Predictive Resources llc

A Brief Examination of Overall US Mortality Rates During the COVID-19 Pandemic and Comparing "High-Risk" States

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TABLE OF CONTENTS

Introduction	3
Methodology	4
Visual Data	5
Key Findings	9
State Trends Loosely Follow National Trend	9
Hotspot State Trends do NOT Trend Together	9
Headlines Betray the Data	9
Conclusions	. 10
Key Takeaways	. 10



INTRODUCTION

As the world grapples with the novel Coronavirus pandemic, our industry is abuzz with increasing interest regarding pandemic-induced changes to overall mortality rates and possible effects on portfolio values and future purchases. Will pandemic deaths lead to new mortality tables? How are mortality rates in 'hotspot' states we hear about in the news – New York, California, and Florida, to name a few – compared against national averages? California, New York, and Florida are each a major focus for Life Settlement business. What about larger populations inside our market? Both Texas and Pennsylvania offer a large population, spread out in a variety of population densities. As pandemic-driven mortality changes are discovered and confirmed, we must be prepared as an industry to adjust our methodologies and account for these effects.

In this white paper, we examine national life settlement mortality rates leading into this pandemic, and how mortality rate data from California, Florida, and New York compare. We also look at two other states with large life settlement populations: Texas and Pennsylvania. We are looking for a clear and consistent trend of increased mortality rates in these states during the months coronavirus appeared in the United States. A consensus among states' data could mean we need to adjust our LE mortality underwriting to accommodate an increased mortality rate brought on by the novel coronavirus.

METHODOLOGY

We calculated overall monthly mortality rates of a closed life settlement population from January/2017 through May/2020. This data was collected as of July, meaning that mortality data from June and beyond is likely not fully developed. The mortality rates were calculated by dividing observed deaths in a given month by the total population at the beginning of the month. These results were then filtered to select CA, FL, NY, PA, and TX state data. We used these six data sets (1 national, 5 individual states) to graph the mortality rates for the three hotspot states, two high-population states, along with the national rates.

We focus on two years leading up to the pandemic through May of 2020. Do the individual states' mortality rates trend with national rates? Are they consistent? If they deviate, is there a demonstrable reason why? Finally, is there enough data to draw conclusions, and, if so, what are they?

We believe these charts will help identify trending changes to mortality from COVID-19. Once we examine each state's data, we may need to look at less densely-populated states, as well as other states significant to the Life Settlement industry (e.g. Arizona).

It is important to note that we would expect the mortality rates to trend upward over time as the closed population ages.

The charts immediately show which of the five states compare are above, below, or in line with the national average. California, Florida, and Pennsylvania are all trending above the national average, while New York and Texas trend lower than the national average. Pennsylvania and Florida both show remarkable spikes in 2020 as the pandemic goes on; New York and Texas, while both saw relative mortality rate spikes, remained under the national average. California doesn't appear to show a spike at all – more on that below.

VISUAL DATA

Key Findings and Conclusions refer to the following charts:



Figure 1: National, CA, FL, NY, PA, and TX Mortality Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)



Figure 2: California Mortality Rates Contrasted Against National Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)



Figure 3: Florida Mortality Rates Contrasted Against National Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)



Figure 4: New York Mortality Rates Contrasted Against National Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)



Figure 5: Pennsylvania Mortality Rates Contrasted Against National Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)



Figure 6: Texas Mortality Rates Contrasted Against National Rates from Jan 2018-May 2020 (Note Vertical Line at March 2020 When National Mortality Spike Began)

	Mortality	CA Mortality	FL Mortality	NY Mortality	TX Mortality	PA Mortality
	Rate	Rate	Rate	Rate	Rate	Rate
2020	6.669	6.199	8.150	5.380	5.556	8.277
Q1	4.933	6.027	6.351	2.460	3.715	5.792
Jan	4.697	5.955	6.063	2.349	5.556	3.826
Feb	5.029	6.199	5.670	2.827	3.000	5.286
Mar	5.073	5.926	7.328	2.204	2.580	3.863
Apr	6.669	5.958	8.150	5.380	3.883	8.277
Apr/Mar						
Spike	131.44%	100.54%	111.22%	244.09%	150.52%	214.26%
Apr/Q1						
Spike	135.19%	98.86%	128.32%	218.69%	104.52%	142.91%

Table 1: 2020 Mo	rtality Rates	(x1000) a	and Com	parisons

KEY FINDINGS

State Trends Loosely Follow National Trend

With exceptions in a few data points, the trend lines of California, Florida, and New York generally follow the national trend (Refer to Figure 1); when the national trend rises, the CA/FL/NY trends tend to rise. When the national trend falls, the CA/FL/NY trends tend to fall.

Exceptions worth noting include New York and Texas, which consistently have lower mortality rates than the national average (Refer to Figure 4 and Figure 6). Florida (Figure 3), Pennsylvania (Figure 5), and California (Figure 2) consistently have a higher mortality rate than the national average.

When we look at rates from 01/2017, national, CA and FL rates are lower in 05/2020. NY rates are up.

From 01/2020 to 05/2020 we see all rates increase, but California's rate of change is much lower than the national average AND those of the other hotspot states (More on that later).

Hotspot State Trends do NOT Trend Together

CA/FL/NY ALL show a mortality rate increase in 2020 (as does the national mortality rate).

Both CA and FL show mortality rate decreases between 01/2020 and 05/2020. Only NY shows a mortality rate higher 05/2020 than 01/2020. Note this higher rate is still lower than the national average.

Refer to Table 1. We calculated the spike in April mortality compared to both March and the entire first quarter 2020 (the latter should see lesser statistical fluctuations and is therefore more credible). While California saw no mortality rate spike in 2020, the national life settlement mortality rate rose by over 30%; the Florida rate rose by nearly 30%, and New York (while still under the national rate) saw their rates climb past double their prepandemic average.

Pennsylvania, another state with an already higher-thanaverage mortality rate, saw its rate increase almost 50%.

Headlines Betray the Data

Our intent is not to diminish the seriousness of this pandemic, but to put it in objective perspective. The United States has seen profound effects from the novel coronavirus but not all of those effects impact mortality.

We were not surprised to see NY mortality spike in April, given its reputation as a COVID hot spot.

Texas, another large state with mortality rates usually under the national average (Figure 6), still saw increased mortality rates in April, but they overall managed to "flatten their curve," with numbers still under the prepandemic national average.

California, a state with overall higher mortality rates than the national average, did not experience a spike in April.

The peak mortality rate for 2020 (so far) occurred in April, but we cannot draw any meaningful conclusions until more data becomes available.



CONCLUSIONS

It is too early to determine whether the Q1 peak is likely to continue, or if deaths will fall back to their trend line. We must remain vigilant as federal and state policies are created to control the novel coronavirus. Comparing state mortality breakouts and pandemic policies (e.g. mandatory mask/quarantine orders, assisted living lockdowns, etc.) will help us understand how COVID-19 affects insured mortality rates.

Our investigation has not yielded a consensus from the data; we cannot yet determine if the spike we observed in April is just that – a spike – or a lasting trend. It typically takes a number of months for most of the deaths to be reported and our data was swept in July, suggesting data beyond April may not be complete. Further, state data, being smaller sample sizes, exhibit statistical fluctuations that could mask or exacerbate the underlying trends.

Key Takeaways

- 2020 has already seen a 10-year record for national mortality rate (6.6%). This increase can be attributed to a variety of factors, among them COVID-19 as well as an aging population. Mortality rate trends have been increasing over the past decade.
- Our investigation of mortality impacts must be driven by data, not headlines. COVID-19 is contributing to life settlement deaths in an environment that was already seeing rising mortality rates, and we can expect more random fluctuations as we inspect smaller samples (state data vs. national data).
- We should monitor state policies, especially in states with high concentrations of LS insureds. States that have "flattened the curve" for hospitalizations/infections/deaths should also be reviewed.
- We do not yet understand the all long-term effects COVID-19 will have on our insureds, and Predictive Resources will not conflate reactive and hasty changes with proactive adjustments. The data does not conclusively show whether this is a spike, or if it's the beginning of a permanent mortality increase. At the time of this writing, there are states still processing and disclosing updated mortality numbers, so it's possible the numbers we're using now can change, too. We will continue to collect and process information as it is released, inspecting data for an emerging pattern.
- We will not change how we calculate LEs for now! This pandemic adds another challenging variable to our calculus, but we cannot effectively or accurately factor it into LE calculations until we see persistent indicators showing COVID-19 and its long-term effects on mortality.