



Managed Care & Facilities

HMOs and Hospitals: 20 Questions and 20 Answers to Quantify the COVID19 Impact

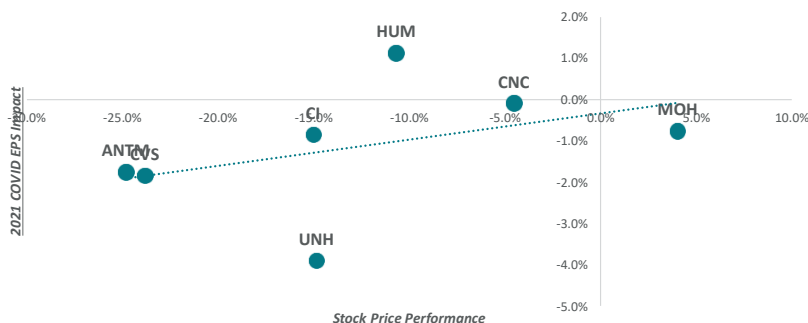
We don't have all the answers, but we have spent a lot of time trying to answer the most important ones. In the note below, we walk through a number of assumptions impacting the healthcare services landscape. We eventually land on estimated EPS impacts for 2020 and 2021 for our managed care coverage (hospitals coming next). We also acknowledge up front that we likely missed certain factors that will impact the insurers and will look to refine estimates as we move forward.

Importantly, we have available for Nephron subscribers a COVID Impact Analyzer, in which you can adjust inputs and measure the impact on the companies. Please email us directly for a copy.

Broadly speaking, we see a favorable financial impact to the health insurance segments, partially offset by their other businesses in the very short term. Additionally, we see economic pressures in the commercial segment, that actually create positive impacts for Medicare Advantage. Within the MLRs, we think that the impact of delayed procedures will outweigh the countervailing pressures from testing/treatment costs, lower investment income, enrollment pressures and higher G&A costs.

Cutting to the chase, we focus our attention more on stock price reactions relative to our 2021 EPS impacts (not 2020) and believe that HUM is a more compelling opportunity (we are upgrading to Buy today), while UNH will face more lasting headwinds (downgrading to Hold today).

Stock Price Reaction since first US Case vs Estimated 2021 EPS Impact



Source: Company Documents, FactSet and Nephron Research

Please see important disclosures at the end of this report.

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Introduction

There has never been a situation like this for the health insurance industry. It is that simple. While we present a ton of information and historical assumptions in our analysis, much of this comes down to our educated (and hopefully experienced) guesstimates. We have spent a lot of time with healthcare companies in recent weeks, as well as consultants and reading anything we can get our hands on. We believe that our estimates are appropriate given the current situation.

We also note that we are providing a model for clients to use, our Nephron COVID19 Analyzer, as a tool to help you with your investment process. [Subscribers should email us for a copy.](#)

We also note that we are providing a model for clients to use, our **Nephron COVID19 Analyzer, as a tool to help you with your investment process**. If you think our cost assumptions are too high, our incidence estimates too low, etc – you can simply adjust those inputs and model out the impact to the companies. Additionally, we learn new information every day so this will help you stay on top of the impact as information becomes available. **[Subscribers should email us for a copy.](#)**

We start with the fact that there has been limited (perhaps no) public company commentary since the managed care companies discussed this topic publicly at a Healthcare conference in mid-March. Since that time, the virus prevalence has significantly increased and the outlook has changed dramatically. For some perspective, the number of COVID-19 cases in the US has spiked to over 361.3K cases as of April 6th, which is 275x larger than the end of that conference (there were just 1,315 cases in the US on March 12th). During that conference we heard lots of anecdotes by the managed care companies that noted it could be “similar to the flu season” or “could lead to delays in elective surgeries,” but it was ultimately too early to anticipate the potential impact with any certainty.

We summarize the highlights of the report as follows:

What is industry impact?

There are really two major components to the industry impact - we include the impact of both COVID-19 and the earnings impact of a recession, because they are not mutually exclusive. Taken in totality, the impact of COVID19 varies materially between companies driven by membership mix. From an MLR perspective, **we view the impact of COVID-19 as a positive for the health insurance companies in 2020 driven by the benefit of delayed elective procedures, which is more than offsetting the incremental costs to treat COVID-19.** Generally speaking, commercial segments will see the greatest MLR benefit since these members are healthier and will have the greatest number of deferrals, whereas the Medicare segment will realize the lowest MLR benefit. However, we view the impact of COVID-19 as more of a one-time event since plans will be able to price this into next year’s rates and the elective deferrals will never be at this magnitude. **In 2021, we see no material MLR impact related to COVID19 directly.**

In terms of the impact from a recession and membership changes due to COVID-19, there are two main differences to previous recessions that are worth noting. First, the exchanges did not exist during the last recession. Second, we believe the impact of a recession will be over a shorter period – the initial spike has been more severe, but we believe the rebound will be faster than the last recession. From a membership perspective, **clearly commercial risk earnings are at the greatest risk**, followed by commercial ASO. We anticipate the commercial risk market will decline by 10.0% and the commercial ASO market will decline by 3.0%. **The commercial losses should be offset by growth in Medicaid (+6.5%) and Exchanges (+11%).** Finally, we expect Medicare Advantage membership to be insulated, although we do expect a modest acceleration among ages due to the oncoming recession as more seniors choose MA. In 2021, we expect the commercial market to partially recover ~50% of lost membership in 2020 while the exchanges will be relatively stable in 2021. We anticipate a modest decline of 1% in Medicaid membership as individuals from the COVID19 related layoffs become employed again. We expect the remainder to remain

uninsured in 2021. One important piece that we believe is overlooked is the impact of a recession on Medicare Advantage. We firmly believe that recessions are accelerants for MA relative to FFS and we are now assuming higher MA growth in 2021.

What is company impact?

From a near-term 2020 earnings impact, we expect the highest levels of earnings upside for the Medicaid focused plans. We expect EPS upside of 8.2% and 5.0% for Centene and Molina, respectively. This is a combination of COVID19 savings, since we believe the prevalence and costs associated with Medicaid members are lower, plus higher than expected Medicaid and Exchange membership growth associated with those losing their commercial insurance. Next, Anthem is the only diversified health plan which will also realize a near-term benefit of 4.2% which is driven primarily by the delay in elective procedures for their commercial risk population. In addition, Anthem's earnings are driven almost entirely by their insurance business which is a benefit under this scenario. We expect the other diversified plans to realize a headwind to their other business segments. As a result, we expect UnitedHealth to realize the highest 2020 EPS headwind (-5.2%), followed by CVS (-4.6%) and then Cigna (-2.1). Finally, we expect a similarly negative impact of 5.1% for Humana's business in 2020, due to their Medicare exposure, lack of benefit from Medicaid and Exchanges, and their Health services segment.

In 2021, the earnings outlook is materially different and will not be obfuscated by temporary COVID19 impacts. We do not expect a repeat of COVID19 (and lingering effects should be conservatively priced in), we certainly won't see the level of economic shutdown that we are in this year, and there won't be the benefit from the delay in elective procedures. Instead, we are left in an environment where commercial risk membership and commercial ASO are materially lower, in exchange for lower margin Medicaid and marketplace enrollment, and the number of uninsured is higher. We expect Anthem to have the largest EPS headwind in 2021 of 6.2%, followed by UnitedHealth at -5.7% (impacted by their Optum Health business as well). Conversely, we expect the smallest EPS headwind for Humana at -1.2% driven by our views of accelerated Medicare Advantage membership growth.

What is the model most sensitive to?

Focusing on the COVID19 MLR impact, the model is most sensitive to the following inputs: 1) prevalence by segment – this measures the magnitude of how many individuals are tested positive, 2) rate of hospitalization and ICU utilization by segment, 3) assumptions around the percentage of medical spend that is elective and the percentage of medical spend that will get deferred, and 4) the assumed length of the impact from COVID19.

Ratings Changes and Targets

Revised Targets

Fig. 1: Targets

	Target	Target Mult 2021 P/E	Target Mult Adj 2021 P/E
ANTM	\$265	10.5x	10.7x
CVS	\$84	10.9x	11.1x
CI	\$233	11.5x	11.6x
CNC	\$76	14.3x	14.4x
HUM	\$416	20.0x	19.8x
MOH	\$155	12.5x	12.6x
UNH	\$290	15.5x	16.1x

Source: FactSet and Nephron Research

Upgrading HUM to Buy

Humana is in the enviable position of being a market leader in the fastest growing segment of health insurance. All of the company's operations revolve around its Medicare Advantage engine. While we have had more bullish views on the overall Medicare Advantage segment for many years, we continued to fall back on the valuation premium that Humana has garnered (one that we viewed as deserved but sufficient).

- **The market appears to be unsure about the near-term impacts and in our view, inappropriately punishing and likely underestimating the positive impact of a recession on its MA book.** HUM shares are down 10.7% since January 20th, broadly in line with the group. **While we see the worst EPS impact for Humana in 2020, we believe that 2021 can actually move higher – the only company we are estimating a positive EPS move in 2021.** We simply don't see the COVID costs repeating in 2021, nor does Humana have much exposure to the commercial markets. Instead we think that MA accelerates with the recession and Humana is the largest beneficiary.
- **In an election year, there are often pressures resulting from changes in the election outlook. We think that Humana is more immune in light of the dependence on Medicare Advantage.** The program has clear bipartisan support and is facing one of the most favorable regulatory environments in memory. In addition to a strong final MA rate notice our Monday night, we note that HHS/CMS have suspended RADV audits in the near term (due to COVID) which simply eliminates one risk. **Most importantly, we see the permanent elimination of the HIF, beginning in 2021, as one of the most important changes to the program in the past 23 years.** We see the permanent nature of the repeal as the key to allowing plans to enhance benefits in ways that are much more obvious to the consumer. We expect a record level of MA additions in 2021.
- **Similarly, in a recession, we believe that the Medicare Advantage is counter-cyclical.** While wide swaths of the economy are clearly seeing pressure, and many will see that persist, we believe that the value in MA can accelerate. Remember, MA is a great value proposition for seniors where they can save out of pocket and receive better care. As seniors look at lower home values and lower retirement account, there will be a larger focus on ways to save, including their healthcare.

Overall, we are taking the opportunity to upgrade shares of HUM as they have not received the appropriate recognition in this volatile period. We think that MA is a growth business through this cycle

The market appears to be unsure about the near-term impacts and in our view, inappropriately punishing and likely underestimating the positive impact of a recession on its MA book.

In fact, we think that UnitedHealth remains better positioned than any company we cover over the very long term (next 5-10 years). That said, we think that the company will see some challenges in the next year that don't impact its peers to the same extent

and believe that Humana is well positioned to capitalize on that situation, without the distractions from other segments.

Downgrading UNH to Hold

First and foremost this is still UnitedHealth Group, the largest, most diversified and arguably most successful company in healthcare services over the past four decades. The temporary nature of the COVID-19 pandemic won't change many of the company's segments in a material manner. In fact, we think that UnitedHealth remains better positioned than any company we cover over the very long term (next 5-10 years). That said, we think that the company will see some challenges in the next year that don't impact its peers to the same extent.

- **Specifically, we are most concerned with its OptumHealth segment, which we were estimating would contribute 17% of company wide 2020 operating earnings and 35% of company wide growth this year.** Our concerns are centered not just on the loss of revenues from lower utilization of services, but additionally on the potential permanent disruption to the delivery assets. There is a reason that UnitedHealth is the only company to date that is accelerating payments from its insurance segment to its providers to maintain continuity.
- **Next, we note that business mix at UnitedHealth shows that diversification can limit upside and downside.** Throughout this note we review our segment level assumptions on the impact of COVID-19. For UnitedHealth the positive is that they are large in Medicare. However, MA contributes 45% of total premiums which won't be enough to offset the decline in commercial revenues (30% of revenues with ASO and a much higher margin), especially without a presence in the exchanges to help capture the lost commercial lives.
- **Lastly, we highlight that the Optum segment will likely show slower growth.** This has multiple impacts for investors including a) slowing overall growth, b) producing lower returns than previous expectations, c) making UnitedHealth look more like the insurance peer group (who's multiples are not as attractive), d) slowing unregulated cash, and other reasons. We see a modest headwind to the PBM segment, and certainly have less confidence in our estimates for OptumInsight (which relies in part on the strength of its provider customers).

Overall, we are not suggesting that investors rush to sell their UNH, nor do we think that there is a major long term impairment to value coming. We simply think that UNH will face some unique headwinds in the intermediate term, which makes other investment opportunities in the sector more attractive today.

Twenty Questions and Twenty Answers

1) What are the costs of lab testing?

We start with the first line of cost – testing.

- a. In order to get treated for COVID-19, it all starts with testing and what the prevalence of testing is for the US market. **There have been approximately 1.9 million tests** conducted to date. While we make assumptions around the costs of testing, this is not the primary driver of COVID-19 costs, nor does it impact whether individuals require hospital or ICU care.
- b. **We make different testing assumptions based on the populations:**

For Medicare, we assume that 30% of the overall population gets tested. We further believe that MA members have a higher likelihood of getting tests. With much of the MA population better connected to their PCPs, many in coordinated care programs, and having the added layer of help from their plan, we assume that 33% of MA members get tested. Additionally, we expect more seniors to seek testing if any symptoms present, and likely earlier than younger populations.

For commercial, we assume that roughly 15% of members get tested. While we assume that prevalence is likely similar, we continue to hear anecdotes about commercially insured individuals simply staying home with symptoms. Many people are tested at the time in which they present to the healthcare system, and commercially insured individuals are presenting less often.

For Medicaid and the Uninsured we assume that a similar 15% of the population gets tested. Although we tend to believe that the Medicaid population will see less incidence, or less symptomatic incidence. For the uninsured, there are many studies that speak to the fact that less care is sought by those without insurance, as well as the population skew.

We highlight that we view these estimates as conservative as these estimates imply that ~58.8 million people get tested, or 18% of the total US population. Remember, we are testing only about 1mm per week today.

Next we move to the cost per test.

We know that the **Medicare cost of testing** ranges from \$35.91 to \$51.31 depending on whether it is the CDC lab test or non-CDC lab test. It is possible that this assumption changes as new tests are approved or home testing becomes more prevalent (and comes at no cost to the insurer). That cost is the cost of the lab test itself, so we assume that there is another ~\$100 fee for the primary care visit (closer to ~\$45 for a telehealth visit). Overall, **we estimate the cost of testing for Medicare members is ~\$144 per test.** For **commercial**, we assume that the cost is ~240% of the Medicare rate. Finally, for **Medicaid** we assume that the cost is 60% of the Medicare rate at ~\$86 per lab test and physician visit.

In aggregate, we estimate that our coverage universe will spend ~\$2.4 billion on testing, PCP visits, telehealth visits, and the additional cost of waiving patient co-pays. The variation by company is largely dependent on their membership mix and absolute membership. **This estimate equates to an 47bps increase to the MLR.** Again we view this as conservative.

2) What is the prevalence of positive cases in the US?

As we start to think about the cost of treatment, we have to start with an estimate as to how many people in the US are infected with COVID-19, and then move to how many need treatments.

In aggregate, we estimate that our coverage universe will spend ~\$2.4 billion on testing, PCP visits, telehealth visits, and the additional cost of waiving patient co-pays.

- a. **We wanted to present a wide range of scenarios since this is a key driver of the MLR analysis.** We chose what we view to be very close to a “worst-case” option to use in our model to be conservative and because the data that comes out each day has not indicated a slowdown in US cases. Simply put – we are nervous. It has been difficult to draw meaningful parallels of prevalence from other countries, so we are extrapolating our analysis based on results from New York State.
- b. **Best Case:** Using Italy as the best international example of prevalence for the US, Italy has 74,386 positive cases in a population of 60 million, which implies a prevalence of 0.12%. **Based on the US population of 320 million people, Italy’s prevalence rate implies that 395K in the US could reasonably expect to contract the virus.** This compares to 361K individuals in the US who already have the virus. At this point, the Italy comparison looks way too optimistic.
- c. **Base Case:** Next, let’s say that Italy’s level of prevalence is not a good indicator for the US, and we assume that the US is going to be 3x worse than Italy (an admittedly arbitrary number), which is an implied prevalence of 0.37%. **That would imply that 1.18 million people in the US could contract the virus.** We feel like we are getting a little closer at this point. Note that several models today are suggesting over 1mm cases in the US.
- d. **Worst Case:** Finally, we could assume that New York is the best indicator for the overall US. Remember, less than half of the State resides in New York City, so density in the rest of the state resembles much of the broader country. New York Governor Cuomo recently anticipated that the state would have a peak number of COVID *hospitalizations* at 140K, although that estimate has come down in recent days. We assume a 20% haircut to that number and assume that there may be 112K hospitalizations in New York. Based on data so far, the average hospitalization rate in New York is 22%, which suggests that there could be as many as 502K positive cases in New York state. That implies a prevalence of 2.59% across New York’s population of 19 million. **By extrapolating a prevalence of 2.59% across the US population, this suggests there could be as many as 8.3 million cases in the US.** Again, New York is different from other parts of the country, especially given the urban density of New York City and surrounding areas (which is the majority of cases in New York). **We view this as a truly a “worst-case” scenario,** since the contagion factor of the virus will be much lower in less urban areas of the country and the stay-at-home orders enacted in other states should curb spread of the virus. **In order to be conservative in our cost analysis, we use the worst-case scenario as our base case.**

By extrapolating a prevalence of 2.6% across the US population, this suggests there could be as many as 8.3 million cases in the US.

Fig. 1: Implied Prevalence of Positive COVID-19 Cases in the US

	Italy Best Case	Italy Base Case	New York Worst Case
Positive Cases	74,386	74,386	502,375
Hospitalized			112,000
Total Population	60,000,000	60,000,000	19,378,102
% Prevalence	0.12%	0.37%	2.59%
Implied Positive US Cases	394,864	1,184,591	8,257,032
US Population	318,498,500	318,498,500	318,498,500

Source: Nephron Research, WHO, New York State Department of Health

- e. Finally, we show our estimates of prevalence by payor type based on the data we have so far from New York. Using our worst-case scenario (which assumes that there will be 502K cases in New York), we can extrapolate the prevalence by payor type. For Medicare, we base this data on cases for people 65 and over, which leads to a **Medicare prevalence rate of 4.5%**. For **commercial**, we base this data on cases between 18-64 years, which suggests a **prevalence rate of 3.0%**. Finally, we believe that the Medicaid prevalence will be lower than commercial and Medicare, so we make an adjustment so that **Medicaid prevalence is 30% lower than the commercial rate at 2.1%**. We use these prevalence rates by segment for each of the MCOs in our MLR analysis.

Fig. 2: Extrapolated Prevalence by Payor Type

	New York
Positive Cases	502,375
0-17	8,812
18-64	375,773
65+	117,790
Population	19,378,102
0-17	4,324,929
18-64	12,435,230
65+	2,617,943
Overall Prevalence	2.6%
Medicare	4.5%
Commercial	3.0%
Medicaid / Other	2.1%

Source: New York State Department of Health, WSJ and CDC

3) What is the hospitalization rate of positive cases in the US? What is the ICU rate of positive cases in the US?

- a. There is very little data so far on a national basis that accurately portrays the rate of hospitalization and rate of ICU usage among those who have tested positive. **Given that New York accounts for nearly 40% of the cases in the US, we focus on the demographic data from the state to inform our analysis.** Further, the NY State data appears credible at this point and continues to improve each day.
- b. New York recently highlighted on April 6th that there were 68,776 positive cases, of which 15,333 were hospitalized (and 4,593 were admitted to an ICU). **That implies that 6.7% of positive cases require care in an ICU and 15.6% of cases required hospitalization.**

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Fig. 3: Hospitalization vs. ICU Rate

	New York
Positive Cases	68,776
Hospitalizations	10,740
Hospitalization Rate	15.6%
ICU	4,593
ICU Rate	6.7%

Source: New York State Department of Health

- c. **Next, we focus on the hospitalization and ICU utilization rate by segment.** We base our assumptions on hospitalization data from New York and ICU data from the CDC. **For ICU utilization,** we know the number of ICU hospitalizations in New York are currently 4,593, and based on average age demographic data from CDC, we estimate that 15.1% of all positive Medicare cases require an ICU, which compares to 4.2% for commercial (which we define as ages 19-64). For Medicaid, we estimate that the utilization rate is 30% lower than commercial with a utilization rate of 2.9%, which reflects our view that Medicaid members are younger and less likely to contract the virus.

For hospitalization utilization, we know New York's total hospitalizations by age group (which includes the ICU), so we simply back out the estimated ICU cases from the total to arrive at the estimated hospitalization in New York. Of the 16,094 positive Medicare cases, approximately 29.5% required hospitalization (not including ICU). In commercial, of the 51,343 positive cases, approximately 11.5% required hospitalization. Finally, for Medicaid we assume that their rate of hospitalization is 30% lower than the rate of commercial at 8.0%.

Fig. 4: Hospitalization vs. ICU Rate

Age Demographics	Positive	Hospitalized (ex: ICU)	ICU Only
Ages > 65	23%	44%	53%
Ages 19-64	75%	52%	47%
Agees < 19	2%	1%	1%
Total	100%	97%	100%

Cases	Positive	Hospitalized (ex: ICU)	ICU Only
Ages > 65	16,094	4,752	2,434
Ages 19-64	51,343	5,902	2,136
Agees < 19	1,204	86	23
Total	68,641	10,740	4,593

Nephron Assumptions by Payor:	Hospitalized	ICU
Medicare	29.5%	15.1%
Commercial	11.5%	4.2%
Medicaid / Other (30% of Commercial)	8.0%	2.9%

Source: New York State Department of Health and Nephron Research

4) What is the cost of treatment in a hospital and what is the cost of treatment in an ICU?

The analysis of costs per treatment has to be looked at on a segment basis. The costs in the commercial population will vary meaningfully from Medicare, and those from Medicaid. We also note that we are erring on the side of conservatism across all of the categories. **We do this not only to show the worst case, but also because we believe that Health Plan actions to waive out of pockets have to increase their costs per treatment.** It is unlikely that out of pocket amnesty will increase the utilization of services, but clearly the cost per treatment will rise modestly as individuals wont be paying their typical share.

- a. **Commercial:** For our commercial estimates, we use a Willis Towers Watson analysis of self-funded employers. The study estimated that the cost of treatment for COVID-19 is **~\$30,000 for cases requiring hospitalization. For cases requiring intensive care, the costs were closer to \$100,000.** We note that we have seen other estimates from various sources, discussed more below. We rely on the Wills Towers report as their analysis appears to have been based on broad survey work, and their estimates are the highest estimates we have seen. **Again for conservatism, we use a higher cost per treatment estimate.**
- b. **Medicare:** Humana recently noted that the **cost of an admission with greater than 96 hours of ventilator use is ~\$35,000 for Medicare FFS,** which we use as a reasonable proxy for the cost of admission into an ICU. Similar to commercial, we estimate the cost of a hospitalization (that doesn't result in a ICU stay) is ~30% of the ICU cost, which we interpret is **~\$10,500 per patient.**
- c. **Medicaid:** For Medicaid we simply assume that the cost of hospitalization and ICU rates equate to ~85% of Medicare costs, which are \$8,925 and \$29,750, respectively.

Fig. 5: Estimated Cost of Treatment

Estimated Cost of Treatment	Hospitalization	ICU
Commercial	\$30,000	\$100,000
Medicare	\$10,500	\$35,000
Medicaid / Other	\$8,925	\$29,750

Source: Nephron Research, Willis Towers, and Company Management

- d. **As noted, there have been a variety of sources for cost estimates which we lay out below.** We tended to err on the side of conservatism and chose the higher cost estimates for commercial, Medicare and Medicaid.

Fig. 6: Various COVID-19 Cost Estimates

Commercial - Inpatient	Low	High
Willis Towers Watson	\$30,000	\$100,000
Peterson-KFF	\$9,763	\$20,292
FAIR Health	\$21,936	\$38,755
Covered California	-	\$72,000
Average	\$20,566	\$57,762

Medicare - Inpatient	Low	High
Humana (Medicare FFS)		\$35,000
FAIR Health	\$7,706	\$12,370
Covered California	-	\$30,000

Medicaid - Inpatient	Low	High
FAIR Health	\$5,548	\$8,906

Source: Nephron Research, Willis Towers, FAIR Health, Covered California, Kaiser and Company Management

5) Are there hospital bed supply constraints relative to demand? What happens to treatment costs if capacity is constrained?

We warn that the following section moves into a morbid area, as we think about scenarios where those that need treatment simply can't receive care because of supply constraints. Remember, this is not simply a beds issue as treatment will require the bed, the staff and the Supplies/PPE/Ventilators all to come together on a timely basis.

With that, we underscore that even if the US were to enter into a catastrophic phase of the pandemic, **there is a limited supply of adequately staffed hospital beds and ICU beds available for utilization. This is clearly a gating factor and essentially acts as a ceiling for medical cost utilization during the peak of COVID-19 cases.** While the assumptions we used in our analysis impacted the MLR by 45bps, it all comes down to how long the virus lasts, how geographically focused the prevalence is, how much increased capacity the US can build and what percentage can be dedicated to the coronavirus (vs. other uses).

- a. **We start by assuming that COVID-19 lasts for approximately 4 months (122 days), which is in line with assumptions made in other studies.** The length of the pandemic is clearly a key variable, but we assume that there will roughly 4 months of elevated medical costs and higher demand for hospital beds.
- b. **Hospital Bed Days:** According to data from the American Hospital Association there are 792,417 staffed hospital beds in the US. We then assume that if we ran into a hospital bed constraint, the US would be able to increase hospital bed capacity by 30%. Think of this as more local based capacity increases. We don't think the US will add 240K beds, but we do think that NYC can add 8K beds. Based on conversations with stakeholders, it is a lot easier to add capacity for hospital beds than ICU beds. However not all beds would be used for COVID-19 cases, and we assume that ~45% of occupancy would be required for other hospital cases. Remember, US occupancy stands at approximately 65-70% in normal times so we are assuming a large reduction in "normal" occupancy. **All in, we estimate there are ~69.1 million hospital bed days available during this fourth month period for COVID-19 cases.**

- c. **ICU Bed Days:** Although AHA estimates there are 107.3K total ICU beds in the US, only 55,663 ICU beds in the US are for med-surg cases (e.g. other ICU beds are for neonatal, cardiac, etc). If we ran into a hospital bed constraint, we estimate the US would be able to increase ICU bed capacity by only 10% given the additional complexities for an ICU bed vs. a hospital bed. However not all ICU beds would be used for COVID-19 cases, and we assume that ~35% of occupancy would be required for other ICU med-surg cases. **All in, we estimate there are ~5.0 million ICU bed days available during this fourth month period for COVID-19 cases.**

Keep those statistics in mind for later, as we show what the potential impact (which translates into savings, or lower medical expenditures) for the health insurance companies.

6) What is the magnitude of savings from delaying elective procedures?

This is one of the most important components for the impact on medical costs, and one of the most variable. It also happens to be where we get the most questions from Nephron subscribers. While there are clearly increased costs associated with the coronavirus directly, there is also a financial benefit from individuals avoiding hospitals, physician offices, and elective procedures. **One major conclusion we reach is that, our estimates for the effect of individuals delaying or eliminating care will more than offset the elevated costs of treating COVID-19.**

- a. **We estimate that approximately 30.3% of Medicare spending is considered "elective."** We made estimates for each Medicare spending category and our assumptions are highlighted in gray below. Generally speaking, we believe that seniors have less medical spend that is "discretionary" and elective in nature. For inpatient, we assume that only 20% of the spend is elective in nature since seniors are less healthy and generally require the care that is done at an inpatient level. We assume that outpatient is more discretionary, and we assume that 50% could be delayed. We interpret medical providers to mean physician offices and would guess that 70% of these visits are cancelled. We do not view prescriptions as elective in nature and assume only 5% gets delayed/cancelled. Finally, the last large bucket is long-term care and we would assume only a minimal amount of that spend is discretionary.

Fig. 7: % of Medicare Spend that is "Elective"

Medicare	Annual Cost	% of Total	% Elective	% of spend that is "Elective"
				30.3%
Inpatient	\$3,468	23%	20%	
ED	\$69	0%	0%	
Outpatient	\$1,520	10%	50%	
Medical providers	\$3,268	22%	70%	
Drugs	\$2,833	19%	5%	
SNF	\$808	5%	5%	
Home health	\$463	3%	10%	
Hospice	\$255	2%	10%	
LTC	\$1,956	13%	5%	
Dental	\$381	3%	95%	
Vision	\$90	1%	95%	
Hearing	\$57	0%	95%	
Total	\$15,168			

Source: Nephron Research, Willis Towers, and Company Management

One major conclusion we reach is that, our estimates for the effect of individuals delaying or eliminating care will more than offset the elevated costs of treating COVID-19

- b. **We estimate that approximately 45.0% of commercial spending is considered “elective.”** We made estimates for each commercial spending category, which came from the Health Care Cost Institute, and our assumptions are highlighted in the “% Elective” column. **Not surprisingly, our view is that the commercial market will experience the highest level of deferral of services.** This is due both to the younger age range and overall better health relative to Medicare members.

Fig. 8: % of Commercial Spend that is “Elective”

Commercial	Annual Cost	%	% of Total	% Elective	45.0%
Inpatient	\$1,125	19.10%			30.3%
Surgical	\$551	49%	9%	30%	
Labor/Delivery	\$191	17%	3%	0%	
Medical	\$315	28%	5%	50%	
Mental Health	\$34	3%	1%	20%	
Substance Abuse	\$23	2%	0%	35%	
Other	\$11	1%	0%	25%	
Outpatient	\$1,645	28.20%			57.3%
Surgery	\$615	37%	10%	80%	
Radiology	\$216	13%	4%	85%	
ER	\$399	24%	7%	20%	
Other	\$216	13%	4%	50%	
Lab	\$66	4%	1%	80%	
Observation Visit	\$50	3%	1%	40%	
DME	\$50	3%	1%	30%	
Ambulance Services	\$33	2%	1%	0%	
Professional Services	\$1,946	33.70%			68.5%
Office Visits	\$417	21%	7%	80%	
Other Services	\$258	13%	4%	80%	
Radiology	\$159	8%	3%	80%	
Surgery	\$298	15%	5%	95%	
Lab / Pathology	\$139	7%	2%	80%	
Anesthesia	\$119	6%	2%	95%	
ER	\$79	4%	1%	10%	
Administered Drugs	\$278	14%	5%	20%	
Physical Medicine	\$79	4%	1%	75%	
Psychiatry	\$60	3%	1%	75%	
Administration of Drugs	\$40	2%	1%	20%	
Immunizations	\$20	1%	0%	50%	
Prescription Drugs	\$1,119	19.00%			
Total	\$5,892				

Source: Nephron Research and Health Care Cost Institute

- c. **We estimate that ~20% of Medicaid spending is elective given the nature of the insurance product.** For perspective, the majority of Medicaid FFS spending is on inpatient (60%), which by nature is less “elective.” Another major component is drug spend (10%) which we also do not view as “elective.”
- d. **Finally, we make one last adjustment to estimate the % of “elective” spend that will end up getting deferred or canceled over a period of 122 days.** We estimate that 40% of Medicare “elective” spending actually gets deferred, while 60% of commercial and 25% of Medicaid get deferred. This aligns with our general viewpoint that most commercial “elective” procedures and appointments will get deferred, while Medicare is impacted by a lesser degree, and Medicaid utilization will have minimal deferrals. **All in,**

we estimate 4.0% of Medicare, 9.0 of commercial spending and 1.7% of Medicaid spending will get deferred or eliminated in 2020.

Fig. 9: % of Commercial Spend that is “Elective”

	Medical Cost per Life	# of Days
Medicare	\$10,380	122
Commercial	\$4,731	122
Medicaid / Other	\$3,510	122

	% of Medical Spend that is "Elective"	% Reduction in "Elective"
Medicare	30%	40%
Commercial	45%	60%
Medicaid / Other	20%	25%

Reduction in Annual Medical Spend per Life	\$	%
Medicare	\$416	4.0%
Commercial	\$427	9.0%
Medicaid / Other	\$59	1.7%

Source: Nephron Research and Health Care Cost Institute

7) Putting that altogether, what is the overall impact to MLRs for the health insurers?

Based on the above assumptions, we estimate COVID-19 will be an average of an 8obps benefit to the MLR.

- At the low end, we estimate the MLR tailwind for Humana is -17bps. **The reason we see the lowest benefit at Humana is their heavy Medicare Advantage exposure.** This results in a high risk of hospitalizations related to COVID-19, as well as what we believe to be a lower % of procedures are “elective” for the senior population.
- **At the high end, we expect Anthem to benefit the most from COVID-19 given their earnings exposure to commercial risk members.** Specifically, we see 121bps benefit to MLR in 2020. We believe the commercial risk plans will accrue the most benefit from delayed/eliminated elective procedures than any other segment. While cost per treatment is higher than Medicare, we project fewer total cases that need treatment in the commercial segment.
- **We believe the Medicaid MCOs will also see a generally higher benefit, as their membership skews younger and is generally less susceptible to COVID-19 (note prevalence and cost per treatment are lower in Medicaid).** However, we estimate that a lower % of their spending is elective in nature. **Additionally, it is important to note that the two companies modest dependent on Medicaid, Centene and Molina, both have large exchange membership bases, a source of growth**

we estimate COVID-19 will be an average of an 8obps benefit to the MLR.

discussed later. We expect Molina and Centene to benefit from COVID-19 by 92bps and 82bps, respectively.

Lastly, we come back to the discussion on supply constraints. As discussed earlier, there is some likelihood that not all patients seeking treatment will be able to find the care that they need. Instead, staffed bed and PPE capacity may temped the cost to treat. With that, **we estimate there is a modest 45bps additional benefit to overall MLRs related to overall supply constraints in the system.**

Fig. 10: Nephron Estimates of 2020 MLR Impact of COVID-19

	Anthem	Centene	Cigna	CVS	Humana	Molina	UnitedHealth	Total
Testing Costs	\$471,867	\$346,458	\$144,681	\$313,717	\$247,933	\$57,158	\$820,134	\$2,401,949
Estimated Hospital Costs (\$K)	\$922,683	\$604,518	\$309,650	\$717,677	\$675,045	\$87,264	\$1,858,298	\$5,175,135
Estimated ICU Costs (\$K)	\$1,122,356	\$653,839	\$408,330	\$1,017,885	\$1,097,950	\$77,472	\$2,697,690	\$7,075,521
Total Unadjusted COVID-19 Costs	\$2,516,906	\$1,604,815	\$862,661	\$2,049,279	\$2,020,928	\$221,894	\$5,376,122	\$14,652,605
Estimated Hospital Costs with Supply Constraints (\$K)	\$922,683	\$604,518	\$309,650	\$717,677	\$675,045	\$87,264	\$1,858,298	\$5,175,135
Estimated ICU Costs with Supply Constraints (\$K)	\$733,219	\$427,144	\$266,756	\$664,970	\$717,275	\$50,611	\$1,695,516	\$4,555,491
Total Adjusted COVID-19 Costs	\$1,655,903	\$1,031,662	\$576,406	\$1,382,646	\$1,392,320	\$137,875	\$3,553,813	\$9,730,626
<i>Difference Accounting for Supply Constraints</i>	-34.2%	-35.7%	-33.2%	-32.5%	-31.1%	-37.9%	-33.9%	-33.6%
Savings from Elective Procedures	(\$3,577,877)	(\$2,288,136)	(\$1,203,517)	(\$2,581,527)	(\$2,127,632)	(\$332,436)	(\$6,633,865)	(\$18,744,991)
Net Impact to Medical Costs	(\$1,060,972)	(\$683,321)	(\$340,855)	(\$532,249)	(\$106,705)	(\$110,542)	(\$1,257,743)	
<i>% of 2020 MLR</i>	-1.21%	-0.82%	-0.97%	-0.94%	-0.17%	-0.74%	-0.75%	-0.80%
Net Impact to Medical Costs w/ Supply Constraints	(\$1,450,108)	(\$910,016)	(\$482,429)	(\$885,164)	(\$487,379)	(\$137,402)	(\$2,259,917)	
<i>% of 2020 MLR</i>	-1.66%	-1.09%	-1.38%	-1.57%	-0.80%	-0.92%	-1.35%	-1.25%

Source: Nephron Research, Company Documents, New York State Department of Health, CDC

8) What happens to membership during a recession?

We can now move beyond the short-term impact to MLRs for the companies. **We cannot view the impact of COVID-19 in isolation because there are broader impacts to the overall economy.** The most recent unemployment insurance claims spiked to 3.3 million last week and another 6.3 this week, largely due to the economic impact of coronavirus and stay-at-home orders. A recent "back-of-the-envelope" analysis by an economist working with the Federal Reserve Bank of St. Louis pointed to the potential for ~47.1 million layoffs in 2Q20 (which equates to nearly 15% of the entire population). Needless to say, **these layoffs would be accompanied by major changes in healthcare coverage for millions of Americans.** Though our detail around the recent surge in initial jobless claims is currently limited to the headline number (3.3 million for the week ended March 21st and 6.3 million for the week ended March 28), there are several data points from which we can construct a general profile of those most likely to be impacted.

We start our discussion by reviewing the impact the last recession had on aggregate membership changes. We believe that in order to inform ourselves on what happens in 2020, we have to start with what happened to health insurance coverage levels during the Financial Crisis Recession. That pullback was longer in nature, with unemployment claims rising for two solid years. **From 2007 to 2009, the total number of unemployed grew by 7.6 million from 2007 to 2009, or by 5.9%.** We understand that today's recession is likely to be much quicker in duration. We focus our attention on "where did those unemployed members go for health insurance?" **Starting with commercial trends in 2007-2009, we estimate commercial risk enrollment declined by 7.5 million individuals, or 8.4%, over a two-year period from 2007 to 2009. Surprisingly, commercial ASO enrollment actually increased by 1.8 million, or 2.1%, over the same period.** The growth in self-funded accounts was driven by the shift from commercial risk to commercial ASO. The down economy forced employer groups to look for savings everywhere, and moving to as ASO arrangement is one such way. This was particularly true as the ACA came into focus with higher taxes on risk-based insurance and a looming Cadillac taxes. Many companies that thought about moving to self-funding took that opportunity in the last recession.

In aggregate, total commercial enrollment declined by 5.7 million from 2007 to 2009. It's not a perfect 1:1 ratio with the total of unemployed increase of 7.6 million (likely due to some sort of lag), but it's close.

Aggregate Medicaid enrollment grew by 9.8% from 2007 to 2009. In that period, there was a divergence between Managed Medicaid (up 22.9%) and Medicaid FFS (down 13.5%). As we moved into 2008, we were seeing an accelerating trend of states moving their FFS populations into managed Medicaid. That continued for a few years with new populations moving into managed care in Arizona, Kentucky (a real doozy), Texas, Florida and many other states. We expect that there will continue to be a shift to Managed Medicaid in the next couple of years, but we are not modelling as dramatic a shift as ween a decade ago.

From 2007-2009 the Uninsured grew by 5.1%, or by 2.2 million.

Finally, **Medicare Advantage** grew by 5.9% from 2007 to 2009, or by 2.6 million. We speak to this later, but we do not think that the changes in commercial membership have much to do with Medicare Advantage. We do believe that MA grows faster in a recessionary environment (especially one accompanied by stock market and real estate value reductions). Again, more on that below.

Fig. 11: View of Membership Changes during the Great Recession

Industry	2007	2008	2009	2010	2007-2009 # Change	2007-2009 % Change
Commercial Risk	88,672,766	87,674,220	81,185,233	76,577,420	-7,487,533	-8.4%
Commercial ASO	84,387,947	87,134,580	86,140,167	87,391,980	1,752,221	2.1%
Total Commercial	173,060,712	174,808,800	167,325,400	163,969,400	-5,735,312	-3.3%
Medicaid Managed Care	29,463,098	33,427,582	36,202,281	40,121,876	6,739,183	22.9%
Medicaid FFS	16,499,173	13,715,209	14,269,578	15,882,607	-2,229,595	-13.5%
Total Medicaid	45,962,271	47,142,791	50,471,859	56,004,483	4,509,588	9.8%
Uninsured	43,100,000	44,759,100	45,314,300	46,912,000	2,214,300	5.1%
Medicare Advantage	8,908,488	10,268,689	11,309,892	11,902,897	2,401,404	27.0%
Medicaid FFS	35,101,201	35,248,642	35,294,108	35,817,103	192,907	0.5%
Total Medicare	44,009,689	45,517,331	46,604,000	47,720,000	2,594,311	5.9%
Total Unemployed	7,655,000	11,108,000	15,267,000	14,393,000	7,612,000	99.4%

Source: Nephron Research, CMS, Kaiser, and US Census Bureau

Before we dive into those estimates, we want to emphasize that there are two key differences in the health insurance landscape today vs. the Great Recession.

Based on the information above, we provide our industry estimates for 2020-2021. Before we dive into those estimates, we want to emphasize that there are two key differences in the health insurance landscape today vs. the Great Recession.

- a) **Marketplaces:** The ACA created public exchanges which provide varying levels of subsidized health insurance coverage for anyone earning between 100-400% of the FPL in 2020. Because this product did not exist during the Great Recession, we simply don't have any precedent to look back at. There are already nearly a dozen states that are offering special enrollment periods through the exchanges today to help ease the administrative burden of signing up for coverage which we view as a positive for exchange enrollment in 2020. **In addition, the cost of health insurance is essentially capped for low wage earners that don't qualify for**

Medicaid, which could make these products more attractive rather than simply becoming uninsured.

- b) **Medicaid expansion:** The second obvious change is that Medicaid eligibility levels were expanded for the 36 states that chose to expand as a part of the ACA. Not only does Medicaid coverage include a higher level of the FPL and additional populations (like childless adults) in the states that expanded, it also eliminated the asset-based tests. This loosens Medicaid eligibility requirements, so regardless of your existing asset base, anyone earning less than ~138% of the FPL in 2020 could qualify for Medicaid in expansion states.

With that, we highlight our estimates of membership changes for 2020-2021.

- **Unemployment:** Clearly the greatest unknown variable is what happens to unemployment. We have already seen a significant spike in jobless claims (down 3.3 million as of 3/21 and down 9.6 million cumulatively as of 3/28). We believe that there will be a spike during the initial several weeks, but this will be a shorter period of unemployment than the last recession as businesses begin to re-open after the COVID-19 impact. **We begin our discussion by assuming that unemployment claims reach 12 million.** For perspective, this is double the number of uninsured during the last recession (over a period of 2 years), but we do not think that is unreasonable given recent jobless claims data and due to the severity of businesses temporarily shutting down.

Remember, there is also a difference between unemployment claims and commercial insured reductions. First, not all claims come from individuals that were previously employed by groups. Second, not all that become unemployed were covered with health insurance at their former employers. Third, some individuals may choose to remain on the insurance rolls through COBRA.

- **Commercial Risk:** We assume a 10% decline in commercial risk, which is slightly worse than the 8.4% decline from 2007-2009. Again, we are essentially taking the 2-year impact of the recession and applying that to 2020 because we view the impact of this recession as more immediate and more severe in the first year, but the impact will subside sooner. While the commercial risk population is approximately 42% of the overall group market, we assume 70% of the job losses will come in this segment.
- **Commercial ASO:** We estimate a 3.1% decline in commercial ASO enrollment. Even though commercial ASO grew by 2.1% during the last recession, we don't expect growth in 2020. Instead, we would guess that commercial ASO has a similar trend to total commercial declines from 2007-2009. We have tempered the reductions to account for some shift from risk groups. We also note that many of the service industry companies that are experiencing the largest layoffs over-index to risk based plans.
- **Medicaid:** We estimate that there will be 6.5% growth in Medicaid enrollment, and the majority of that growth accrues to managed Medicaid (given that the majority of Medicaid membership is now managed Medicaid). **We assume that 50% of total commercial disenrollment (10 million people) will move to Medicaid.** During the last recession, Medicaid represented ~79% of total commercial disenrollment (5.7 million). We tempered our expectations down to 50% because we believe a portion will now enroll on the exchanges.
- **Exchanges:** We estimate that there will be 10.9% growth in exchange enrollment, or ~1.25 million new individuals. **We arrived at that figure by assuming that 12.5% of total commercial disenrollment (10 million people) will move to exchanges.** We expect many to shop the exchanges in comparison to COBRA. Even with monthly premiums in the exchanges

over \$500 (with no subsidies), there are still likely savings for many individuals relative to their COBRA premiums. Due to the fact that exchanges didn't exist in the prior recession, we have tried to be conservative around their impact, and we would not be surprised to see growth above our estimate. We simply do not have the historical precedence to inform us.

One side note on exchanges – We have received questions about the Federally run exchanges not being opened up. Individuals are allowed to shop the exchanges when there is a qualified life event. That includes events such as marriage, divorce, a child born and even loss of job. We believe that virtually all of those that lose their jobs (commercially insured) will be able to enroll in an exchange plan, even if they live in a state that has a federally run exchange.

- **Uninsured:** Based in part on process of elimination, we estimate that as many as 3.75 million individuals could simply go uninsured. This is in broadly line with the last recession when 38.6% of commercial disenrollment went uninsured.
- **Medicare Advantage:** Finally, most think that MA is unaffected through a recession. **While the total population of Medicare eligible doesn't change because of a recession, we believe that MA does indeed accelerate in a recession.** MA is a value based product for seniors. When home values and IRAs/401ks lose significant value, seniors tend to be more sensitive to price in Medicare. At this point a Med Supp offering with a PDP plan could cost more than \$4,000 per year, while MedPAC just reported that 93% of counties in the US have a zero premium plan with drug coverage available. We still expect Medicare Advantage to grow by 9% in 2020 but if we are wrong, the number is likely higher. It is possible there is an incremental boost from age-ins choosing Medicare Advantage over FFS. Conversely, we have to consider mortality rates for the senior population increasing due to COVID-19.

While the total population of Medicare eligible doesn't change because of a recession, we believe that MA does indeed accelerate in a recession

Fig. 12: Health Insurance Industry Membership Projections 2020-2021

Industry	2019	2020	2021	2019-2020 # Change	2019-2020 % Change
Commercial Risk	70,152,658	63,152,658	64,415,711	(7,000,000)	-10.0%
Commercial ASO	97,871,749	94,871,749	98,666,619	(3,000,000)	-3.1%
Exchanges	11,444,141	12,694,141	12,821,082	1,250,000	10.9%
Total Commercial	179,468,548	170,718,548	175,903,413	(8,750,000)	-4.9%
Medicaid Managed Care	67,119,128	71,369,128	71,725,974	4,250,000	6.3%
Medicaid FFS	9,945,851	10,695,851	9,518,356	750,000	7.5%
Total Medicaid	77,064,979	82,064,979	81,244,329	5,000,000	6.5%
Uninsured	28,547,347	32,297,347	36,202,281	3,750,000	13.1%
Medicare Advantage	23,338,739	25,439,226	28,491,933	2,100,487	9.0%
Medicare FFS	37,861,261	37,413,174	35,994,630	509,287	1.3%
Total Medicare	61,200,000	62,852,400	64,486,562	1,591,200	2.6%
Total Unemployed	5,753,000	17,753,000	13,753,000	12,000,000	209%

Source: Nephron Research, CMS, Kaiser, and US Census Bureau

9) What do the membership changes do to earnings at the health insurance companies?

We take those 2020 industry estimates and translate that into the impact on our coverage universe.

We assume the membership, revenues and EBIT impact is over a 9-month period given that we don't expect material changes to membership averages (or member months) in 1Q20.

- **Medicare Advantage:** Based on New York's death rate for those 65 years old+, we assume that an incremental ~0.3% of seniors will involuntarily terminate enrollment as a result of the virus. However, we also estimate there will be an incremental boost as age-ins choose MA over FFS at a faster pace (due to the recession, stock market declines, etc). MA is simply a better financial value than FFS, and should outpace FFS growth during recessionary periods. If you assume that an incremental 5% of Age-ins in 2020 (3.7mm age in this year) select MA, it adds 200K MA lives. All in we would estimate a modest net 0.5% benefit in 2020. We assume the margins on a new member are closer to 3% given that they are lower margins in their first year but tend to skew slightly healthier.
- **Commercial Risk:** We assume a 9% decline in commercial risk, which is slightly better than the industry decline of 10% because we believe the public MCOs will do a better job of aggregating market share. We estimate the margins on commercial risk members are in a range of 3% to 9% for those lost.
- **Commercial ASO:** We estimate a 3% decline in commercial ASO enrollment, which is in line with the industry decline of 3%. The large public companies are basically the national ASO market. We estimate the margins on commercial ASO members are ~12.5%.
- **Medicaid:** We estimate that the MCOs will grow Medicaid by 6.0%, again which is in line with our estimate of industry growth of 6.5%. We estimate the margins on new Medicaid members are low at ~1.0%. This is due in part to our belief that rates in Medicaid, especially on incremental membership, will be pressured at the state level.
- **Exchanges:** We estimate that Centene will experience outsized exchange membership growth relative to peers given their current positioning. We estimate the total exchange enrollment will grow by 10.9%, but Centene will grow by 12.5% while all others will grow by 7.5%. We estimate the margins on new exchange members will be low as the people who enroll will be sicker and require health insurance, so we give them 2.0% margin profile in 2020.

Fig. 13: Coverage Universe Membership Projections 2020

<u>% Change in Membership</u>							
Medicare Advantage	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Involuntary Disenrollment from COVID-19	(0.3%)	(0.3%)	(0.3%)	(0.3%)	(0.3%)	(0.3%)	(0.3%)
Recessionary Impact on Age-Ins	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Commercial Risk	(9.0%)	(9.0%)	(9.0%)	(9.0%)	(9.0%)	(9.0%)	(9.0%)
Commercial ASO	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)
Medicaid	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Exchanges	7.5%	12.5%	7.5%			7.5%	
<u>Assumed EBIT Margin</u>							
Medicare Advantage	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Commercial Risk	9.0%	5.0%	9.0%	9.0%	3.0%		9.0%
Commercial ASO	12.5%		12.5%	12.5%	12.5%		12.5%
Medicaid	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Exchanges	2.0%	2.0%	2.0%			2.0%	
<u>Assumed PMPM</u>							
Medicare Advantage	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Commercial Risk	\$450	\$450	\$450	\$450	\$450	\$450	\$450
Commercial ASO	\$30	\$30	\$30	\$30	\$30	\$30	\$30
Medicaid	\$350	\$350	\$350	\$350	\$350	\$350	\$350
Exchanges	\$400	\$400	\$400	\$400	\$400	\$400	\$400

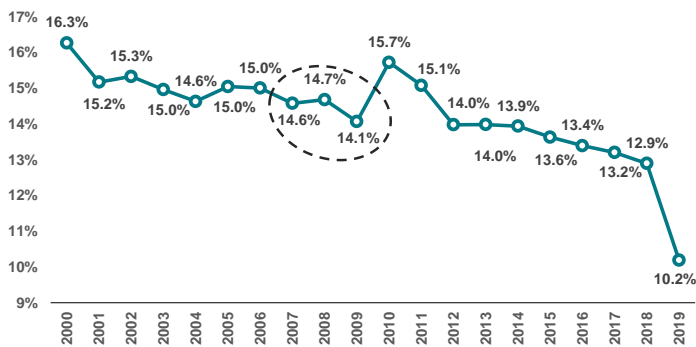
Source: Nephron Research, CMS, Kaiser, and US Census Bureau

10) What happens to SG&A costs through all of this?

In terms of SG&A, we note that there is some historical precedent for plans to rein in costs during periods of uncertainty. Below, we show the historical trend in average SG&A ratio across our coverage group. The SG&A ratio shown below is standardized to include stock compensation expense, but to exclude depreciation and amortization. **From 2007-2009, the average annual SG&A ratio for our MCO group was ~14.4%, approximately 50bps lower than both the preceding and subsequent three-year periods.** The average SG&A ratio across our MCO group declined to 14.1% in 2009, the lowest level achieved over the preceding ten years.

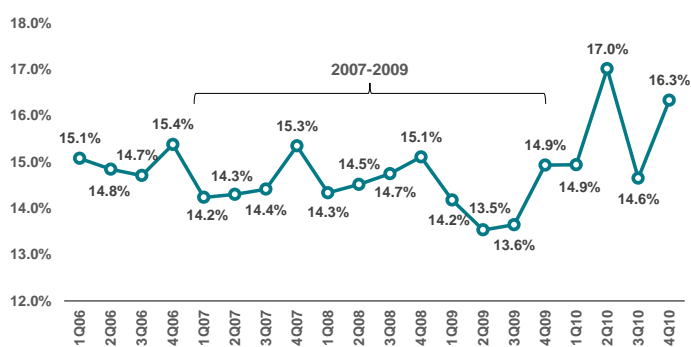
The decline in our coverage group’s average SG&A ratio can also be visualized on a quarterly basis. The overall trajectory can be best visualized by the downward pressure on fourth quarter results, which are seasonally higher due to the typical ramp in selling and marketing costs. From 2007-2009, our coverage group saw consistent y/y improvement in the average fourth quarter SG&A ratio. After three years of continuous declines, the 4Q09 SG&A reached 14.9%, down a cumulative 50bps relative to 4Q06.

Fig. 14: Average SG&A Ratio, 2000-2019



Source: Company Documents and Nephron Research

Fig. 15: Average SG&A Ratio, 1Q06-4Q10



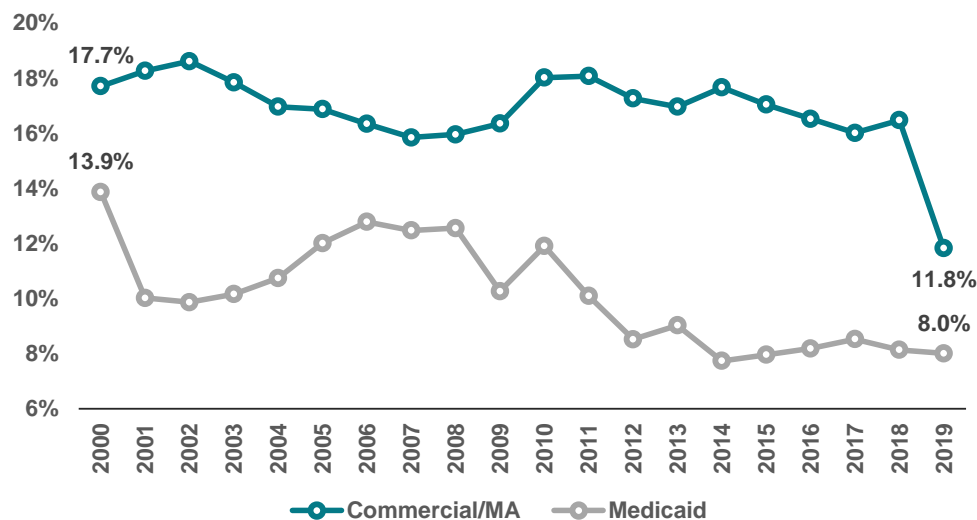
Source: Company Documents and Nephron Research

All that said, **we are more skeptical of seeing material improvement in SG&A ratios during this downturn. In fact, we are modelling in an increase this year.** First, we note that MCOs have already done a good job at extracting operating costs out of their business over the past few years (making incremental efficiencies more difficult to harvest). In 2019, **commercial/MA insurers within our group achieved an average SG&A ratio of just 11.8%**, representing a decline of ~590bps relative to 2000. The 2019 result was the lowest average SG&A ratio in 20 years. Similarly, the average SG&A ratio among Medicaid insurers was 8.0% in 2019, down 590bps from 2000. This was the third lowest result of the past 20 years.

Additionally, many companies are taking this opportunity to support better support their members and employees through enhanced services and compensation. Examples include one-time employee bonuses, COVID-19 hotlines, and additional paid-time off. Needless to say, each of these actions raises costs and **will eat into each company's ability to lower SG&A expenses through the duration of the outbreak.** Below, we highlight some of the specific actions underway at each of our MCOs:

- **ANTM:** Anthem is providing paid-time off for associates with professional medical training that volunteer in their local community's response to COVID-19.
- **Cigna:** Cigna is providing "premium" compensation and additional assistance to employees who are required to work on-site. All other employees (i.e. those that can work from home) are required to do so. In addition, the company is providing an additional 10 days of emergency paid-time off for COVID-19 related absences.
- **CVS:** The company is awarding bonuses of between \$150-\$500 to employees (pharmacists, store managers, hourly store employees) who are required to remain on-site during the COVID-19 outbreak.
- **HUM:** Has created a hotline with specially trained employees to help support members with specific coronavirus questions and concerns.
- **MOH:** The company has ordered thousands of employees across several states (including California and Texas) to work remotely on a temporary basis. The company plans on allowing employees in other states to work from home over the coming weeks. This raises the potential for heightened technology-related costs.
- **UNH:** UnitedHealth has created a navigation support program for those who have been either diagnosed with or exposed to COVID-19. The program gives each member a dedicated customer service representative to consult on the social isolation process and coordinate access to medication, food, and medical care.

With all of that said, we are assuming increases in SG&A dollars above our previous estimates of anywhere between 2.0% to 4.5%.

Fig. 16: Historical SG&A Ratio, MA & Commerical Insurers vs. Medicaid

Source: Company Documents and Nephron Research

1.1) What happens to investment income?

Though there are many moving parts relating to the recent decline in **interest rates**, we generally see a **very short-term and very modest benefit** (lower yields can create unrealized gains – which can be realized) that is then met with a **longer-term risk** (around reinvestment and then investment income levels). We estimate that our coverage universe would realize an average negative impact of about 3.4% to 2020 EPS if investment yields were to decrease 100bps on existing investment portfolios.

We start with a temporary positive that comes in the form of higher bond values leading to **unrealized gains**. After a precipitous decline in interest rates, existing fixed income securities tend to gain value. While some credits can lose value based on the underlying financial fundamentals, a large majority of investments held by managed care are very high quality including a large portion of government backed securities. While Corporate Bond ETFs with 1-5 year maturities are down 2-3% YTD, Treasury ETFs with 3-7 year maturities are up 5-7% this year. Said another way, investment portfolios at the managed care companies have likely appreciated slightly in recent weeks.

We also highlight that highly levered companies (Cigna and CVS) should receive a larger benefit. Our thought is that these companies can sell the higher valued securities to lock in even modest realized gains and use the proceeds for debt repayment. Conversely, even holding higher valued securities (at least those held as “available for sale”) will have the effect of increasing the equity balance on the balance sheet, and thereby reducing calculations of leverage including debt to cap (most widely used for health insurance companies). For some further perspective, an average of more than 95% of debt securities held by the managed care companies are classified as available for sale and marked to market through the equity account.

Despite the short-term benefit, we expect managed care companies to begin to see a headwind develop from short-term interest rate decreases, which could begin as early as this year. The negative impact stems from heightened reinvestment risk. When insurers see their bonds mature, or sell securities, the companies will have to reinvest at current yield levels, which are MUCH lower today. Remember, these portfolios have relatively short durations – around 3.2 years, so there is meaningful maturation and turnover of portfolios each year. We estimate that our coverage universe would realize an average negative impact of about 3.4% to 2020 EPS if investment yields were to decrease 100bps on existing investment portfolios. In terms of the company specific impact, Molina would

realize the largest EPS impact due to the company's smaller earnings base. Conversely, CVS and UnitedHealth would be the least effected by a 100bps decrease in yields due to the company's lower reliance on investment income as a percentage of earnings. However, UnitedHealth also has a higher duration investment portfolio of 3.4 years, compared to an estimated average of 3.2 years, which indicates the company's investments are likely more sensitive to movements in interest rates.

Fig. 17: 2020E EPS Impact of a 100bps Decrease in Investment Yield (\$ in thousands)

December 31, 2019	MOH	HUM	CNC	ANTM	CI	UNH	CVS	Average
Total Investments	\$4,552,000	\$14,106,000	\$17,420,500	\$28,392,000	\$29,963,500	\$49,144,000	\$23,841,500	
2020E Investment Income	\$103,700	\$541,080	\$484,740	\$980,350	\$1,486,880	\$1,857,000	\$700,000	
Implied Yield	2.28%	3.84%	2.78%	3.45%	4.96%	3.78%	2.94%	3.43%
Inv. Income EPS contribution	\$1.19	\$2.81	\$0.50	\$2.88	\$3.06	\$1.47	\$0.38	
yield with 100bps decrease	1.28%	2.84%	1.78%	2.45%	3.96%	2.78%	1.94%	2.43%
Incremental EPS impact	(\$0.52)	(\$0.73)	(\$0.18)	(\$0.83)	(\$0.62)	(\$0.39)	(\$0.13)	
Impact on EPS %	-4.50%	-3.96%	-3.90%	-3.72%	-3.37%	-2.38%	-1.85%	-3.38%

Source: Nephron Research and Company Documents

Over the past several years, sustained low interest rates have led to a drag on investment and on earnings, and we expect that to worsen. That said, we also point out that the low-rate environment has made companies less reliant on investment returns than they were a decade ago. In 2019, net investment income for the industry contributed only 1.4% to pre-tax earnings which compares to an average of 10.5% contribution from 2005-2019. This year in 2020 we expect total net investment income to contribute only 0.8% to pre-tax earnings. Note that we are calculating this netted against interest expense so recent large acquisitions are having an impact as well.

Fig. 18: Net Investment Income as a Percent of Pre-Tax Income (\$ in thousands)

	2011	2012	2013	2014	2015	2016	2017	2018*	2019	2020E**	'05-'19
Investment Income	\$4,007,865	\$4,086,984	\$3,971,410	\$4,109,007	\$4,054,569	\$4,217,800	\$4,769,400	\$4,832,200	\$5,518,000	\$5,453,750	\$65,814,171
Interest Expense	(\$1,695,569)	(\$1,983,347)	(\$2,157,374)	(\$2,130,496)	(\$2,442,100)	(\$3,188,200)	(\$3,293,500)	(\$3,236,400)	(\$4,991,600)	(\$5,130,219)	(\$33,864,645)
Net Investment Income	\$2,312,296	\$2,103,637	\$1,814,036	\$1,978,511	\$1,612,469	\$1,029,600	\$1,475,900	\$1,595,800	\$526,400	\$323,531	\$31,949,526
YOY Growth	(7.6)%	(9.0)%	(13.8)%	9.1%	(18.5)%	(36.1)%	43.3%	8.1%	(67.0)%	(38.5)%	
Pre Tax Earnings	\$21,468,899	\$21,072,605	\$22,060,649	\$24,448,512	\$26,656,686	\$28,880,831	\$28,702,700	\$30,114,800	\$37,789,200	\$41,601,120	\$348,447,508
YOY Growth	8.8%	(1.8)%	4.7%	10.8%	9.0%	8.3%	(0.6)%	4.9%	25.5%	10.1%	
NI as % of Pre Tax	10.8%	10.0%	8.2%	8.1%	6.0%	3.6%	5.1%	5.3%	1.4%	0.8%	9.2%

*Exclude AET beginning in 2018.

**Excludes WCG beginning in 2020.

Source: Nephron Research and Company Documents

12) What happens to interest expense?

With the recent decline in interest rates, we could theoretically see an improvement in interest expense if companies choose to refinance their debt. Our 2020 EPS estimates are not predicated on any improvement in interest expense, but we wanted to show the potential benefit if the MCOs are able to refinance to get lower rates. We estimate that our coverage universe would realize an average positive impact of about 2.7% to 2020 EPS if interest rates were to decrease by 100bps on existing interest expense costs.

In terms of the company specific impact, we highlight that highly levered companies (CVS and Cigna) should receive a larger relative benefit if they are able to refinance at lower rates. Conversely, Molina and Humana would be the least effected by a 100bps decrease in yields due to the company's lower exposure to interest expense as a percentage of earnings.

Finally, we would also expect a slight benefit from exposure to floating rate debt. Again, we do not have any benefit included in our models in this report, but want to highlight that there are likely some

benefits without official refinancings, though there are potential hedges as well. Generally speaking the majority of debt is fixed across the MCOs (over 90%), but there is modest exposure to floating rate debt (either directly or through pay floating swaps), so as rates remain depressed, there could be a modest benefit there as well.

Fig. 19: 2020E EPS Impact of a 100bps Decrease in Interest Expense (\$ in thousands)

December 31, 2019	CVS	CI	ANTM	UNH	CNC	HUM	MOH	Average
Total Debt	\$68,480,000	\$37,407,000	\$19,385,000	\$40,678,000	\$8,378,000	\$5,666,000	\$1,255,000	
2020E Interest Expense	\$2,877,444	\$1,581,897	\$810,579	\$1,710,529	\$710,085	\$239,450	\$77,680	
Implied Yield	4.20%	4.23%	4.18%	4.21%	8.48%	4.23%	6.19%	5.10%
Int. Expense EPS Cost	(\$1.58)	(\$3.26)	(\$2.38)	(\$1.36)	(\$0.74)	(\$1.24)	(\$0.89)	
rate with 100bps decrease	3.20%	3.23%	3.18%	3.21%	7.48%	3.23%	5.19%	4.10%
Incremental EPS impact	\$0.38	\$0.77	\$0.57	\$0.32	\$0.09	\$0.29	\$0.14	
Impact on EPS %	5.32%	4.21%	2.54%	1.97%	1.88%	1.59%	1.24%	2.68%

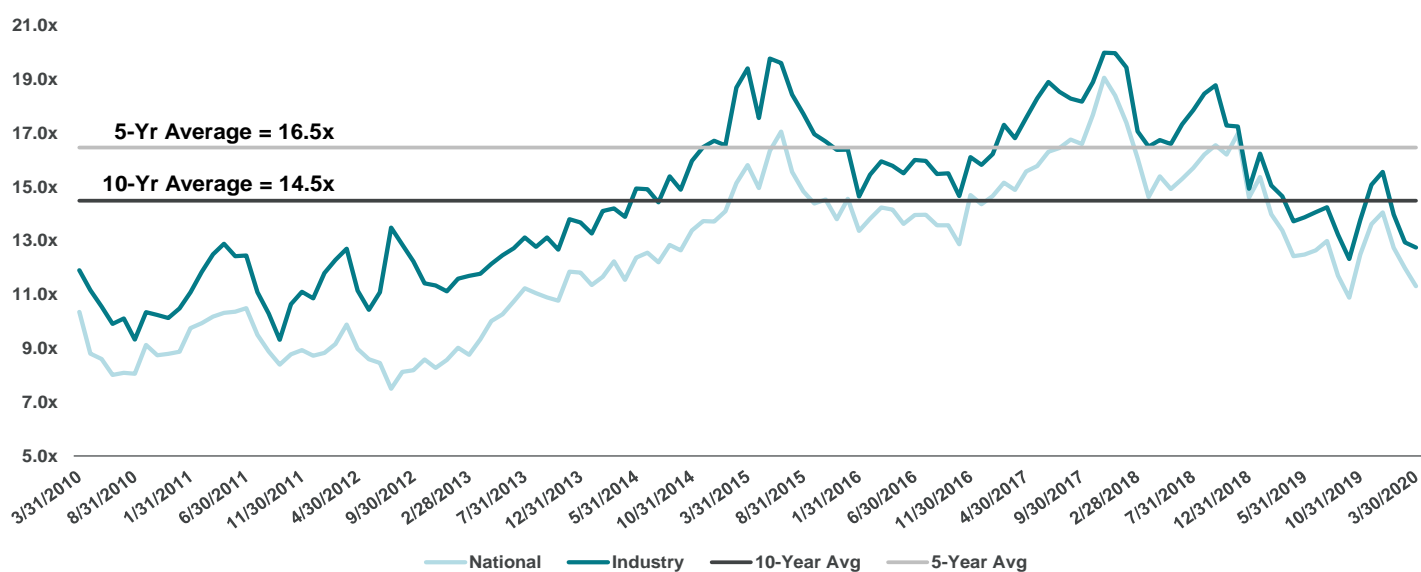
Source: Nephron Research and Company Documents

13) What happens to share repurchases?

Pivoting to share count, we believe there are several factors pointing to the potential for heightened share repurchase activity due to COVID-19. However, we are modelling in NO additional buybacks beyond our previous estimates as we think political pressure and uncertainty will combine to stop aggressive actions to increase shareholder value.

That said, first, we note that broad-based multiple compression across our managed care group has made the prospect of share buybacks more attractive. As of March 30th, our MCOs were trading at an average of 12.8x NTM EBITDA, which is down -23% from the 5-year average of 16.5x. Additionally, valuations remain relatively attractive compared to the market, with our managed care group trading at a 21% discount to the SP50 (compared to the 10-year average discount of -8%).

Fig. 20: Managed Care FTM Multiples

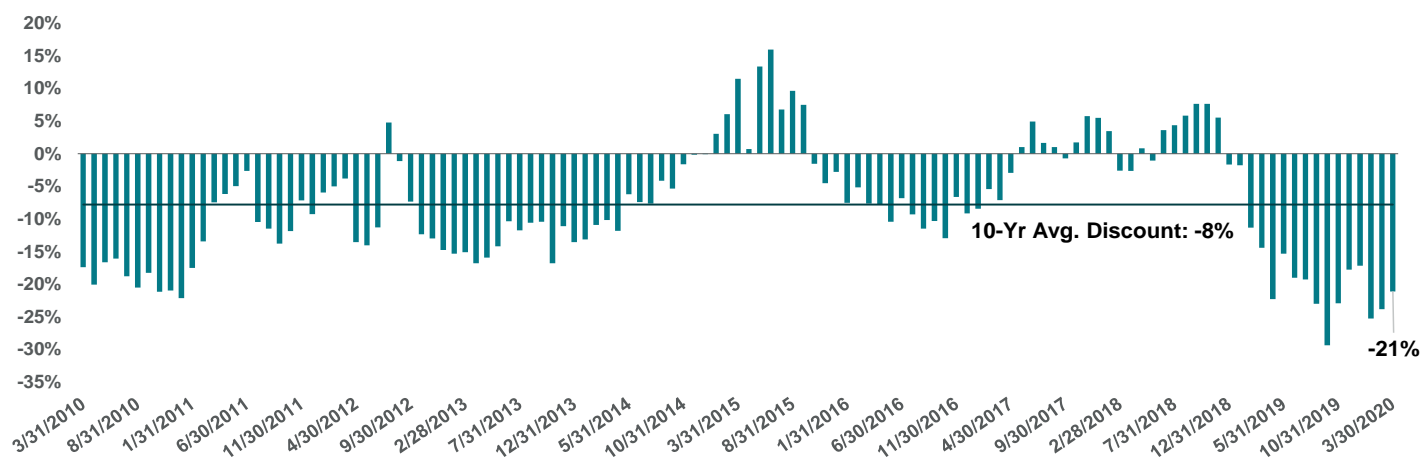


Source: FactSet and Nephron Research

While companies may wait to repurchase shares until there is more certainty around the COVID19 outbreak, we would not be surprised to see managed care companies take advantage of low valuations to accelerate share repurchases when the dust settles. Earlier this year, Cigna increased

its share repurchase capacity by \$500 million, while Humana initiated another \$1.0 billion accelerated share repurchases (following their prior ASR in November 2018). In December 2019, Molina authorized a share repurchase of up to \$500 million and bought back \$257 million in shares through February 7th. More surprisingly, **Centene also announced a \$500 million share repurchase program during 4Q19**. Centene has almost NEVER repurchases shares in the open market (just very modest repurchases for shares relinquished by employees for tax purposes and \$6 million in early 2009).

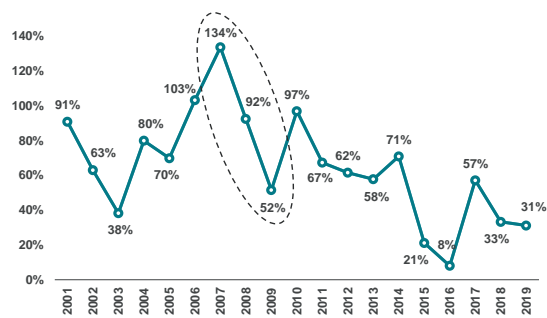
Fig. 21: Historical Managed Care Discount to SP50



Source: FactSet and Nephron Research

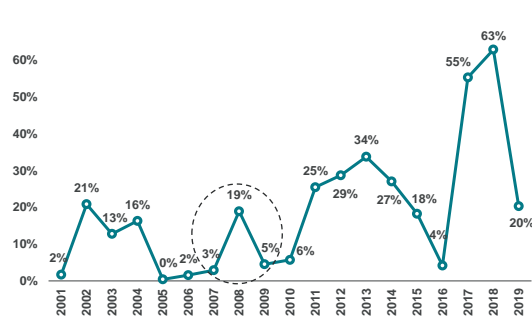
There is also historical precedent for stronger levels of share repurchases during periods of economic uncertainty. Below, we show share repurchases as a percentage of FCF across our coverage group, split between national and regional insurers. **Starting with the nationals**, we note that share repurchases averaged 93% of FCF from 2007-2009, which compares to 84% over the trailing three years and 75% over the subsequent three-year period. **Turning to regionals**, share buybacks reached a 5-year high of 19% of FCF in 2008, driven by broadly elevated share buyback activity at Molina, Centene, and Humana. From 2007 to 2009, **regionals allocated an average of 9% of FCF to share repurchases**, which compares to 6% of FCF in the preceding three-year period and 20% over the following three years.

Fig. 22: Share Repurchases as % of Free Cash Flow, Nationals



Source: Company Documents and Nephron Research

Fig. 23: Share Repurchases as % of Free Cash Flow, Regionals



Source: Company Documents and Nephron Research

Given the historical data, we show what the 2020 EPS impact would be if 50% of 2020E free cash flow were used to repurchase shares. Repurchases are based on the closing share price on March 30th.

We emphasize that this chart is meant to be illustrative rather than predictive, though we don't think these levels of repurchases are necessarily out of reach. As can be seen below, **the upside to 2020E EPS is highest at CVS, with 50% of FCF leading to 7.2% accretion off our base estimate.** Centene has the second highest upside at 4.0% of our 2020 EPS estimate, though that may be driven by the lack of repurchases in our base forecast (i.e. the incremental benefit is larger).

Fig. 24: 2020E EPS Impact with 50% of FCF Allocated to Repurchases

	2020E Shares		EPS Impact	% of 2020E EPS
	Base	New		
ANTM	255.4	249.0	\$0.57	2.6%
CI	371.0	361.4	\$0.49	2.7%
CNC	586.5	563.5	\$0.19	4.1%
CVS	1319.7	1233.1	\$0.50	7.0%
HUM	132.8	130.6	\$0.32	1.7%
UNH	954.5	932.2	\$0.39	2.4%
MOH	60.2	61.8	N/A	N/A

Source: Company Documents and Nephron Research

14) Land the plane! What is the EPS Impact of COVID-19 on 2020 EPS?

Finally, we arrive to our estimates of the impact of COVID-19 on 2020 EPS for our coverage universe. The MLR impact that is shown below is the same as the MLR benefit derived from our COVID-19 impact model (we focus on the one that is not adjusted for supply constraints). The membership changes reflect our growth, PMPM and margin assumptions that we outlined above. For investment income, we believe that a 10% reduction in our full year estimates are prudent given the decline in interest rates. We gauge this off of the calculations we made for a 100bps drop in yields and adjust for current rates (note that the three year treasury yield has declined another 60bps since the end of February). In terms of SG&A, we use the assumptions above for an increase in G&A costs in a range of 2.0% to 4.5% for the various companies. We believe the larger diversified companies have greater leverage and productivity (closer to 2%) while the Medicaid focused companies are closer to 4.5% given the expected increase in Medicaid and exchange growth.

Finally, we make company specific adjustments for companies that have substantial earnings from non-insurance business segments. For Anthem, Centene and Molina we assume that there is no material impact from non-insurance business segments, simply because the relative size of those earnings are small.

- **Cigna:** We estimate Cigna will have a relatively small earnings headwind of just \$37 million in their healthcare services (the legacy Express Scripts). This is driven by a 1.8% decline in core PBM revenues in 2020 and -0.8% decline in specialty mail, partially offset by 1.1% higher revenues from non-specialty mail. From the PBM perspective, we don't expect a material change in scripts or revenue given that the majority of scripts are for chronic conditions and are not materially affected by scripts at the physician's office.
- **CVS:** We expect the CVS retail pharmacy will realize a headwind of \$440 million and the PBM will realize a \$65 million headwind. In total, we estimate the CVS healthcare services segment will have a \$505 million earnings impact. While we don't expect a material change in the PBM,

we expect a greater headwind from the front end of the store despite the increase in stockpiling related to COVID19, driven primarily by shift away from higher margin beauty (impacted by the lockdowns in place across the US).

- **UnitedHealth:** We expect the OptumHealth segment will experience material earnings headwind in 2020, similar to other healthcare providers. We have consistently heard that primary care volumes are down anywhere from ~40% to ~80% in the impacted geographies and we would guess OptumHealth is experiencing a similar impact. However, we then adjust for the duration of the issue, a potential for a modest increase at the end of 2020 with pent up demand, and a further haircut because a portion of OptumHealth's revenues are capitated (and those monthly payments insulate the company from the FFS pressures). Taken altogether, we assume there is a 25% negative earnings impact for Optum Health. We expect that OptumRx will be down ~2% similar to the impact laid out for the PBM impacts at CVS and Cigna. Finally, there could be a modest incremental earnings boost to OptumInsight based on comments we are hearing from various healthcare companies and local governments suggesting clients would have greater needs for data and analytics tools, and clinical decision support tools and capabilities during an uncertain time like the COVID-19 pandemic.

Generally speaking, we expect the highest earnings benefit for Medicaid-focused companies including Centene and Molina. **We expect a \$0.38 per share increase (or 8.2%) and \$0.58 per share increase (or 5.0%) for Centene and Molina, respectively.** While the MLR benefit from COVID-19 in Medicaid is not as high as companies with high commercial risk exposure (e.g. Anthem), we estimate they will realize a greater earnings benefit from growth in Medicaid and Exchanges during a period of high unemployment. Next, we expect **Anthem to be the only diversified plan that will benefit by ~\$0.95 per share (or 4.2%)** due to the significant benefit from delays in elective procedures in their commercial risk book and the fact that they are not materially exposed to non-insurance businesses that could see a material headwind in 2020. We expect **UnitedHealth to experience the greatest earnings headwind of \$0.85 per share (or 5.2% decline)** given their heavy exposure to Medicare Advantage, as well as the material impact to OptumHealth. **We note that Humana is close to UnitedHealth with an expected EPS pressure of \$0.58 per share, or 5.0% in 2020.**

Fig. 25: Summary of COVID-19 2020 EPS Impact for Coverage Universe

EBIT Bridge of Changes	Anthem	Centene	Cigna	CVS	Humana	Molina	UnitedHealth
a) MLR Impact from COVID-19	\$1,060,972	\$683,321	\$340,855	\$532,249	\$106,705	\$110,542	\$1,257,743
b) Membership Changes	(\$191,994)	\$34,519	(\$82,638)	(\$114,344)	(\$2,484)	\$7,492	(\$278,545)
Medicare Advantage	\$1,877	\$1,355	\$686	\$3,509	\$6,108	\$147	\$7,833
Commercial Risk	(\$184,566)	(\$9,057)	(\$72,171)	(\$108,084)	(\$9,240)	\$0	(\$278,912)
Commercial ASO	(\$26,328)	\$0	(\$12,346)	(\$14,264)	(\$509)	\$0	(\$19,231)
Medicaid	\$14,487	\$23,944	\$0	\$4,495	\$1,157	\$5,680	\$11,764
HIX	\$2,537	\$18,278	\$1,193	\$0	\$0	\$1,665	\$0
c) Investment Income	(\$98,035)	(\$48,474)	(\$104,082)	(\$70,000)	(\$54,108)	(\$10,370)	(\$185,700)
d) SG&A Impact	(\$447,423)	(\$304,988)	(\$282,101)	(\$697,541)	(\$177,622)	(\$56,989)	(\$964,618)
Sub-Total	\$323,520	\$364,378	(\$127,966)	(\$349,636)	(\$127,509)	\$50,675	(\$171,120)
Other Business Segment Adjustments	\$0	\$0	(\$37)	(\$505,000)	(\$53,950)	\$0	(\$895,271)
Optum Rx (-5%)							(\$82,060)
Optum Health (-25%)							(\$953,374)
Optum Insight (5%)							\$140,163
Health Services (-5%)			(\$37)	(\$505,000)	(\$53,950)		
Total EBIT Impact	\$323,520	\$364,378	(\$128,003)	(\$854,636)	(\$181,459)	\$50,675	(\$1,066,391)
% of 2020 EBIT	4.0%	9.2%	-1.7%	-5.4%	-4.9%	4.7%	-4.8%
	Anthem	Centene	Cigna	CVS	Humana	Molina	UnitedHealth
EPS Impact	\$0.95	\$0.38	(\$0.26)	(\$0.47)	(\$0.94)	\$0.58	(\$0.85)
% of 2020 EPS	4.2%	8.2%	(1.4%)	(6.6%)	(5.1%)	5.0%	(5.2%)
2020 EPS	\$22.40	\$4.65	\$18.30	\$7.08	\$18.50	\$11.60	\$16.40

Source: Kaiser and Nephron Research

15) What about 2021, and when should we focus on that?

It is quite obvious that the market is reacting to almost daily changes in the news reported around the progression of the virus. As shown below, over the past 30 trading days, all of the managed care stocks (except CVS with its retail "buffer") have moved +/-3% for at least 64% of those days. There doesn't appear to be much rhyme or reason for trading on a daily basis. There were 12 instances in which the group average moved from positive 3% to negative 3% the next day, or vice versa.

Fig. 26: Daily Volatility over Last 33 Trading Days

	S&P500	ANTM	CNC	CI	CVS	HUM	MOH	UNH
2/21/2020	-1.1%	0.3%	-0.4%	-1.5%	-0.6%	-0.4%	-0.5%	-0.2%
2/24/2020	-3.4%	-5.8%	-9.4%	-7.7%	-5.0%	-6.4%	-7.7%	-7.8%
2/25/2020	-3.0%	-3.6%	-5.7%	-4.3%	-5.3%	-4.1%	-6.6%	-5.2%
2/26/2020	-0.4%	0.3%	-2.8%	-1.5%	-2.6%	-1.0%	-0.2%	-0.1%
2/27/2020	-4.4%	-3.8%	-3.3%	-3.7%	-5.3%	-4.4%	-3.5%	-3.5%
2/28/2020	-0.8%	-0.3%	0.8%	0.6%	-0.3%	1.7%	-1.3%	0.4%
3/2/2020	4.6%	5.5%	4.6%	6.2%	8.2%	8.0%	3.9%	7.1%
3/3/2020	-2.8%	-5.5%	-2.5%	-2.6%	-2.3%	-5.8%	-3.8%	-4.3%
3/4/2020	4.2%	15.6%	15.6%	10.7%	5.6%	14.4%	16.3%	10.7%
3/5/2020	-3.4%	-3.1%	-4.4%	-4.1%	-2.5%	-0.5%	-1.6%	-2.2%
3/6/2020	-1.7%	-1.7%	-1.9%	-2.7%	-0.3%	-1.0%	-1.3%	0.3%
3/9/2020	-7.6%	-4.4%	-5.5%	-7.1%	-4.4%	-8.1%	-3.9%	-3.7%
3/10/2020	4.9%	6.0%	9.0%	8.9%	2.1%	3.6%	2.7%	2.4%
3/11/2020	-4.9%	-1.5%	-4.0%	-5.3%	-2.1%	-6.0%	-3.3%	-0.8%
3/12/2020	-9.5%	-9.0%	-1.4%	-12.3%	-10.9%	-10.7%	-1.4%	-9.9%
3/13/2020	9.3%	5.5%	11.3%	9.5%	9.2%	7.1%	12.5%	8.6%
3/16/2020	-12.0%	-17.1%	-15.0%	-16.2%	-12.3%	-13.9%	-16.9%	-17.3%
3/17/2020	6.0%	6.4%	7.3%	2.9%	10.9%	0.9%	3.3%	8.5%
3/18/2020	-5.2%	-13.2%	-9.2%	-7.9%	-1.4%	-9.5%	-4.5%	-11.1%
3/19/2020	0.5%	-2.9%	1.7%	2.5%	-3.1%	3.9%	0.4%	1.3%
3/20/2020	-4.3%	-4.6%	-8.9%	-3.0%	-1.2%	-10.0%	-5.6%	-6.0%
3/23/2020	-2.9%	-8.8%	-6.8%	-8.5%	-2.9%	-7.0%	-5.2%	-5.7%
3/24/2020	9.4%	12.7%	7.0%	13.2%	2.4%	9.2%	9.4%	12.8%
3/25/2020	1.2%	9.9%	7.3%	6.5%	-1.3%	14.9%	10.4%	6.7%
3/26/2020	6.2%	8.9%	11.5%	8.1%	8.7%	13.2%	7.5%	8.9%
3/27/2020	-3.4%	-5.4%	-5.5%	-4.9%	0.5%	-2.4%	-3.4%	-5.1%
3/30/2020	3.4%	3.4%	4.7%	10.5%	1.8%	4.8%	3.1%	3.6%
3/31/2020	-1.6%	-1.5%	2.9%	-0.6%	-0.6%	0.9%	0.3%	-0.8%
4/1/2020	-4.4%	-5.6%	-5.5%	-2.3%	-1.7%	-4.9%	-6.1%	-4.8%
4/2/2020	2.3%	-1.4%	0.4%	-2.5%	-5.0%	0.5%	1.8%	1.3%
4/3/2020	-1.5%	-3.8%	-3.1%	-2.9%	0.6%	-2.8%	-1.0%	-4.6%
4/6/2020	7.0%	11.0%	10.1%	5.9%	0.9%	12.3%	6.7%	8.2%
4/7/2020	0.4%	0.8%	1.0%	3.3%	2.3%	-1.4%	-0.3%	1.9%
<-3%	12	14	13	12	8	12	12	13
>+3%	9	10	10	10	5	10	9	9
% of Days	64%	73%	70%	67%	39%	67%	64%	67%

Source: FactSet Nephron Research

At some point, the market is going to focus on 2021 as a normalized starting base for the companies. It is our belief that COVID-19 impacts will be much more severe in 2020 than any year forward. Said another way, even if we see flare ups in the future, we think that the combination of built up immunities, potential cures and/or immunizations will dampen effects in the future. **Its possible that COVID-19 season becomes a new "flu season" but we don't expect to see meaningful year over year changes in the future.**

As we look toward 2021, we again compartmentalize our views based on the segments:

Commercial

Membership: The most obvious impact will be the lower starting point for membership. Depending on the slope of the recession, we could start 2021 with a significantly lower commercial membership base. Most economists expect a meaningful rebound, though there is more

uncertainty around this rebound than previous recessions. **We would guess that total commercial membership by the END of 2021 is likely up about 3% from 2020 levels, which implies that we get back approximately 5mm (or 50%) of the 10mm commercial membership losses we are projecting in 2021.** As noted, its possible that some of the job growth comes back sooner than later so we would guess that the member month impact in 2021 is actually positive. **Assuming that a large majority of the commercial losses this year come in March/April, we estimate that member months in 2021 are actually up just over 1%.**

Now, in the context of our current estimates (i.e. before the COVID-19 pandemic impact), 2021 commercial membership will almost certainly be lower. If we assume that commercial membership losses are approximately 6.0% this year in 2020, that translates into a member month decline of 5%. **Using the same estimates for 2021 employment growth of 3% (getting back half the losses), we estimate that member months in 2021 will be 3.7% lower than our current estimates. While this is incrementally better than 2021, we still estimate a headwind on commercial membership for 2021.**

Fig. 27: Estimated Commercial Member Months

	Prev Est	2020	Vs Prev Est	2021	Vs Prev Est
Jan	168.0	168.0	0%	159.6	-5%
Feb	168.0	168.0	0%	159.6	-5%
Mar	168.0	163.0	-3%	159.6	-5%
Apr	168.0	157.9	-6%	161.3	-4%
May	168.0	157.9	-6%	161.3	-4%
Jun	168.0	156.3	-7%	161.3	-4%
Jul	168.0	156.3	-7%	163.0	-3%
Aug	168.0	156.3	-7%	163.0	-3%
Sep	168.0	157.9	-6%	163.0	-3%
Oct	168.0	157.9	-6%	163.0	-3%
Nov	168.0	157.9	-6%	163.0	-3%
Dec	168.0	157.9	-6%	163.0	-3%
Total	2,016.3	1,915.5	-5.0%	1,940.7	-3.7%

Source: Kaiser, BLS and Nephron Research

MLR: We have argued for decades that managed care stocks tend to perform counter-cyclically. The heart of our argument surrounds our belief that MLRs tend to improve in a down economy. When corporate America is struggling they look to save costs everywhere and that trickles down to the benefits for employees. While boom times are about recruiting and retention, recessions are about cost cuts and messages of "where else are they going to go for work?" What tends to happen is that benefits become more restrictive in down cycles. We start to see higher out of pocket costs (including deductibles), and tighter networks and formularies. Luckily we have solid data for commercial MLRs. Back in the last recession several companies were reporting segment MLRs so the chart below is just commercial loss ratios. **As you see in the chart below, MLRs rose as the last recession started** – that was a result of higher COBRA costs, a rush to get procedures done in front of potential layoffs and other factors. **But more importantly, after the initial impact of the recession, we saw MLRs drop for two years.** As a reminder, the job losses were more spread out last time so the MLRs rose for 2 years and then fell for two years. Over the entire 4 year period we ended up right back where we started.

Fig.28: Commercial Segment MLRs: Up First and then Down in a Recession

Commercial MLRs	2007	2008	2009	2010	2011
Aetna	79.5%	80.3%	84.5%	80.6%	77.9%
Anthem	82.4%	84.5%	83.6%	83.2%	85.1%
Cigna	80.7%	81.9%	81.5%	82.3%	71.0%
Humana	80.5%	80.3%	80.6%	84.1%	84.4%
UnitedHealth	82.1%	83.1%	84.0%	80.6%	80.9%
Commercial	80.9%	82.5%	83.2%	82.3%	80.9%
YOY Change	73bps	154bps	71bps	(88)bps	(138)bps

Source: Company Documents and Nephron Research

There are two major differences with the current recession: 1) We expect to see more pent up demand this time, and 2) the impacts will occur over a shorter period. On the pent up demand, we note that job losses this month have come at unprecedented speeds, with 9.6mm job losses in just two weeks. With that, there was less time for employees to schedule procedures while employed. Additionally, because this recession is due to COVID-19 there has been a significant amount of care being postponed or cancelled. It is reasonable to expect some of that demand to come back when the Virus has been contained. That said, we note that supply constraints in the system and history tell us that not all of the delayed care comes back. In fact, we believe that the 2021 cost trends will be only modestly higher, perhaps 50bps above base line trend. Additionally, companies are certainly aware of this and will be able to price appropriately. **For 2021 commercial MLRs, we expect the historical trend of MLR reductions to hold as tighter benefits and pricing adjustments more than compensate for any pent up demand.** We estimate that MLRs in the commercial segment fall 25bps relative to our estimates.

Exchanges

Membership: Again, there is no historical precedence for Exchange performance through a recession. Above we spoke about our belief that exchange membership would grow approximately 11% in 2020, as a result of 12.5% of the lost commercial members finding their way into the exchanges. **As we think about the move in 2021, we think that membership likely maintains a similar level, with a bias to slight growth.** Our thought here is that membership will be relatively sticky. We think that those that choose the exchanges (over remaining on COBRA) have a good sense of their healthcare needs. They decided to buy insurance in 2020 instead of simply going uninsured. We don't know why they would let that lapse in the second year. Additionally, we think that some individuals will continue to roll off of employer COBRA plans allowing for slight growth.

MLR: Yup – no historical data again. The MLRs for exchanges have moved around a lot since they started in 2014. The reason has been less economically driven and more about competition and the market settling in. As seen below, when the exchanges began in 2014, MLRs immediately began to rise quickly as poor company underwriting and adverse selection were major issues. In recent years, the MLRs have come down meaningfully as competition has abated, underwriting has improved and the risk pool has stabilized. **We believe that MLRs in 2020 for exchanges will rise modestly.** Earlier in this reported we suggested "We estimate the margins on new exchange members will be low as the people who enroll will be sicker and require health insurance, so we give them 2.0% margin profile in 2020." **Conversely, we believe that MLRs will improve slightly in 2021.** We think that pent up demand will be partially completed in late 2020 and likely not as dramatic in the exchanges. We project a 30bps decline in exchange MLRs in 2021.

Fig. 29: Individual Segment MLRs – Exchanges Began in 2014

Individual	2011	2012	2013	2014	2015	2016	2017	2018
CVS	77%	82%	83%	95%	96%	93%	73%	-
Anthem	78%	80%	82%	83%	90%	90%	85%	66%
Cigna	72%	82%	86%	88%	75%	79%	101%	71%
Centene	-	54%	94%	76%	101%	107%	75%	69%
Humana	72%	72%	77%	97%	100%	115%	64%	-
Molina	-	-	-	-	-	91%	86%	55%
United	74%	79%	83%	85%	97%	95%	77%	77%
Industry	81%	83%	85%	92%	98%	95%	84%	74%

Source: Company Documents, CMS and Nephron Research

Medicaid

Membership: Above we calculated that the Medicaid population would grow in 2020 by 6.5%, or add approximately 5mm individuals. Within that, we expected 85% of that growth to come in Managed Medicaid, equating to growth of 6.3%. What was interesting about the last recession was that Medicaid managed care enrollment growth continued at an above average pace for several years. That was in part due to the fact that state conversions accelerated, as states looked to save money transitioning away from FFS programs. Additionally, that period ran into the ACA which allowed for significant expansions of Medicaid programs in states that embraced those changes.

This time around, we won't have the benefit of the ACA expansion. Additionally, we have seen many state based program expansions in recent years and have a good sense of the current pipeline. We don't think that the recession is going to accelerate that transition as we saw a decade ago. **With that, we expect a modest contraction in the overall Medicaid program of 1% in 2021, though the transition to managed programs will allow for Medicaid managed care to grow 0.5% in 2021.**

MLR: The good news is that we have historical data to rely on, the bad news is that we don't think it is applicable. As the chart below shows, MLRs started to rise as the last recession began with a modest 31bps increase in 2008 and then a 143bps increase in 2009. This was the result of an influx of membership, with new members typically carrying higher MLRs, as well as some rate pressure at the state level. However, as employment and same-store Medicaid enrollment normalized in 2010-2011, MLRs saw a noticeable drop. We attribute this to the changes that came with the ACA. Without listing all of the impacts, we highlight the expansion population coming in at lower MLRs and the fact that the Federal government was funding 100% of the costs of expansion for the first 5 years (significantly relief for states around rates).

Fig.30: Medicaid MLRs Previous Recession – The ACA Was a Big Help

	2007	2008	2009	2010	2011
Centene	86.10%	82.71%	83.55%	83.83%	85.18%
Molina	84.47%	84.80%	86.78%	84.48%	84.15%
WellCare	80.85%	84.83%	86.31%	86.53%	80.95%
Averages	83.81%	84.11%	85.54%	84.95%	83.43%
Y/Y Change +/-	83	31	143	(59)	(152)

Source: Company Documents and Nephron Research

As we move into 2020, we are again assuming some modest MLR pressure to begin for the Medicaid segment, similar to the last cycle. We note that the biggest difference this time around was the Federal Government's immediate move to increase the FMAP percentage by 6.2%. Basically, the Federal Government is going to pay the states more for their Medicaid programs since they know there are going to be a spike in costs. This is a result of an expected surge in membership and not necessarily for costs to treat COVID-19 patients. This should help partially

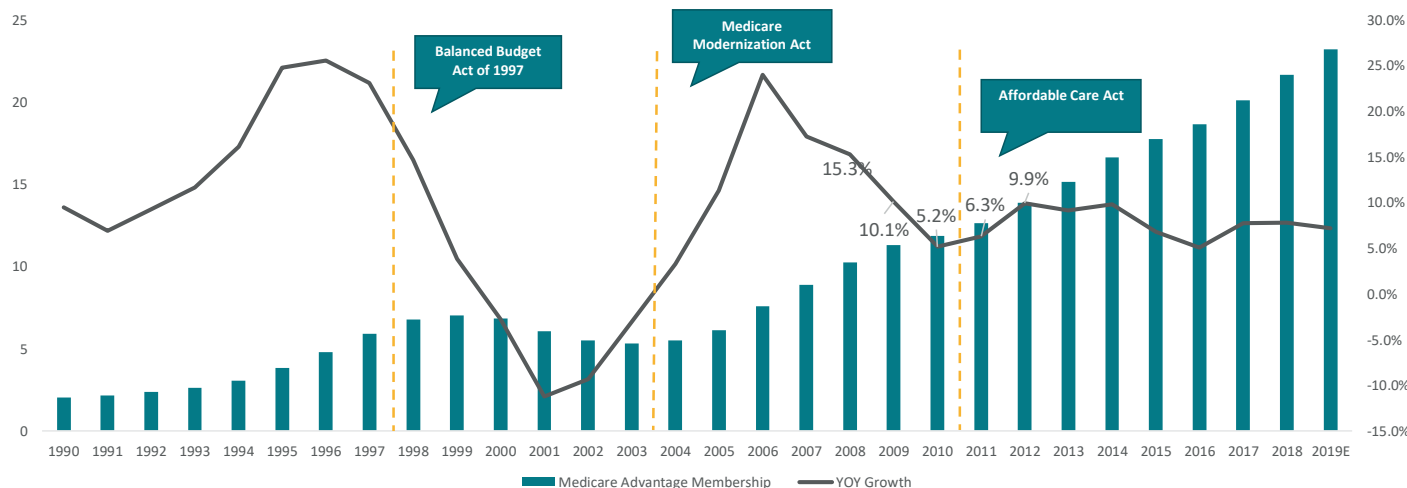
offset the pressure of new enrollment. **For 2021, we assume that MLRs are relatively stable, with an estimate of an increase of just 10bps.**

Medicare Advantage

Membership: While not related to the changes in employment levels, we believe that recessions are accelerants to MA enrollment. Industry membership changes have always moved as a result of legislative changes, and not as directly to recessions. Looking at the chart that isn't entirely intuitive. Looking back to 2001, there was a clear trough in membership growth at the industry lost over 11% of total enrollment. This was not due to the current recession at the time, but rather a result of the BBA of 1997 which put through significant cuts to all Medicare providers. In fact, MA enrollment rebounded due to the BBRA act of 1999 and the BIPA act of 2000 (call us for a dissertation on unintended consequences from government actions).

Then again, in the last recession we saw membership growth in MA trough in 2010 at 5.2%. Again, not related to the economy. Instead, the ACA was passed and industry participants saw this coming. Expansions were slowed even in front of the massive rate cuts to MA plans (which started with a freezing of rates announced in 2010).

Fig.31: Medicare Advantage Growth Rates Move with Legislation, Not Recessions



Source: CMS and Nephron Research

We would go so far as to argue that growth will accelerate through this latest recession. MA is a great value to seniors. While seniors must give up some of the choice (especially on provider breadth), they gain valuable savings out of pocket and add many additional services and benefit coverages. As seniors see their home values and retirement accounts pressured currently, we think the natural reaction will be to save on healthcare. The best way to do that is through a movement to Medicare Advantage. For 2020, we spoke about a very modest tailwind to growth from a higher proportion of age-ins selecting MA. **For 2021, we now believe that MA growth can approach 12%, which would be the highest percentage since 2008, and highest absolute number of adds ever.** Remember, there are other benefits to the program for 2021 including the permanent repeal of the health insurance fee.

MLR: We do not see margins as particularly impacted by the recession. However, there are some considerations related to the COVID-19 outbreak. We spoke above about our belief that Medicare will see less deferral of services in 2020. While we assume that 31.5% of commercial medical costs

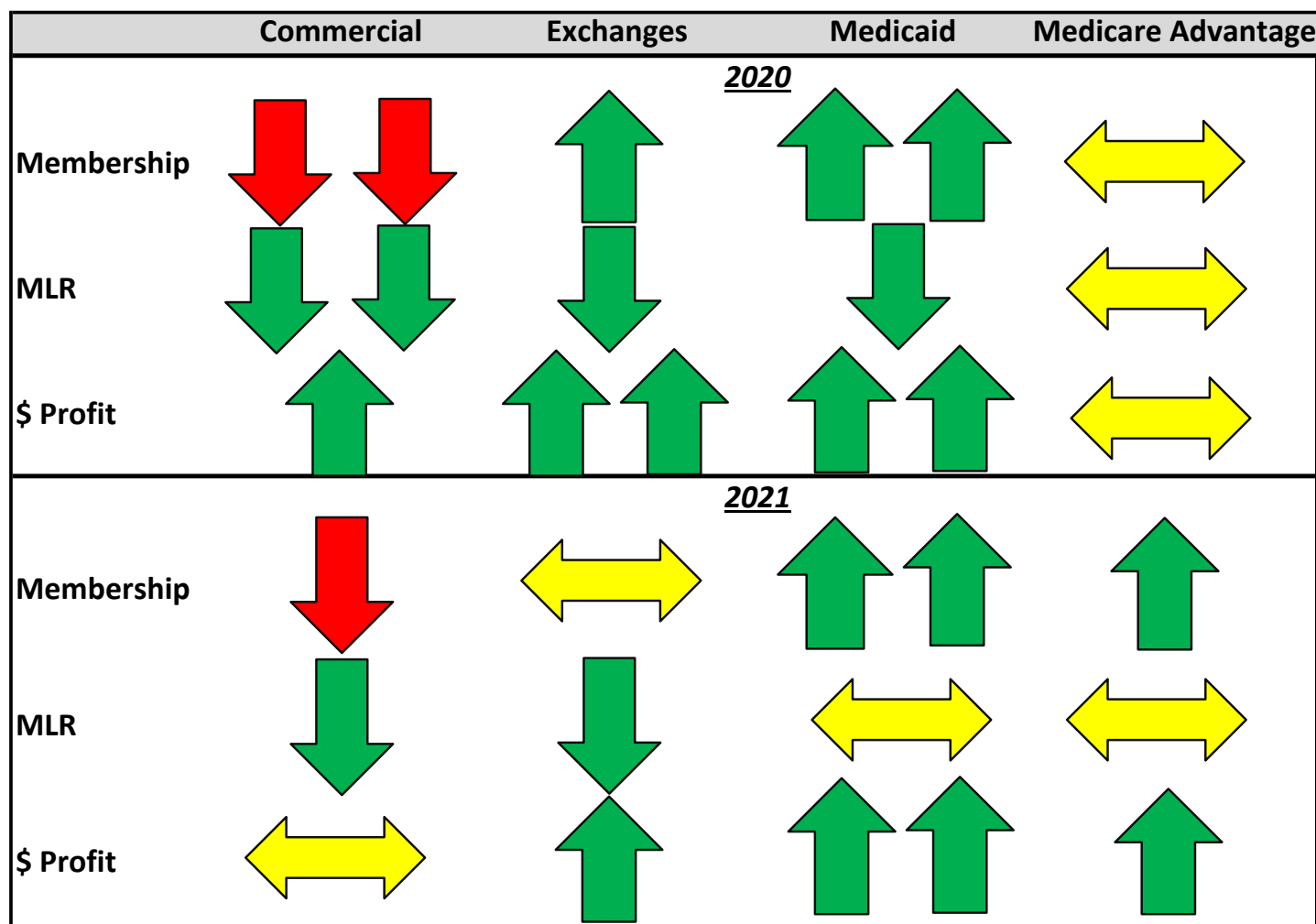
are deferred, we see that number at only 13.5% in Medicare. With that, we see the impact of pent up demand as less impactful, and perhaps only a modest consideration. We also acknowledge the risk of costs being higher in the future due to less preventive care in the short term. While not a huge issue in commercial populations, Medicare enrollees tend to have more chronic needs. Without the appropriate care in the short term, it is almost certain that we see higher costs to remedy in the future. **Most importantly**, the plans know a lot more about actuarial tables than we do, and they have until June 1st to submit their formal bids for 2021. The plans should continue to get a lot more information over the next 8 weeks and be better prepared to gauge impact. **We believe that MLRs should be stable in 2021 and it just as likely that the plans over-correct than under-correct in their bids.**

2021 Profit Views

In the visually stunning chart below, we summarize the movements in membership, MLR and profit dollars across the segments. We have spoken to the details above, but wanted to provide an easy visual.

- **Commercial:** We expect profits to rise in 2020 (deferred medical costs are the biggest driver) with profits normalizing in 2021 (we don't see a major impact from pent up demand).
- **Exchanges:** We expect profits to rise meaningfully in 2020 (lower medical costs and a large increase in membership) with profits remaining higher than our current estimates in 2021 (membership remains elevated).
- **Medicaid:** The most simple segment – We expect elevated profits in both 2020 and 2021 with an influx of membership and a reasonable rate environment.
- **Medicare Advantage:** It is not as obvious to most, but we are believers in positive growth coming from recessionary periods. We expect profits to be relatively unchanged in 2020 (not enough time to see a major impact on Age-ins) with momentum increasing and above expectations profits in 2021 (higher membership driven).

Fig.32: Directional Segment Impacts: 2020-2021



Source: Nephron Research

Next, we have included those assumptions into our company models to assess the potential changes to our 2021 EPS estimates. Remember, the estimates below are compared to our previous estimates and not compared to 2020 estimates. We are simply looking to isolate the impact of the COVID-19 virus on our 2021 EPS estimates, relative to our previous estimates.

As the chart below shows, the first thing you notice is that we estimate Humana is the only company that shows a higher EPS total than our previous expectation. As we discussed, we are more bullish on MA in a recession and the lack of commercial exposure is another positive for the company. Conversely, we see the most lasting negative impact at UnitedHealth, due in part to their OptumHealth segment, as well as commercial insurance exposure. For the rest of the companies we are projecting only modest reductions to EPS in 2021. Excluding Humana and UnitedHealth, we estimate the average reduction in 2021 EPS for the group is approximately 1.8%.

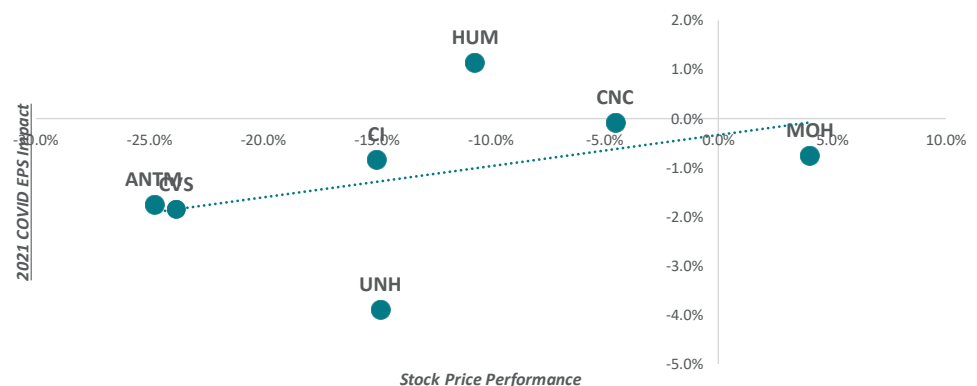
Fig.33: 2021 EPS Impacts

EBIT Bridge of Changes	Anthem	Centene	Cigna	CVS	Humana	Molina	UnitedHealth
a) MLR Impact from COVID-19	\$103,861	\$54,698	\$54,192	\$44,034	\$12,023	\$4,861	\$126,628
b) Membership Changes	(\$118,406)	\$101,560	(\$63,718)	(\$69,053)	\$33,485	\$18,719	(\$184,161)
Medicare Advantage	\$11,932	\$8,282	\$4,504	\$22,621	\$38,616	\$928	\$49,234
Commercial Risk	(\$163,408)	(\$4,803)	(\$67,388)	(\$97,492)	(\$7,745)	\$0	(\$254,755)
Commercial ASO	(\$8,929)	\$0	(\$4,157)	(\$4,790)	(\$153)	\$0	(\$6,442)
Medicaid	\$35,150	\$56,430	\$0	\$10,609	\$2,767	\$12,960	\$27,802
HIX	\$6,850	\$41,651	\$3,323	\$0	\$0	\$4,831	\$0
c) Investment Income	(\$50,488)	(\$25,741)	(\$78,498)	(\$35,000)	(\$28,948)	(\$5,444)	(\$99,650)
d) SG&A Impact	(\$76,828)	(\$134,156)	\$70,705	(\$173,011)	\$46,437	(\$25,455)	\$0
Sub-Total	(\$141,861)	(\$3,638)	(\$17,319)	(\$233,029)	\$62,998	(\$7,318)	(\$157,183)
Other Business Segment Adjustmen	\$0	\$0	(\$62,576)	(\$21,800)	(\$22,875)	\$0	(\$717,259)
Total EBIT Impact	(\$141,861)	(\$3,638)	(\$79,895)	(\$254,829)	\$40,123	(\$7,318)	(\$874,442)
% of 2021 EBIT	-1.7%	-0.1%	-1.0%	-1.5%	1.1%	-0.7%	-3.6%
2021 Revenues	\$129,656,816	\$115,588,234	\$164,471,658	\$275,144,005	\$81,341,972	\$17,899,757	\$281,532,290
2021 EBIT	\$8,527,889	\$4,202,136	\$8,123,972	\$16,625,475	\$3,738,648	\$1,065,985	\$23,969,418
Tax Rate	22.00%	26.00%	22.35%	25.60%	23.01%	24.50%	21.99%
Shares	250,900	597,362	362,945	1,329,691	130,967	59,375	937,775
EPS Impact	(\$0.44)	(\$0.00)	(\$0.17)	(\$0.14)	\$0.24	(\$0.09)	(\$0.73)
% of 2021 EPS	(1.7%)	(0.1%)	(0.8%)	(1.8%)	1.1%	(0.8%)	(3.9%)
2021 EPS	\$25.20	\$5.30	\$20.30	\$7.73	\$20.80	\$12.40	\$18.70

Source: Nephron Research

16) We've made it this far, so what should we do with the stocks?

For the most part, though not exactly aligned where we see it, we actually think that the market has reacted currently in response to the expected direction of 2021 earnings. Some reactions make sense to us, including Anthem seeing the most negative reaction and what we believe to be one of the most negative outcomes for 2021. On the other end of the spectrum, Centene and Molina have held up particularly well (MOH is up 4% while CNC is down just 4.6%) since the first case was reported in the US on 1/20/20) and we view the 2021 prospects as relatively positive.

Fig.34: Stock Price Reactions Relative to Expected EPS Changes

Source: Company Documents, FactSet and Nephron Research

There are two names that now stick out in our view: (please see rating changes sections above)

- **HUM:** While we have had more bullish views on MA for many years, we continue to fall back on the valuation premium that Humana has traded at (one that we view as deserved). Now, the market appears to be punishing Humana more for the short term fears and we believe underestimating the positive impact of a recession on its MA book. HUM shares are down 10.7% since January 20th, broadly in line with the group. While we see the worst EPS impact for Humana in 2020, we believe that 2021 can actually move higher. We simply don't see the COVID costs repeating in 2021. Instead we think that MA accelerates with the recession and Humana is the largest beneficiary. **With that, we see an opportunity in HUM shares and are upgrading to a Buy rating today** (as discussed up front)
- **UNH:** In contrast to the reaction to Humana, we think that UNH has not corrected enough. **We believe that UnitedHealth will see the largest negative earnings impact in 2020 AND 2021.** We believe that there will be more lasting impacts in their Optum segment, specifically in OptumHealth, and while very large in MA, the company is also a leader in the commercial segment. We think that UnitedHealth remains better positioned than any company we cover over the very long term (next 5-10 years). That said, we simply prefer to own other names in the intermediate term, defined as the next 6-12 months. **Again, we are not suggesting that investors must sell their UNH today, but we are reducing our rating to Hold indicating a preference for other names such as HUM today**

Other Important Considerations

17) What is the impact on Commercial Premium Rates?

Commercial Risk Rates

Intra year 2020, we believe that health plans have limited ability to reset rates. The "worst-case" scenario assumes that the entire risk book renews on January 1 and that there is no benefit for 2020 rates. This is not entirely accurate though since employer contracts renew in different months throughout the year so there is an ability by health plans to update forward pricing close to real-time. UnitedHealth just announced a "special enrollment period" for fully-insured commercial members to allow more employees to gain coverage – which prices for the impact of COVID-19. **However, overall we anticipate anywhere from "no changes" to a "modest increase" increase to commercial risk PMPMs in 2020.**

We do not expect this pressure to continue beyond 2020 - MCOs will be able to price for the COVID-19 claims experience into 2021 rates. Plans have already commented that they will price these into commercial rates next year to the extent of the utilization and claims experience.

Commercial ASO Rates

Then commercial ASO segment is the most insulated from the impact of COVID-19 from the MCO's perspective. **Simply put, the coronavirus will not impact the commercial ASO fee structure in any material way – which is the majority of the commercial market.** Various industry stats estimate that the commercial ASO market represents anywhere from 55-65% of the total commercial market. This is not to say that employers will not feel the impact of the pandemic (they will) and that it could have knock on effects for future coverage (i.e. encourages adoption of stop-loss products) but the impact is limited from the MCO's view point.

18) What is the impact on Medicare Advantage Rates?

Next, for Medicare Advantage rates, we could see changes in two forms: 1) the Senate Republican's COVID-19 economic stimulus bill could suspend the Medicare sequester from May 1 through December 31, 2020, and **2)** we could see an impact on PMPMs due to changes in MA risk scores.

Federal Government Response to COVID-19 (Impact in 2020): As a reminder, effective on April 1, 2013, Medicare FFS rates have been subject to a 2% annual reduction, which in turns effects Medicare Advantage payments. The impact of sequestration did not have a meaningful impact on margins since the 2% rate cut from premiums basically allowed Medicare Advantage plans to pass on the majority of that rate cut to providers. As a result, we have been seeing provider groups lobby to eliminate the Medicare sequester to help cover the financial losses from coronavirus. **The recently passed CARES Act has eliminated the sequester cut effective May 1, 2020 through the end of the year.** As not all of the MA rate is based on providers receiving the sequester elimination benefit (i.e. Rx, admin costs, etc), we estimate that the impact to MA rates would be roughly a 1.3% annual increase, which equates to 0.87% impact in 2020. **Remember, the earnings impact would be limited since the payments would be passed through to providers.**

Risk Score Impact from COVID-19 (Impact in 2021): The CDC has issued new ICD-10 codes to help providers code for the coronavirus, but the risk score impact (measured by HCCs) is still unknown. **For simplicity's sake, we use the existing HCC codes for "pneumonia" as the best barometer that we currently have. We use pneumonia because the most severe cases of COVID-19 develop illnesses that feature pneumonia.**

Risk scores are a crucial component of how Medicare Advantage plans get paid and directly impact plan revenue. Fundamentally, the goal of risk adjustment is to pay more for Medicare enrollees that are sicker and expected to cost more to take care of, while paying less for healthy enrollees. CMS capitated rates are initially based on a county-level benchmark rate, and then the initial benchmark is adjusted to account for the cost differences associated with various health conditions and disease states. Plans must submit member-specific diagnoses to CMS, which is then combined with demographic factors such as age, in order to create these member-specific risk scores which is expected to predict total care costs. **Based on these risk scores, CMS adjusts the base MA payments based on the risk profile of the member which can have a significant impact on plan revenues.**

Below, we want to highlight the impact that a senior coded for "pneumonia" would have on PMPMs versus a senior that does not have pneumonia. In the figure below on the left, that shows the estimated plan payment for a male between the ages 70-74 with no health conditions. Assuming the base county benchmark is \$800 PMPM, the annual MA payment for this beneficiary is only ~\$6.7K. In contrast, if the male is coded for pneumonia only, his total predicted annual expenditure is closer to \$8.6K. **Clearly, the incremental \$1,980 for the year is not going to cover the cost of treatment for an MA plan (and that is before the timing difference discussed below).**

Fig.35: Est. MA Payment – No Adjustments

Example 1 (No Pneumonia)	
Average County Benchmark (A)	\$800
Base RAF Score (Male 70-74)	0.7
Sub-Total (B)	0.7
Capitated MA PMPM Payment (A x B)	\$560
Months	12
Capitated MA Annual Payment (A x B x 12)	\$6,720

Source: Nephron Research and CMS

Fig.36: Est. MA Payment – with Pneumonia Adjustment

Example 2 (Has Pneumonia)	
Average County Benchmark (A)	\$800
Base RAF Score (Male 70-74)	0.7
HCC 115: PneumocoHCCal Pneumonia, Empyema, Lung Abscess	0.2
Sub-Total (B)	0.9
Capitated MA PMPM Payment (A x B)	\$720
Months	12
Capitated MA Annual Payment (A x B x 12)	\$8,640

Source: Nephron Research and CMS

Finally, Medicare Advantage risk scores are prospective, which means they are based on *prior year diagnoses*. For example, risk scores for 2020 MA payments are ultimately paid based on calendar year 2019 diagnoses. There are two retroactive true-ups (one is made in August 2020 and the other is made in July 2021) to make sure that plan payments in 2020 are based on calendar year 2019 diagnoses alone. **As a result, the higher risk scores related to COVID-19 will not show up until 2021 rates at the earliest.**

19) What is the impact on Medicaid Premium Rates?

First, we start our Medicaid discussion by prefacing with the fact that plans will be reimbursed for extraordinary costs, including treatments for COVID-19. **The primary issue in the Medicaid segment is that the rate adjustment will happen retroactively and there is a timing impact. We are not expecting any immediate Medicaid rate adjustments to compensate for the elevated costs, but we do expect plans to be made whole overtime.** There is historical precedence that states will either bake the cost of COVID-19 into future Medicaid capitated rates or can carve them out as they have done with other expensive drug therapies in the past (e.g. HIV-AIDs).

On a separate but interesting note, the Federal Government is helping states shoulder the burden of COVID-19 costs by covering an additional 6.2% percentage points to the FMAP. This does not impact the rates to the MCOs per se, it does alleviate some of the state burden around COVID-19 testing.

Federal Government Response to COVID: In response to COVID-19, Congress enacted legislation on March 19, 2020 (Families First Coronavirus Response Act) which will provide coverage for COVID-19 testing with no cost sharing under Medicaid and CHIP (includes the MCOs). **Importantly, the law will also provide states and territories a temporary 6.2 percentage point increase in the federal matching rate for the emergency period.** To receive this increase, states will need to meet certain requirements including: not implementing more restrictive eligibility standards or higher premiums than those in place as of January 1, 2020; providing continuous eligibility for enrollees through the end of the month of the emergency period; and not charging any cost sharing for any testing services or treatments for COVID-19, including vaccines, specialized equipment or therapies.

One major caveat is that the 6.2% percentage boost does NOT apply to the ACA expansion population (i.e. states with higher Medicaid expansion enrollment will be disproportionately hurt). Another major consideration is that this percentage increase is applied across the board for all states, so it does not factor in which states require more assistance based on the number of cases (i.e. NY, CA, NJ and WA). **This means that states with higher positive COVID cases are worse off from a funding perspective than states with a low number.**

As an illustrative impact, we show how the boost to a state's Medicaid funding is higher if you don't have any Medicaid expansion. Assuming that two states have an equal amount of total Medicaid

spending, with the only difference being that one state expanded Medicaid and the other did not. The 6.2% FMAP boost only applies to the portion of federal spending for traditional Medicaid members. In the example below, the expansion state will only receive a boost for \$35K of Medicaid spending whereas the non-expansion state will receive a boost on the entire \$50K.

Fig. 37: Illustrative Comparison, ACA Expansion vs. No Medicaid Expansion

	Expanded Medicaid	No Medicaid Expansion
Total Medicaid Spending	\$100,000	\$100,000
Medicaid Expansion	\$30,000	\$0
Traditional Medicaid	\$70,000	\$100,000
Federal Portion		
% of Traditional Medicaid	50%	50%
Traditional Medicaid Spending	\$35,000	\$50,000
COVID-19 Impact		
COVID-19 Boost	6.20%	6.20%
State Medicaid Boost		
	\$4,340	\$6,200
<i>% of Total Boost</i>	<i>4.3%</i>	<i>6.2%</i>

Source: Kaiser and Nephron Research

Based on FY 2018 Medicaid spending levels, we estimate there will be at least ~\$36.7 billion in additional national funding for Medicaid – which is attributed to COVID-19. The federal government has agreed to increase the federal share for traditional Medicaid spending ONLY by 6.2% points which equates to \$36.7Bn in additional state funding based on FY 2018 data. **Remember, the impact of this for the plans are net zero, since the additional federal funding simply means that states won't have to foot that portion of the bill.** For perspective, the PMPM impact of the increased federal spending per traditional Medicaid enrollee is ~\$52.50.

Fig. 38: Boost to State Medicaid Funding from the Federal Government

FY 2018	Revenues	Enrollment	PMPM
Total Medicaid Spending	\$592,733,229,400	75,432,600	\$655
% Federal Spending	62.5%		
Federal Portion			
Medicaid Expansion	\$70,000,000,000	17,090,600	\$341
% of Total Medicaid Spending	11.8%		
Traditional Medicaid	\$300,562,041,399	58,342,000	\$429
% of Total Medicaid Spending	50.7%		
COVID-19 Impact			
Traditional Medicaid - Eligible	\$300,562,041,399		
COVID-19 Boost	6.20%		
State Medicaid Boost			
	\$36,749,460,223	58,342,000	\$52.49

Source: Kaiser and Nephron Research

Aside from clear support from the Federal government around funding for COVID-19, there are two other primary reasons we see Medicaid plans being made whole in this situation:

- **Perspective from history - hepatitis C:** Using hepatitis C as the most recent example, in December 2013, the FDA approved Sovaldi, which was Gilead's hepatitis C (HCV) treatment. The treatment reduced the duration of therapy to 12 weeks, and improved the cure rate ratio, but came at a high price tag (treatment options were priced at ~\$84K per 12-week treatment, or over \$1K per day). This was an unexpected new drug treatment which was not embedded in MCO's forward pricing - Medicaid plans were disproportionately impacted since a high proportion of people with hepatitis C are in Medicaid programs. **The takeaway from Hep C is that plans were reimbursed by states for covering the high cost drug.**
- **Actuarial soundness:** Aside from similar instances in the past during periods of unexpected high medical costs, state Medicaid program rates must be actuarially sound. This simply means that states cannot arbitrarily set rates low, and the historical Medicaid claims data must support forward rates. In other words, if historical claims data show an increase in costs, those medical costs must be baked into rates going forward (unless there is a carve-out or direct kick-back payment).

Fig. 39: Summary of COVID-19 Impact on PMPMs

2020 PMPMs	Anthem	Centene	Cigna	Humana	UnitedHealth	Molina
Commercial Risk	Modest Increase	No Change	Modest Increase	N/A	Modest Increase	No Change
Commercial ASO	No Change	N/A	No Change	No Change	No Change	N/A
Medicare Rate	0.87%	0.87%	0.87%	0.87%	0.87%	0.87%
Medicaid Rate	No Change	No Change	No Change	No Change	No Change	No Change

Source: Kaiser and Nephron Research

20) What else should we know?

Some of our favorite headlines in the category of silver linings:

[Venice canals run clear, dolphins appear in Italy's waterways amid coronavirus lockdown](#) - ClassicFM

[Stop Trying to Be Productive](#) – New York Times

[Americans are drinking a crazy amount of alcohol during coronavirus lockdown](#) – NY Post

[A Virus's Effects: Coughs, Chills and Sometimes a Forgiving Spirit](#) – NY Times

[It's Not All Bad. Here's Proof: yoga, cocktail hours and something called "cloud clubbing"](#) - Dealbook

[Bride and Groom Donate their 400 Wedding Meals to Hospital Staff After Reception Cancelled](#) – Elle.com

Appendix

Fig. 40: Anthem COVID-19 MLR Estimates

Anthem	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
Anthem Membership in K (4Q19)	1,214	6,198	7,265	
<u>Testing Costs</u>				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$57,533	\$320,434	\$93,899	\$471,867
<u>Hospitalizations Related to COVID-19</u>				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	16	21	12	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$169,333	\$643,410	\$109,940	\$922,683
<u>ICU Costs Related to COVID-19</u>				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	392	407	20	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$289,163	\$787,474	\$45,719	\$1,122,356
<u>Capacity Considerations</u>				
		<i>(Market Totals)</i>		
Industry Enrollment	61,686	179,468	89,115	
Company Share	2.0%	3.5%	8.2%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
<u>ICU Supply Considerations</u>				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
<u>Hospital Bed Supply Considerations</u>				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$K)	\$169,333	\$643,410	\$109,940	\$922,683
Estimated ICU Costs with Supply Constraints (\$K)	\$188,906	\$514,446	\$29,867	\$733,219
<u>Savings from Elective Procedures</u>				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$505,434)	(\$2,646,277)	(\$426,167)	(\$3,577,877)
Net Impact to Medical Costs	\$10,596	(\$894,958)	(\$176,609)	(\$1,060,972)
% of 2020 MLR				-1.21%
2020 MLR				\$87,616,336
Net Impact to Medical Costs w/ Supply Constraints	(\$89,661)	(\$1,167,986)	(\$192,460)	(\$1,450,108)
% of 2020 MLR				-1.66%
2020 MLR				\$87,616,336

Source: Nephron Research and Company Documents

Fig. 41: Cigna COVID-19 MLR Estimates

Cigna	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
Cigna Membership in K (4Q19)	444	2,379	50	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$21,042	\$122,993	\$646	\$144,681
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	6	8	0	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$61,931	\$246,962	\$757	\$309,650
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	143	156	0	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$105,757	\$302,259	\$315	\$408,330
Capacity Considerations				
		<i>(Market Totals)</i>		
Industry Enrollment	61,686	179,468	89,115	
Company Share	0.7%	1.3%	0.1%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$K)	\$61,931	\$246,962	\$757	\$309,650
Estimated ICU Costs with Supply Constraints (\$K)	\$69,089	\$197,462	\$206	\$266,756
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$184,854)	(\$1,015,730)	(\$2,933)	(\$1,203,517)
Net Impact to Medical Costs	\$3,875	(\$343,515)	(\$1,215)	(\$340,855)
% of 2020 MLR				-0.97%
2020 MLR				\$35,025,655
Net Impact to Medical Costs w/ Supply Constraints	(\$32,792)	(\$448,312)	(\$1,325)	(\$482,429)
% of 2020 MLR				-1.38%
2020 MLR				\$35,025,655

Source: Nephron Research and Company Documents

Fig. 42: CVS COVID-19 MLR Estimates

CVS	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
CVS Membership in K (4Q19)	2,321	3,591	1,398	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$109,995	\$185,653	\$18,069	\$313,717
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	31	12	2	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$323,742	\$372,779	\$21,156	\$717,677
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	749	236	4	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$552,840	\$456,247	\$8,798	\$1,017,885
Capacity Considerations (Market Totals)				
Industry Enrollment	61,686	179,468	89,115	
Company Share	3.8%	2.0%	1.6%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$K)	\$323,742	\$372,779	\$21,156	\$717,677
Estimated ICU Costs with Supply Constraints (\$K)	\$361,163	\$298,060	\$5,747	\$664,970
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$966,319)	(\$1,533,201)	(\$82,007)	(\$2,581,527)
Net Impact to Medical Costs	\$20,257	(\$518,521)	(\$33,985)	(\$532,249)
% of 2020 MLR				-0.94%
2020 MLR				\$56,499,763
Net Impact to Medical Costs w/ Supply Constraints	(\$171,420)	(\$676,708)	(\$37,035)	(\$885,164)
% of 2020 MLR				-1.57%
2020 MLR				\$56,499,763

Source: Nephron Research and Company Documents

Fig. 43: Centene COVID-19 MLR Estimates

Centene	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
Centene Membership in K (Pro-Forma)	977	2,699	12,426	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$46,295	\$139,555	\$160,608	\$346,458
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	13	9	21	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$136,258	\$280,216	\$188,044	\$604,518
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	315	177	34	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$232,682	\$342,959	\$78,198	\$653,839
Capacity Considerations				
		<i>(Market Totals)</i>		
Industry Enrollment	61,686	179,468	89,115	
Company Share	1.6%	1.5%	13.9%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$K)	\$136,258	\$280,216	\$188,044	\$604,518
Estimated ICU Costs with Supply Constraints (\$K)	\$152,008	\$224,050	\$51,086	\$427,144
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$406,708)	(\$1,152,500)	(\$728,928)	(\$2,288,136)
Net Impact to Medical Costs	\$8,526	(\$389,770)	(\$302,077)	(\$683,321)
% of 2020 MLR				-0.82%
2020 MLR				\$83,287,755
Net Impact to Medical Costs w/ Supply Constraints	(\$72,148)	(\$508,678)	(\$329,190)	(\$910,016)
% of 2020 MLR				-1.09%
2020 MLR				\$83,287,755

Source: Nephron Research and Company Documents

Fig. 44: Humana COVID-19 MLR Estimates

Humana	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
Humana Membership in K (4Q19)	4,113	909	469	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$194,897	\$46,974	\$6,062	\$247,933
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	55	3	1	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$573,626	\$94,321	\$7,097	\$675,045
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	1,326	60	1	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$979,558	\$115,440	\$2,951	\$1,097,950
Capacity Considerations (Market Totals)				
Industry Enrollment	61,686	179,468	89,115	
Company Share	6.7%	0.5%	0.5%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$573,626	\$94,321	\$7,097	\$675,045
Estimated ICU Costs with Supply Constraints (\$K)	\$639,932	\$75,416	\$1,928	\$717,275
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$1,712,188)	(\$387,933)	(\$27,512)	(\$2,127,632)
Net Impact to Medical Costs	\$35,893	(\$131,197)	(\$11,401)	(\$106,705)
% of 2020 MLR				-0.17%
2020 MLR				\$61,212,579
Net Impact to Medical Costs w/ Supply Constraints	(\$303,733)	(\$171,222)	(\$12,424)	(\$487,379)
% of 2020 MLR				-0.80%
2020 MLR				\$61,212,579

Source: Nephron Research and Company Documents

Fig. 45: Molina COVID-19 MLR Estimates

Molina	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
Molina Membership in K (4Q19)	101	274	2,956	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$4,787	\$14,166	\$38,206	\$57,158
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	1	1	5	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$14,088	\$28,444	\$44,733	\$87,264
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	1.0%	
Total in ICU (K)	33	18	8	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$24,057	\$34,813	\$18,602	\$77,472
Capacity Considerations (Market Totals)				
Industry Enrollment	61,686	179,468	89,115	
Company Share	0.2%	0.2%	3.3%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	150,802	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,432,401		
% that can be cared for in ICU		65.3%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$14,088	\$28,444	\$44,733	\$87,264
Estimated ICU Costs with Supply Constraints (\$K)	\$15,716	\$22,743	\$12,152	\$50,611
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$42,050)	(\$116,986)	(\$173,400)	(\$332,436)
Net Impact to Medical Costs	\$882	(\$39,564)	(\$71,859)	(\$110,542)
% of 2020 MLR				-0.74%
2020 MLR				\$14,952,804
Net Impact to Medical Costs w/ Supply Constraints	(\$7,459)	(\$51,634)	(\$78,309)	(\$137,402)
% of 2020 MLR				-0.92%
2020 MLR				\$14,952,804

Source: Nephron Research and Company Documents

Fig. 46: UnitedHealth COVID-19 MLR Estimates

	Medicare Advantage	Commercial Risk	Medicaid/Other	Total
UnitedHealth Membership in K (4Q19)	6,274	8,575	6,151	
Testing Costs				
% of population tested	30.0%	15.0%	15.0%	
Insured Factor Adjustment	110.0%			
Cost Per Test w/ Visit	\$144	\$345	\$86	
Testing Costs	\$297,309	\$443,324	\$79,501	\$820,134
Hospitalizations Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% Hospitalized	29.5%	11.5%	8.0%	
Total Hospitalized (K)	83	30	10	
COVID-19 Treatment Cost	\$10,500	\$30,000	\$8,925	
Estimated Hospital Costs (\$K)	\$875,051	\$890,165	\$93,082	\$1,858,298
ICU Costs Related to COVID-19				
% of Population Infected	4.5%	3.0%	2.1%	
% in ICU	15.1%	4.2%	2.9%	
Total in ICU (K)	2,023	563	49	
COVID-19 Treatment Cost	\$35,000	\$100,000	\$29,750	
Estimated ICU Costs (\$K)	\$1,494,288	\$1,089,479	\$113,924	\$2,697,690
	\$30,843	\$53,840	\$17,823	
Capacity Considerations				
		(Market Totals)		
Industry Enrollment	61,686	179,468	89,115	
Company Share	10.2%	4.8%	6.9%	
Average LOS	13	8	8	
Implied US Hospital Days Needed	10,652,876	4,968,122	1,208,788	
Implied US ICU Days Needed	5,457,444	1,824,155	443,833	
ICU Supply Considerations				
Total US ICU Beds		55,663		
Potential Capacity Increase		10.0%		
Non COVID Occupancy		35.0%		
Days of COVID Treatment		122		
Implied ICU Bed Days Capacity		4,855,483		
ICU Bed days needed		7,725,431		
% that can be cared for in ICU		62.9%		
Hospital Bed Supply Considerations				
Staffed Hospital Beds in the US		792,417		
Potential Capacity Increase		30.0%		
Non COVID Occupancy		45.0%		
Days of COVID Treatment		122		
Implied non-ICU Bed Days Capacity		69,122,535		
% of Cases in ICU (vs Standard Bed)				
Non-ICU Bed days needed		16,829,786		
% that can be cared for in Non-ICU		410.7%		
Estimated Hospital Costs with Supply Constraints (\$875,051	\$890,165	\$93,082	\$1,858,298
Estimated ICU Costs with Supply Constraints (\$K)	\$939,170	\$684,745	\$71,602	\$1,695,516
Savings from Elective Procedures				
Medical Cost per Life	\$10,380	\$4,731	\$3,510	
% of Medical Spend that is Elective	30%	45%	20%	
% Reduction in Electives	40%	60%	25%	
Duration of Impact		122		
Total Reduced Costs	(\$2,611,894)	(\$3,661,152)	(\$360,819)	(\$6,633,865)
Net Impact to Medical Costs	\$54,754	(\$1,238,184)	(\$74,313)	(\$1,257,743)
% of 2020 MLR				-0.75%
2020 MLR				\$167,883,873
Net Impact to Medical Costs w/ Supply Constraints	(\$500,364)	(\$1,642,919)	(\$116,635)	(\$2,259,917)
% of 2020 MLR				-1.35%
2020 MLR				\$167,883,873

Source: Nephron Research and Company Documents

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