



Coronavirus and Commercial Insurance

What past global crises can teach carriers
about surviving COVID-19



Executive Summary

Previous forecasts of potential pandemics underestimated the economic impact of the current pandemic by a factor of as much as 10x. In 2005, the U.S. Department of Health and Human Services predicted initial economic costs of a pandemic could be near \$265 billion (in 2020 dollars).

In the months following both the 1918 Spanish flu pandemic and the 2003 SARS outbreak, economic activity recovered relatively quickly. Our own analysis of workers' compensation data confirms this pattern for the Great Recession of 2008-2009.

While many businesses will not make it through the current crisis, new businesses will be founded in the wake of the economic fallout to take advantage of the inevitable rebound.

We recommend the following actions for commercial carriers:

1. PROMOTE A BRAND PRESENCE OF STABILITY

Carriers are built precisely to weather financial crises such as these. Effective brand strategy will convey this to worried customers and communicate calm to the broader community.

2. NURTURE CURRENT CUSTOMERS

Prepare resources that will help businesses navigate securing the loans, grants and/or funding

necessary to help them survive. Every insured business represents owners, families, employees and customers. While we are confident that there will be an eventual recovery, millions of lives have been (and will continue to be) affected by coronavirus.

3. REDUCE THE EXPENSE TO ACQUIRE NEW CUSTOMERS

Churn will increase significantly and it will be critical to minimize expenses associated with new business. If you haven't already, implement technology that helps make your underwriters and agents more efficient. Build towards straight-through-processing.

4. ANTICIPATE HIGHER CLAIMS

While the risk of mortality has remained low in most working-age demographics, possible long-term after effects of the disease may exacerbate the severity of future claims. Such effects are well-documented in the case of SARS. This could have particular implications on lines like Worker's Compensation where the relationship between claims cost and comorbidities is well-established.

5. EVALUATE ASSUMPTIONS

Evaluate older models that were constructed assuming growth. In particular, we are advising clients to investigate premium audit, as many of the more sophisticated models were trained on data from 2009-2019.

Introduction

On March 17th, I took a walk with my daughter. It was just like other walks we'd taken before – except it wasn't, not at all. It was Day #2 of my family's transition into 'shelter in place', and I was struggling to communicate the full magnitude of what we're living through to my daughter. My kids see the quickly adopted changes – the social distancing, the isolation, the sudden shift to full-time remote work and school – and they know that strange times are upon us. But how do I teach my kids how significant this moment is while also trying to maintain a sense of normalcy in a time where nothing feels normal and our only constant is the uncertainty that lies ahead of us?

I suspect many of you are experiencing this same surreal struggle. It's tough to grapple with all the uncertainty, especially when life as we know it transforms so quickly you can barely keep up with all the changes. A week before my walk with my daughter – March 10th – life felt so normal. I sat working in my (non-home) office, thinking about my imminent business trip. Around me, Denver restaurants bustled, the NBA season was in full swing, and the news alerts popping up on my phone didn't (always) fill me with anxious dread.

And seven days later, as I walked with my daughter, everything had changed. The contrast was remarkable. By the time you read this whitepaper, even more will have changed. But amidst all this fear and confusion lies a silver lining for most insurers: you are built to survive uncertain times just like this. Most insurers were around for the 1918 Spanish Influenza, the Great Depression, both World Wars, 9/11, the Great Recession, and countless other impactful events. Insurers have made it through some of our darkest moments, and you may be more prepared to weather this one than you might think.

The past informs our present, and our goal in writing this is to thoughtfully examine past events that could help commercial insurers anticipate what may lie ahead. This whitepaper will examine the 1918 Spanish influenza, the 2003 SARs outbreak, and the Great Recession of 2008-2009 through the illuminating lens of hindsight to help commercial insurers understand what we've learned from past struggles, what to expect as this pandemic develops, and specific recommendations to prepare to survive the fallout of COVID-19.

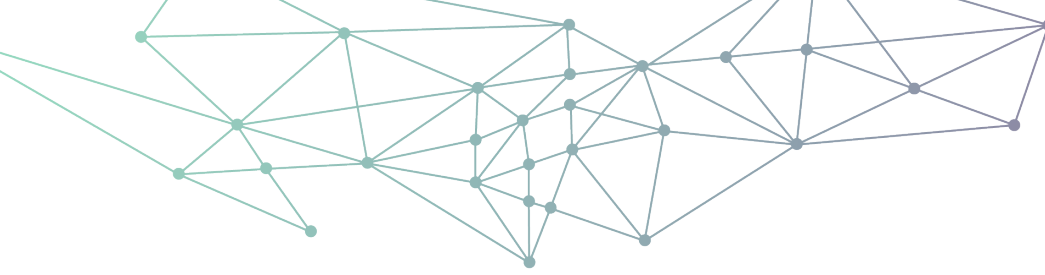
A handwritten signature in black ink that reads "Lance Poole". The signature is written in a cursive, flowing style.

Lance Poole
CEO, Juniper Labs

PART I

Past Pandemics





The Spanish Influenza (1918-1919)

The most devastating pandemic in recent history was the 1918-1919 Spanish Influenza. This pandemic occurred in three waves: the first in spring 1918, a second deadly wave in fall 1918, and a third and final wave that further afflicted some regions in early 1919.

Spanish Influenza killed at least 40 million people worldwide, with the United States experiencing a death toll of 675,000 people, with casualties far exceeding the combat deaths suffered by U.S. soldiers in the two World Wars, Korea, and Vietnam combined.¹

In contrast with the coronavirus, the Spanish Influenza was deadlier for people with stronger immune systems (as opposed to COVID-19 which poses more of a threat to those with weaker immune systems).²

One unlikely benefit of the flu was an increased demand for life insurance.



According to the National Underwriter, the 1918 flu “brought forward the benefits of insurance to the people in a way that they had not appreciated.”³

The St. Louis Federal Reserve recently looked at the news from the time of the 1918 flu and found stories confirming declining sales for some businesses while others thrived.⁴

Merchants in Little Rock at the time reported business declines of 40 percent, with some estimating the decrease in business to be closer to 70 percent.

Bed rest was emphasized in the treatment of Spanish Influenza. As a result, the flu pandemic sparked an increase in demand for beds, mattresses, and springs.

Ninety percent of Spanish Influenza fatalities were people under 40, and much of the economic damage in the wake of Spanish Influenza was due to the loss of so many prime, working-age employees.

Case in point: the Memphis Street Railway. The St. Louis Federal Reserve’s deep dive into the past found a newspaper clipping that saw the Memphis Street Railway’s transportation department reduced by 124 workers (out of 400 total) in just a single day, with significant service delays as a result.

Unlike the Spanish flu, the brunt of the economic damage we’re witnessing during this pandemic is a result of business closures due to necessary quarantine measures enacted to slow the spread of coronavirus, as opposed to mass casualties in the workforce. According to the CDC, the mortality rate for those in prime working age (20-54) infected with COVID-19 is, as of this writing, less than one percent.⁵

The Spanish Influenza (cont.)

Though there are reports of cancellations of large public gatherings during the Spanish Influenza, quarantine efforts were nowhere near as expansive as the widescale, global quarantines we are experiencing today.

With coronavirus, thousands of businesses have seen 100 percent decreases in sales.

In the wake of earlier pandemics, both the Federal Reserve and the European Union developed models to understand the impact of a global pandemic on the scale of what we are currently experiencing

In terms of health outcomes, these models align with what epidemiologists studying coronavirus have predicted (for example, see the [Imperial College's impact of non-pharmaceutical interventions \(NPIs\) to reduce COVID19 mortality & healthcare demand](#)).

In the most severe scenario, 90 million Americans are infected, corresponding to a morbidity or gross attack rate of 30 percent. Of these cases, about 2 million are assumed to die, with an anticipated mortality rate (case fatality rate) around 2.5 percent. In the mild scenario, the attack rate is set at 25 percent & the fatality rate 1.14 percent.⁶

And while the Federal Reserve and E.U. models might be (thus far) accurate in terms of projected infection and death rates, it appears that their modeling may have significantly underestimated the economic impact by a factor of up to 10x.

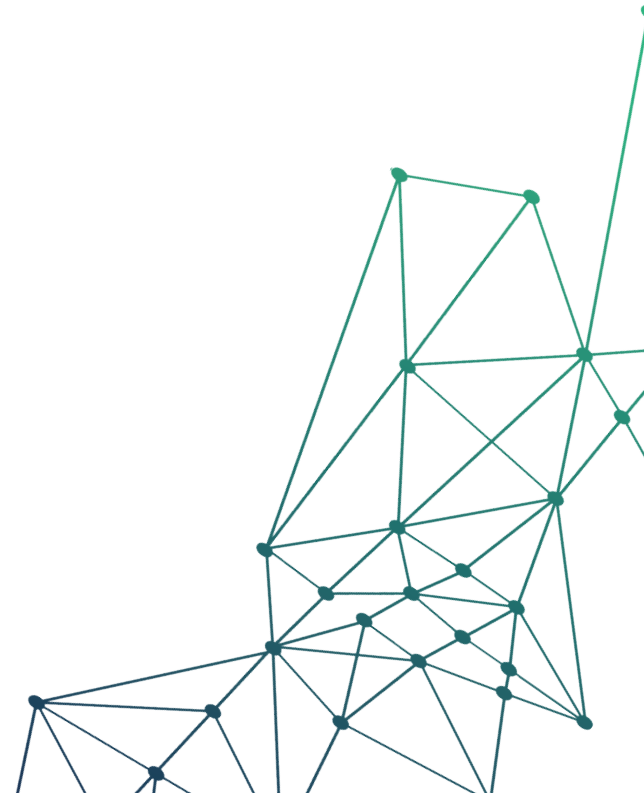
In 2005, the U.S. Department of Health and Human Services predicted initial economic costs of a pandemic could be near \$265 billion (in 2020 dollars).⁷

In reality, the current fiscal impact of the pandemic in the United States is estimated to be as high as \$7 trillion.⁸

With the passing of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), which was signed into law March 27, 2020, Congress has committed to providing \$2 trillion of aid to workers and businesses; therefore, \$2 trillion of impact is a reasonable floor.

It's clear that what we are experiencing now is far more economically destructive than previous models anticipated. But that doesn't mean we won't see a recovery.

For a case study of what post-pandemic recovery can look like, let's examine the SARS outbreak in 2003.



The SARS Epidemic (2003)

The SARS epidemic drew to a close in July 2003, resulting in a total of 8,422 infections and 813 deaths.⁹ Fortunately, the outbreak was mostly confined to China, which explains the smaller number of cases relative to COVID-19.

From the chart below, we can see the economic impact of SARS and the corresponding recovery.¹⁰

IMPACT OF SARS IN HONG KONG DURING THE 2ND QUARTER OF 2003. QUARTERLY GDP GROWTH PERCENT



While GDP in Hong Kong steadily declined during the epidemic, this was quickly followed by a dramatic rebound in the corresponding months after the pandemic was over. This type of recovery has important implications for commercial insurers that we will address in our recommendations.



The SARS Epidemic (cont.)

In summary, there are a few key learnings we believe are important:

- ▶ No one envisioned the staggering economic impact of a shutdown of the global economy. Prior estimates were off by at least 10x.
- ▶ The Spanish Flu hit in three waves. Even as total cases begin to crest and eventually decline, we could see a wave of new cases in the fall of 2020 or early 2021.
- ▶ There is always a recovery. In both the Spanish Flu and with SARS, the economy rebounds within one to two quarters of decline.

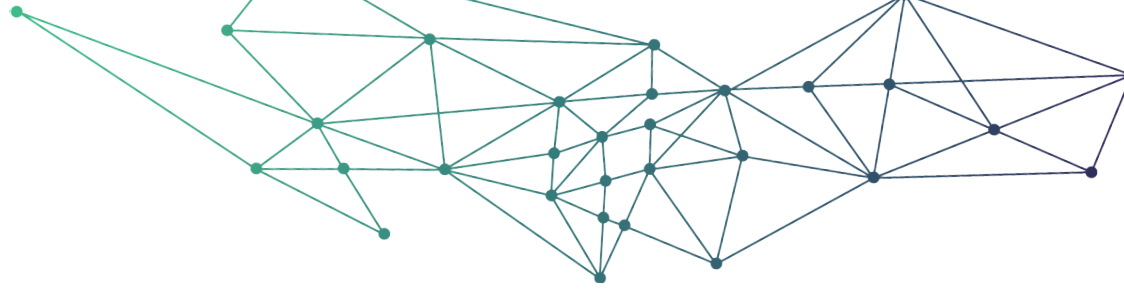
Furthermore, while we can be confident in an eventual rebound, two factors encourage caution in discerning a v-shaped versus a u-shaped recovery:

- ▶ The significantly smaller scale of SARS (8k total infections) significantly localized the economic impact of the pandemic. With the larger economic super-structure largely unaffected, we infer that the affected areas were able to rely on the intact supply chains to boost rebound growth. With a broader scale of pandemic, this assumption may not hold.
- ▶ The duration of SARS was bounded to a period of November 2002 to July 2003, with the most severe periods occupying a span of a few months. By contrast, the duration of the current pandemic could be significantly longer (assuming that current epidemiological models hold, along with aggressive assumptions about curtailing the spread of the disease).

PART 2

Lessons from the Great Recession





Lessons from the Great Recession

Coronavirus is already disrupting many small businesses, and we haven't yet seen the apex of the virus in America.

The current pandemic is already having disastrous consequences in many industries; one such example of the economic impact can be seen in the restaurant industry.

On March 18, 2020, the National Restaurant Association sent a letter to the President and to the leaders of the US House of Representatives and Senate.

The letter warns that the National Restaurant Association predicts "sales to decline by \$225 billion during the next three months, which will prompt the loss of between five and seven million jobs."¹¹

For an industry with 15.6 million workers, these projected losses are more than significant; they're devastating.

Much has already been written about the crushing impact of the Great Recession on the economy.

But in light of the current pandemic, which has the potential to be more economically destructive than the '08-'09 recession, we opted to perform our own research on the Great Recession.

We want to answer the following questions:

- ▶ How were small businesses impacted relative to large businesses?
- ▶ What type of companies were impacted?
- ▶ How quickly did affected businesses recover?

Unsurprisingly, our investigation resulted in some nuanced results. In other words, we've got good news and bad news.

THE DATA

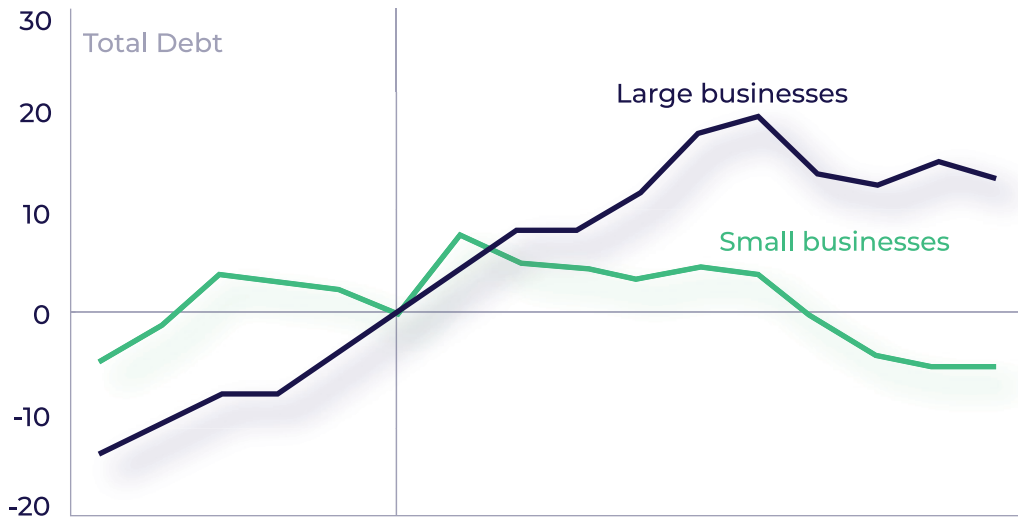
We examined Workers' Compensation data from Oklahoma for 2008-2012.¹² Most states will provide proof of coverage for businesses that operate inside of its borders. In addition to providing other key data points, Oklahoma also provides total payroll figures, so we can more accurately estimate changes in overall employment.

THE SMALL-BUSINESS IMPACT

It's somewhat obvious that small businesses are more susceptible to a recession compared to larger enterprises.

It should come as no surprise, then, that the Great Recession saw large businesses take on more debt than smaller businesses to help them weather the economic storm (see the chart below which shows large business vs. small business debt from 2008-2009).¹³

PERCENTAGE CHANGE FROM 2004 Q4



This trend was also born out in data we reviewed. In 2009, smaller businesses in Oklahoma reduced staff by 10 percent, compared to larger companies which only reduced headcount by six percent. In total, the overall payroll reduction was \$1.4 billion in Oklahoma alone.






As we mentioned, our investigation resulted in some bad news. The bad news is that – if you believe the pandemic will be 3x as destructive as the Great Recession – then that would equate to an overall payroll reduction of 24 percent. But the good news is, based on what we can gather from '08-'09 data, that there will be a recovery. And in that recovery, new businesses will be created. The table below shows both business failures and creation during the period from 2009-2011:

	2009	2010	2011
# of Companies	47,681	47,232	46,891
# that Fail	6,754	6,607	6,507
# that Start	6,305	6,266	6,090



Out of almost 48,000 businesses that had workers' compensation coverage as of January 1, 2008, more than 6,700 businesses (or 14 percent) failed. But during 2009, more than 6,000 new businesses were started. We see a similar pattern in 2010 and 2011. While some companies fail, others still are started in order to capitalize on opportunities that exist in an evolving market.

Of course, because the 2009 crisis was so intrinsically tied to the housing market, the hardest hit businesses were those in manufacturing sectors. The table below shows how various industries fared in '08-'09:

	COUNT	FAILURE RATE	PAYROLL CHANGE
 CONSTRUCTION	16,772	21%	1.1%
 RETAIL TRADE	6,890	12%	-0.8%
 MANAGEMENT OF COMPANIES	5,179	11%	-1.9%
 HEALTHCARE	4,074	10%	4.1%
 ACCOMMODATION & FOOD SERVICES	4,313	16%	-32.6%






It's interesting to note that 21 percent of all construction companies failed in 2009, but of those that did survive, wages actually increased by one percent. Contrast that with accommodation and food services (hospitality and restaurants), where a lower percentage of businesses failed (around 16 percent) but payrolls tumbled by more than 30 percent.

During this crisis, we expect to see an even larger impact on the travel, food, and entertainment industries. This will have a large impact on carriers that provide workers' compensation, since premiums move down with decreases in payrolls.

THE RECOVERY

Another interesting metric we wanted to inspect was “recovery rate.” We define recovery rate as the number of new businesses (in a given category) created divided by the number of businesses that failed. For example, if 100 roofers fail and 50 new roofers start companies, we would calculate a recovery rate ~50 percent.

The figure below shows the recovery rate for various industries:

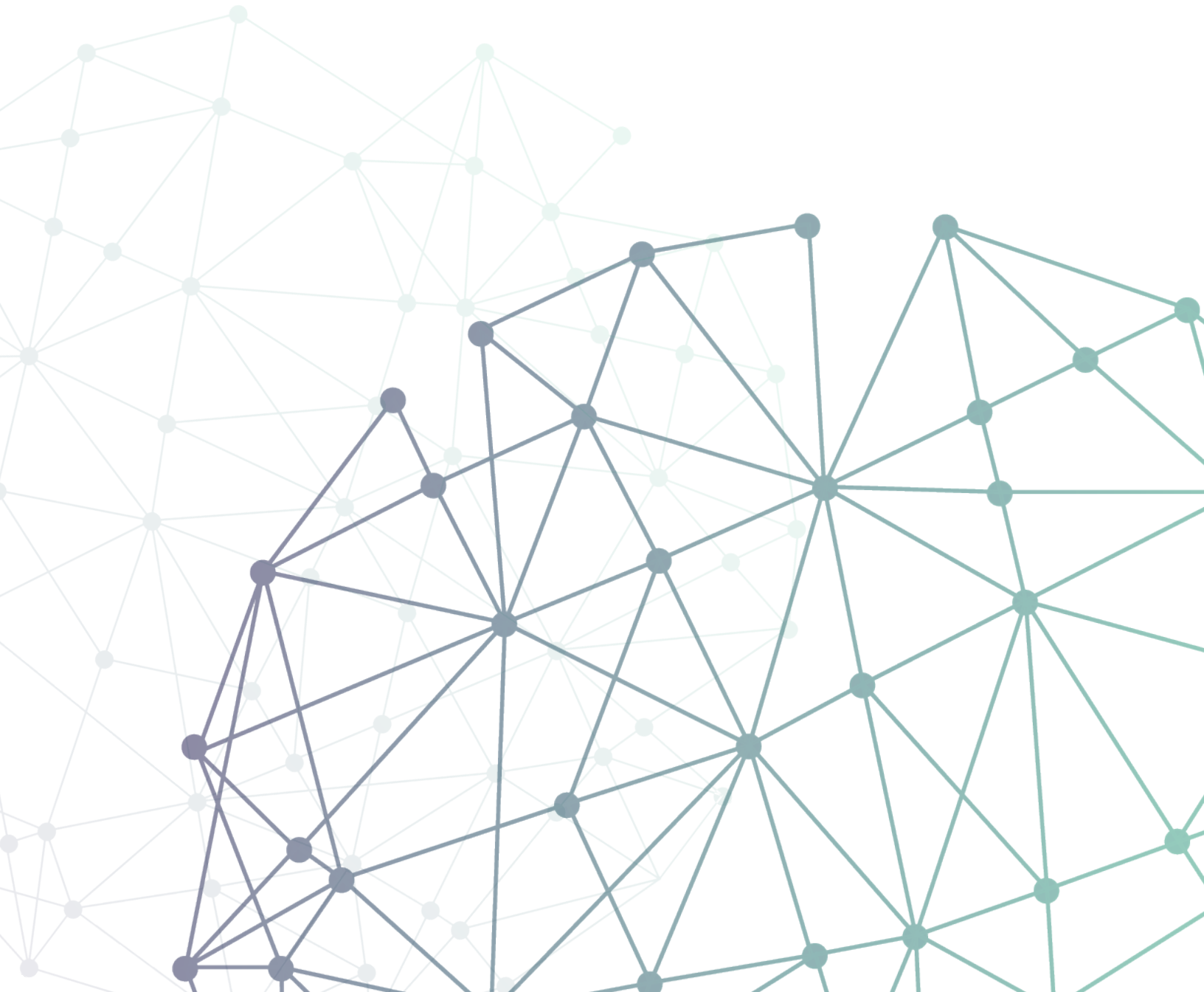
	FAILURES	NEW STARTS	RECOVERY RATE
 CONSTRUCTION	2,291	2,047	89%
 RETAIL TRADE	630	644	102%
 MANAGEMENT OF COMPANIES	406	383	94%
 HEALTHCARE	287	365	127%
 ACCOMMODATION & FOOD SERVICES	451	514	114%

Despite 451 businesses failures in the travel and restaurant industries, in 2009, 514 new businesses were started to meet demand. While some industries with higher barriers to entry (for example, construction) won't see recovery rates quite this high, there will still be impressive recovery.

Based on what we've seen in the recovery since the Great Recession, we believe that, while thousands of businesses will fail in the wake of this pandemic, thousands more will be started in the next few years. As a result, carriers will see record churn and potentially record sales in the SMB segment in 2021.

PART 3

Recommendations for Commercial Carriers



Recommendations for Commercial Carriers

If thousands of businesses are at risk of closing forever and many new companies will be born soon, what should carriers do to prepare?

1. PROMOTE A BRAND PRESENCE OF STABILITY

If you were to examine the top 100 P/C carriers in the United States, you'd find that over 40 percent survived the 1918 flu.



As one carrier touts, "We know a thing or two because we've seen a thing or two."

Use the knowledge you've gained throughout your tenure to care for your customers.

Carriers are built precisely to weather financial crises such as these. Effective brand strategy will communicate this to worried customers and convey calm to the broader community.

2. CARE FOR YOUR EXISTING CUSTOMERS

Prepare resources that will help businesses navigate getting loans, grants, and/or funding

that can help them survive.

Navigating the red tape to apply for disaster recovery may be more than some small businesses can manage alone, and you can offer unprecedented value to your customers if you help guide them in the right direction.

Every insured business represents owners, families, employees, and customers. While we are confident that there will be a recovery, millions of lives have been and will continue to be affected by coronavirus, and a bit of helpful compassion can go a long way.

3. MODERNIZE THE EXPERIENCE FOR NEW CUSTOMERS

Most carriers have had to focus on driving down expenses, but an increase in churn will only make lean operation more important.

It will be crucial that carriers create a path for straight-through-processing for the small businesses that will be applying.

Agents and brokers will also need to make changes to how they interact with customers.

Our prediction is that the pandemic will drive more demand for insurance purchases online. Carriers, agents and brokers should be ready for the increased demand.

4. ANTICIPATE HIGHER CLAIMS

While the risk of mortality has remained low in most working-age demographics, possible long-term after effects of the disease may exacerbate the severity of future claims. Such effects are well-documented in the case of SARS.¹⁴

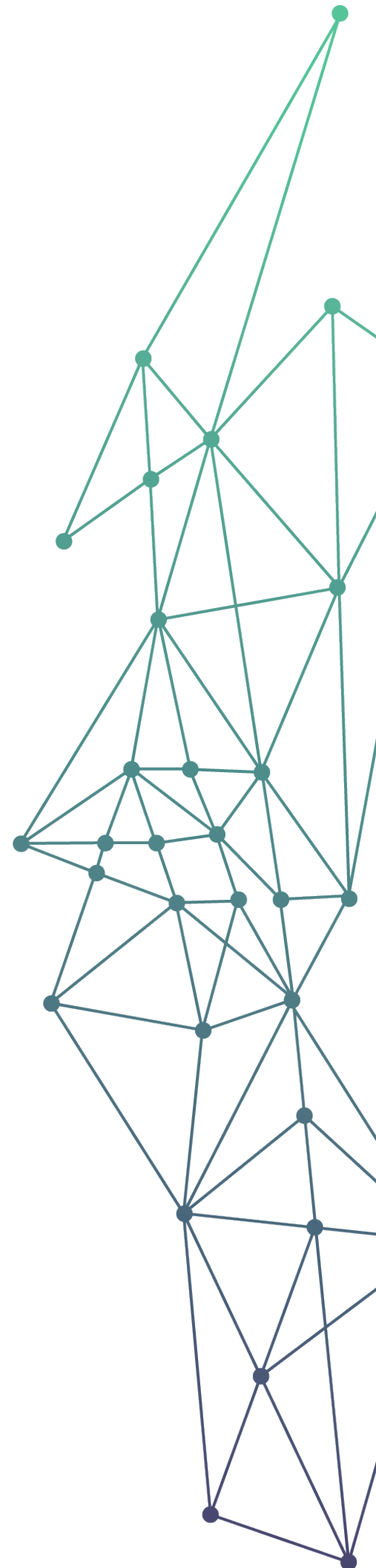
This could have particular implications on lines like Workers' Compensation where the relationship between claims cost and comorbidities is well established.¹⁵

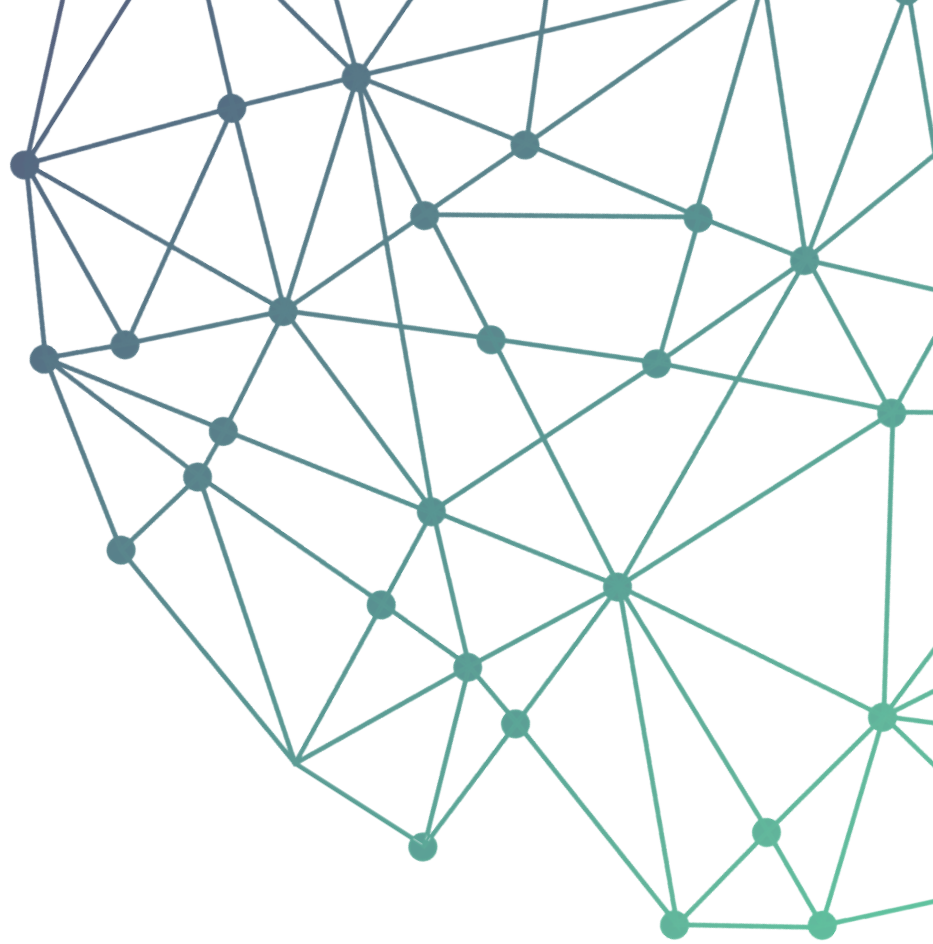
5. EVALUATE ASSUMPTIONS

If you've built models assuming constant payroll and employee count growth, now would be a good time to re-evaluate those models.

In the workers' compensation space, we are working with our customers to evaluate premium audit models. Since it's not feasible (or necessary) to audit the payroll of every customer, these models are typically used to determine which customers should be audited.

It would be helpful to look at data from '08-'09 to refresh the model on what it looks like when there is a substantial downturn in the economy.





Conclusion

We're all living in a state of flux. We have no idea what next week might bring, to say nothing of what the next six weeks or six months could look like.

Regardless of all that uncertainty, we firmly believe that established carriers will weather the crisis, just as they have throughout all the disruption experienced in the past 100 years. That said, surviving is not the same as thriving.

We believe that carriers can thrive post-crisis by taking action to care for their existing customers, prepare for the new customers, and examine the underlying assumptions that drive key models.

About Juniper Labs

Juniper Labs is an insurtech focused on automating key moments of the customer journey for commercial insurers, agents and brokers. They provide a suite of tools that can help with different elements of straight-through-processing.

If you are interested in learning more about Juniper Labs or working on a consulting engagement with our professional services team, please contact info@juniperlabs.io.



Citations

- ¹ The Economic Effects of the 1918 Influenza Epidemic - <http://www.birdflubook.org/resources/brainerd1.pdf>
- ² Ayres, Leonard. (1919). The War With Germany: A Statistical Summary. Government Printing Office, Washington D.C
- ³ <https://www.thinkadvisor.com/2018/09/18/the-spanish-flu-centennial-1918-flu-pandemic-hit-insurers-hard/?slreturn=20200224144821>
- ⁴ Economic Effects of the 1918 Influenza Pandemic. https://www.stlouisfed.org/~media/files/pdfs/community-development/research-reports/pandemic_flu_report.pdf
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- ⁶ https://ec.europa.eu/economy_finance/publications/pages/publication708_en.pdf
- ⁷ <https://www.cdc.gov/flu/pdf/professionals/hhspandemicinfluenzaplan.pdf>
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- ⁹ “CDC SARS Response Timeline | About | CDC,” July 18, 2018, <https://www.cdc.gov/about/history/sars/timeline.htm>
- ¹⁰ https://ec.europa.eu/economy_finance/publications/pages/publication708_en.pdf
- ¹¹ <https://restaurant.org/Downloads/PDFs/business/Natl-Rest-Association-COVID-Letter>
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