improved security measures by offering to limit liability of companies providing anti-terrorism products and services for qualified vendors. Similar policies, coupled with a robust public-private insurance market, could incentivize private sector adoption of prophylactic measures to drive down exposures.

Flood Re is intended as a temporary solution to be phased out by 2039. As such, the government has committed to major investments in preventive measures, while Flood Re has prompted insurers to work to enhance their understanding, mapping, and modeling of flood risk and their collection of data for improved underwriting.



## INSURANCE SOLUTIONS FOR SMALL AND MEDIUM ENTERPRISES

Compared to their larger peers, small and medium enterprises (SMEs) typically have smaller balance sheets, less capital, and less access to credit that can be used to meet financial obligations during a shutdown necessitated by a pandemic or epidemic. And according to the US Small Business Administration, businesses with 500 or fewer employees account for 47% of all private sector jobs.

As they develop new and innovative solutions to pandemic risks, it's critical that insurers consider the needs of SMEs, which will play a critical role in the economic recovery from COVID-19 and could experience disproportionate effects from future infectious disease events. Insurers should consider offering policies with shorter duration deductibles and parametric triggers that enable rapid claims payments to SMEs during the early stages of a pandemic or epidemic, allowing them to maintain payroll and improve their chances of remaining operational.

# Working Together to Bend the Risk Curve

A government-backed pandemic risk insurance program can provide valuable peace of mind to businesses and organizations as they recover from the effects to date and prepare for the potential reemergence of COVID-19 or another future epidemic or pandemic. But as with traditional insurance solutions for other risks, it is by no means the only way to manage infectious disease risks. Insurers, the private sector, and the government must work together to improve national and organizational resilience, bending the risk curve so that pandemic events can be better anticipated and their impacts better contained.

## The Role of Insurers

Beyond their role in issuing and administering pandemic insurance policies in a new marketplace facilitated by a federally backed program and reimbursing policyholders for claims following losses, insurers can play a critical role in developing and encouraging the adoption of pandemic loss reduction measures. The insurance industry has a strong track record of helping businesses of all sizes mitigate critical risks, including natural catastrophes, workplace hazards, cyber threats, and more. That institutional knowledge and expertise can be put to use to similarly help businesses understand and manage pandemic risk.

Specifically, insurers — in concert with insurance brokers and other advisors — can help businesses:

- **Better understand their critical risks.** COVID-19 has made clear that many businesses have not fully contemplated the range of effects that an outbreak, epidemic, or pandemic can have on their people and operations, critical infrastructure, and governments. Greater investment by the insurance industry in data collection and modeling tools can help insurers, brokers, and businesses to anticipate and quantify potential risks.
- **Obtain insurance coverage to meet their unique needs.** Ideally, insurers will not offer one-size-fits-all coverage solutions to prospective buyers. As with terrorism insurance policies made available via the federal backstop, buyers should be able to customize the pandemic insurance policies they purchase — for example, selecting specific infectious disease risks to insure and adjusting limits to meet their risk tolerance and other preferences.
- **Enact practices to prevent pandemic-related losses.** Insurance buyers seek to mitigate their property, workers' compensation, and cyber risks through superior building techniques, workplace safety programs, and cybersecurity programs. Insurers reward policyholders that can demonstrate their commitment to such processes in the form of more favorable pricing and terms and conditions. A federally backed pandemic risk insurance program that encourages improvements in health and safety practices can yield similar benefits.



# The Role of the Private Sector

The private sector was largely caught off guard by COVID-19. The immense costs dictate that in a post-COVID-19 world, governments, shareholders, lenders, and ratings agencies will request, and in some cases require, that corporations develop a clear view of their exposure to epidemic risk and document their mitigation plans, which will include risk assessments, response plans, and insurance coverage.

## Dynamic Corporate Decision-Making

Traditional resilience measures are not necessarily suitable when contemplating pandemic risk management strategies and immediate response actions. Effectively mitigating this risk demands that corporate boards, senior management, and risk management teams evolve how they view, measure, and act on risk.

Historically, measurement has been viewed at worst as a compliance exercise and at best as a process that seeks to protect an organization's value. The immediate lesson of the pandemic is that the process itself must be dynamic and owned by boards.

Specific metrics can help organizations make critical decisions while facing uncertainty. These metrics include:

- Measures of risk aggregation and interdependencies — first-party and contingent — across the value chain.
- Resilience metrics tied to how much stress an organization can withstand — at what points in the value chain — in order to better understand how stress could reduce decision-making options.
- Intelligence layers that enable early warnings and guideposts to navigate a pandemic crisis and provide “barometers” for key decision paths.
- Evaluations of counterparty risk, which includes collecting metrics on third parties — such as suppliers and key partners — on which they depend.

The ability to construct risk forecasts that evaluate future risk is also necessary. Scenario-based stress testing methodologies allow for the investigation of different outcomes and assumption sets. Such an approach can inform and shape understanding of future risk scenarios, enable the evaluation of potential value chain shocks, and challenge assumptions in an organization's strategy. This can help organizations evaluate risk capital investments, including the tradeoff between resilience and efficiency, from a potential return on investment perspective. It also can help leaders contemplate the ways in which their organizations are most at risk and how non-correlated factors can create disruptive forces.

It also can help organizations demonstrate to underwriters and equity markets that the next pandemic will not be fatal to their balance sheets so they can continue to secure coverage and attract investments. The capacity for businesses to anticipate changes and adapt in ways that continuously build and deliver value for customers is crucial to this process.

## EPIDEMIC RISK ANALYTICS

The effect of an epidemic or pandemic on every organization will be different, depending on their characteristics and circumstances, including industry, geographic footprint, supply chain structure, employee density and demographics, and product or service types and consumption. For example, companies moving people and packages by air may share a range of attributes, but their individual epidemic risk exposure could be significantly different.

Epidemic risk analytics can provide the tools needed for understanding the specific risks faced by various industries and individual organizations. Analytics can enable organizations to develop and optimize different preparedness and response strategies. Software tools can also allow organizations to aggregate and visualize historical and real-time epidemic data, which can better enable epidemic risk measurement, mitigation, and management.

## Protecting People

In preparation for a possible reemergence of the coronavirus in the near future — and ahead of future outbreaks, epidemics, and pandemics — it is incumbent on organizations to build the necessary infrastructure to help protect the health of their employees, customers, and visitors to the workplace. Organizations can also help limit potential disruptions to their employees' lives and accelerate and ease their return to work following future stay-at-home periods.

Among other actions, risk professionals — working with health officials, HR staff, and others — should focus on:

- **Proactive local screening.** Epidemics and pandemics often start small, but can quickly grow. To mitigate risk and maximize containment, businesses must be able to detect disease patterns at the local level and on site. Techniques such as big data analytics and computational epidemiology can help organizations model, understand, and control the diffusion of disease. Analyzing trends in news reports and on social media, for example, can help spot the emergence of a flu epidemic before any formal declaration from the WHO or other health authorities.
- **Locating employees and contact tracing.** COVID-19 has made clear how important it is for businesses to be able to quickly locate employees and conduct rigorous contact tracing, both of which are core disease control measures and key strategies for slowing or preventing the spread of disease. While widespread monitoring will inevitably raise concerns about privacy, businesses will need to consider the tradeoffs from both a humanitarian and economic perspective.
- **Digital health and telemedicine.** If not in use already, these tools can help employers help their employees reduce their physical exposure to health care and hospital settings. This can support efforts to slow the spread of viruses, bacteria, and other pathogens in the workplace and the larger community.
- **Mental health and employee engagement.** Businesses need healthy, emotionally sound, and engaged employees in order to be productive. Efforts should be made to ensure connectivity — at formal and informal levels — between employees and with management if a pandemic forces social distancing.

## Protecting Operations

Organizations cannot predict where the next pandemic will occur. Its specific impact will depend on several factors, including the virulence and transmission rate of the pathogen. But a well-tested, tiered — or phased — action plan outlining company preparedness, response, and recovery actions can help them better prepare and be more agile. Such plans should anticipate potential

questions from senior leaders, employees, and others, and set precise criteria for specific policy and procedure implementation, including when and how to close or modify business operations, engage alternative suppliers, or direct employees to work from home or return to workplaces.

## The Role of Government

While the private sector can and should learn lessons from the current COVID-19 crisis in order to better prepare for the next pandemic event, governments at all levels can do much to help manage and mitigate current and future pandemic risk.

COVID-19 has highlighted the need for federal, state, and local governments — in conjunction with national and global health organizations — to focus on three areas:

- **Preparedness.** Federal, state, and local governments must stockpile more equipment, including ventilators, masks, and other types of PPE that have become incredibly valuable commodities for some communities. Crisis response plans are also key, provided they are updated now, to reflect lessons learned from COVID-19 and regularly tested through tabletop exercises and other means. Governments can also encourage and facilitate data-sharing efforts by both the private and public sectors, which can aid preparedness and response efforts.
- **Mitigation.** Largely, mitigation steps — including social distancing, handwashing, wearing masks, and more — are the responsibility of individuals. Governments can support these efforts by providing guidance and education to people and businesses about how they can prevent or slow the spread of the disease. Governments can also facilitate mitigation by providing guidance on how to protect essential workers during a pandemic or epidemic.
- **Insurance.** While commercial insurers excel at allowing businesses, public entities, and nonprofit organizations to transfer the risks related to natural hazards and other critical risks, a pandemic could result in virtually unlimited losses — which, today, are largely uninsured. Historically, insurance coverage for the risks related to infectious disease has been limited or available only at a high cost. And public entities have relied largely on Federal Emergency Management Agency disaster funds or ad hoc funding measures to mitigate financial losses. A federal backstop can facilitate the creation of a viable insurance market that can offer affordable coverage for businesses, public entities, and nonprofits and provide crucial peace of mind to businesses.

Collectively, focusing on these areas can help build economic resilience and national readiness.



# A Call to Action

The first half of 2020 has illustrated the potential harm that a serious infectious disease event can inflict on people, businesses, governments, and economies — and the limitations of the commercial insurance market in delivering protection from that harm. While the insurance industry clearly has a role to play in developing new solutions to outbreaks, epidemics, and pandemics that incorporate lessons we are learning today, it cannot go it alone.

Ultimately, a public-private pandemic risk solution — with participation by insurers, businesses, and the federal government — is our best option for enabling a smooth and quick economic recovery and protection from future events.

## ABOUT MARSH

Marsh is the world's leading insurance broker and risk adviser. With over 35,000 colleagues operating in more than 130 countries, Marsh serves commercial and individual clients with data driven risk solutions and advisory services. Marsh is a wholly owned subsidiary of Marsh & McLennan Companies (NYSE: MMC), the leading global professional services firm in the areas of risk, strategy and people. With annual revenue over US\$15 billion and 75,000 colleagues worldwide, MMC helps clients navigate an increasingly dynamic and complex environment through four market-leading firms: Marsh, Guy Carpenter, Mercer, and Oliver Wyman. Follow Marsh on Twitter [@MarshGlobal](#); [LinkedIn](#); [Facebook](#); and [YouTube](#), or subscribe to [BRINK](#).

## ABOUT METABIOTA

Metabiota has over a decade of experience partnering with industry and governments worldwide to build resilience to epidemics and protect global public health. Metabiota has expert capability to quantify, mitigate, and manage epidemic risk, supporting global health security and sustainable development. The company is headquartered in San Francisco, California, with additional offices in Washington, DC, Cameroon, and the Democratic Republic of the Congo (DRC). Metabiota's team includes global leaders in epidemiology, veterinary medicine, laboratory science, data science, actuarial science, social science, and political economics, and serves some of the most respected customers in the corporate, insurance, government, and multilateral sectors.

Metabiota has developed a unique data analytics platform to quantify epidemic risk, the Global Epidemic Monitoring and Modeling platform. This platform combines proprietary real-time and historical data, artificial intelligence, economic and risk modeling, and indices. Metabiota's platform houses the most extensive infectious disease modeling catalogs in the industry, as well as a structured outbreak dataset having over 2,500 outbreaks spanning more than 50 years. Metabiota uses the latest scientific understanding of disease progression to create pathogen-specific disease spread models, resulting in hundreds of thousands of realistic simulations of a disease's spread that allow for estimating the frequency and severity of potential epidemic scenarios. Metabiota has also developed an epidemic preparedness index to measure countries' capacities for epidemic detection and response, along with a sentiment score to estimate the level of fear and potential economic losses an epidemic can cause. These tools enable companies, insurers, and governments to assess risk accumulations, implement innovative risk mitigation strategies, and bring new epidemic and pandemic risk transfer products to market. For more information, visit [www.metabiota.com](http://www.metabiota.com).

## ABOUT THIS REPORT

This report was prepared by Marsh and Metabiota. Other businesses of Marsh & McLennan — including Guy Carpenter, Oliver Wyman, and NERA Economic Consulting — also contributed.

For more information and insights from Marsh on pandemic risks and solutions, visit [coronavirus.marsh.com](http://coronavirus.marsh.com) or contact your Marsh representative.

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### **John Q. Doyle**

John Q. Doyle is president and chief executive officer of Marsh LLC. He also serves as vice chair of Marsh & McLennan and is part of Marsh & McLennan's executive committee. Marsh is a business of Marsh & McLennan and it is the world's leading insurance broker and risk advisor with nearly 40,000 colleagues operating in over 130 countries.

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