COVID-19 LANDSCAPE TRANSFORMATION

Over the past eight weeks, our business and our industry have had to adapt in ways no one could have predicted as we turned the corner into the new year.

Our past written pieces about COVID-19 have largely focused on the cost projections of the virus as they relate to infections, hospitalizations, testing and vaccines.

This piece takes a broader view of how COVID-19 is likely to change the landscape and how we conduct our business of consulting with employers and managing their employer-sponsored healthcare. Additionally, we offer some insights with regard to treatment costs and risk mitigation for employees who are high risk and the potential healthcare aftereffects of COVID-19 infections.

There is a lot to contemplate when considering the post COVID-19 world:

- **How long before a vaccine is produced?** Will it be 9-18 months or 24-36 months? Either way, until a vaccine is produced, the way we conduct business and go about daily life will require ongoing adaptation.

- **What impact does supportive cost of care represent until a vaccine is developed?**
  - Widescale testing may impact the operational cost of doing business.
  - Antiviral treatment for COVID-19 will be much more complex and expensive compared to current antiviral treatments for seasonal, high-volume viruses and influenza.

- **Lifestyle management and chronic disease management** will be more important in a COVID-19 era.
  - Just as HIV/AIDS ushered in transformational lifestyle and behavior changes in the 1980’s, COVID-19 could be the modern-day catalyst for lifestyle changes affecting metabolic, cardiovascular and pulmonary diseases.
  - Mortality rates for COVID-19 patients with diabetes, high blood pressure, chronic heart disease and pulmonary disease are significantly higher than those patients who do not have underlying medical conditions.

- **How will the deleterious nature and consequences of COVID-19 impact recovered patients** from a health risk perspective?

The COVID-19 crisis changes daily, and we recognize the situation is very fluid. The intent of this document is to provide insight into possible implications of COVID-19 and its impact on employer-sponsored health plans and healthcare coverage in general.
Waiting for a Vaccine

Social distancing, shelter-in-place and work-from-home have become some of the most ubiquitous catchphrases over the past eight weeks; however, it is very likely they could transform the way we conduct both life and business well beyond the point a vaccine is discovered.

From a business perspective, AHT welcomes the opportunity to adapt to these new norms being faced in today's world. Virtual meetings and remote work environments allow us to optimize our deliverables compared to traditional in-person meetings.

While some of the traditional in-person sales and services deliverables will always remain a pillar of our business and industry, we do see a future where more people are working remotely, both within our organization and throughout our client base. Our goal will be to seek the most optimal balance between work-from-home and in-person office interaction, collaboration and socialization.

While the switch to work-from-home was something that came relatively easy for AHT, as we have had a plan in place for many years, getting back to the office may prove more challenging.

First and foremost, the security and safety of our employees is our priority and we will encourage any employee who feels secure, comfortable and productive working from home to continue to do so. At the same time, we recognize there are those who are eager to return to the familiar surroundings of the office. We will slowly and carefully prepare the office setting, tenancy logistics and necessary safety items that will allow those who want to return to work to do so in the most prepared and protected environment possible. However, our long view of this new paradigm is our standard average office occupancy could be well below what it was in the past.

While changes in how we do business are certain to occur, we are bullish on the opportunities to provide a transformative service experience to our customers as well as some pivots that can be made with respect to sales and marketing. Regardless of when a vaccine is discovered, produced and distributed, AHT is prepared to serve our customers and employees in a way that is best aligned with this new paradigm.

Impact of Supportive Care

While the wait for a vaccine could be over a year away, several preventive and supportive COVID-19 measures are going to impact employers in the near term.

For people to feel comfortable in crowded spaces, using mass transit, taking cross-country or transcontinental flights, or even going back to work in an office, they may very well want to know they are either immune or can get a vaccination. Serology antibody testing is going to provide some level of mass testing; however, much data suggests the presence of the antibody does not necessarily guarantee immunity. Mass testing and quantification could at least provide a level of knowledge that will allow individuals to make more informed decisions regarding their own personal safety and comfort level.
In addition to testing, Gilead Sciences, a Bay Area based Pharmaceutical Company, has produced and received FDA Emergency Use Authorization (EUA) for an antiviral drug (Remdesivir) that has been approved in the past week. It is important to point out, this antiviral treatment is complex and costly, thus it is not comparable to a drug like Tamiflu, which simply requires an office and pharmacy visit.

Currently, it appears as though Remdesivir will be administered to those seriously infected and already in the hospital, so the 5-10-day regimen will simply be an embedded expense as part of the overall hospitalization cost. The regimen is an infusion of the drug over a 5-10-day period.

If, however, the drug is eventually given to patients not in the hospital but diagnosed with COVID-19, or used as secondary prophylaxis (slow or stop progression) for COVID-19, then the cost of this therapy could be significant to employer-sponsored health plans, or even perhaps workers compensation if it can be proven that an infection occurred in the workplace.

Gilead has announced it will donate its existing inventory of 1.5M vials of Remdesivir, which could be consumed by early summer. However, Gilead has also indicated it could spend up to $1B on Remdesivir in 2020 alone. At some point, the cost of drug development and production will be factored into the healthcare cost equation.

If Remdesivir is eventually approved for outpatient or secondary prophylaxis treatment, in addition to the drug cost, the outpatient infusion cost could be significant. This could represent $2,500 to $3,500 per visit. Until the drug can be delivered in an inhaled or subcutaneous form, the outpatient cost of administration of this antiviral will be substantial.

If just 2% to 5% of the employer-sponsored health population needed a 5-day course of treatment, the costs could represent $45B to $100B.

There is no way to predict the prevalence of treatment and use, but important considerations should include:

- If the drug is approved for use as a secondary prophylaxis, this could significantly increase prevalence.
- If a second wave hits in the fall, prevalence of need could be significant.

While Remdesivir represents the first major FDA EUA approved antiviral drug, there are likely to be others entering the market. It remains to be seen how any new entrants could be more convenient and less costly; however, until the vaccine is developed and administered, these antivirals and other drugs for treatment of the disease will be required and will represent a new cost factor in the healthcare system.

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To compare the effects of age and comorbidity on a U.S. population of COVID-19 patients, an analysis was performed on 7162 (5.8%) of a total 122,653, reported as of March 28, 2020, for whom information on underlying health conditions or risk factors was known. Among these patients, 37.6% were judged to have one or more underlying conditions or risk factors. These comorbidities were more common in those requiring hospitalization (71%) and intensive care (78%) than in those not requiring hospitalization (27%). The most commonly reported conditions were diabetes mellitus, chronic lung disease, and cardiac disease. Patients ≥65 years of age with or without underlying conditions were 2 to 3 times more likely to require hospitalization and admission to intensive care than were those 19 to 64 years of age. Data on patients who died were too sparse to establish case-fatality rates and their relationship to comorbidities, but the vast majority of deaths (94%) occurred in patients with underlying conditions.

Additionally, a researcher from Oxford University (Hartman-Boyce, 2020), as part of a multi-authored research paper published by the Centre for Evidence Based Medicine, concluded people with both Type I and Type II diabetes are at higher risk when infected with COVID-19. We have been in correspondence with Ms. Jamie Hartman-Boyce to obtain further opinion about the impact of specific programs aimed at lowering HbA1c. We are awaiting further guidance; however, in addition to the verdict cited below, references to the importance of proper blood glucose levels and lowering of A1c were also notable within the study.

VERDICT
Alongside general COVID-19 guidance to reduce risk, people with diabetes (PWD) have been advised to aim for tighter glucose control where appropriate and feasible, though the evidence behind this recommendation has not been identified. Routine care of diabetes will be significantly disrupted during the current pandemic. Stress levels and disruptions to diet and physical activity may also contribute to worsening outcomes during and following the pandemic. Interventions to improve self-management of or self-education for diabetes may be limited in their generalizability, but text-message interventions and self-monitoring of blood glucose are the most promising strategies.
Lifestyle and Behavioral Change Programs within Health Plans

As consultants to many employers with self-funded and experience-rated health insurance programs, we often have an opportunity to discuss the importance of programs aimed at managing, controlling and, in some cases, reversing diseases cited in the above studies.

Prior to COVID-19, the correlation of these chronic conditions and co-morbidities to mortality was not always self-evident. Today, it is very reasonable to see and conclude that an individual with high blood pressure, Type II diabetes and excessive BMI could be much more at risk of COVID-19 related death than an individual with no underlying conditions.

There are 34M (1 in 10) people in the US with diabetes and 90% to 95% have Type II diabetes which we now know can be reversed. There are 88M (1 in 3) people in the US with pre-diabetes, and without intervention, up to 30% of these people will develop Type II diabetes within 3-5 years.

Programs like Livongo and Virta Health, which are aimed at reversing Type II diabetes, eliminating metabolic syndrome, reducing insulin resistance and general population health management, may become valuable to employers now more than ever.

The financial impact of these diseases on employer sponsored plans has been widely published; however, the ROI and evidence of cost reduction created by programs like Livongo and Virta have not always been so clear. Now, in a world where eliminating these risk factors could be the difference between life and death with COVID-19, the impetus to implement these types of programs could be beyond financial incentives.

Future Health Consequences of COVID-19

There is early evidence and some data that may support that COVID-19, in addition to being more lethal in nature than other coronavirus and seasonal influenza, may also impart considerable damage to the body and have lasting effects beyond recovery.

Anecdotal data indicate that while the lungs appear to be the primary organ affected, subsequent damage to kidney, heart, liver, digestive tract, blood vessels (including increased risk of blood clots) and brain can arise during the course of illness from COVID-19. Whether these deleterious effects of COVID-19 are directly related to the mechanism of the disease, the body’s immune response or, perhaps, over-response is still unclear.
Some of the data suggest that the financial impact of COVID-19 even after patients recover could be significant:

- 27% of 85 hospitalized Wuhan patients had kidney failure, and 59% of the nearly 200 Hubei and Sichuan patients had protein in urine and 44% had blood, both suggesting kidney damage. Those patients with acute kidney injury (AKI) were five times more likely to die than those without AKI.
- Many of the patients in New York have died of renal failure, not lung failure. The need for dialysis machines has not been as widely reported as the need for ventilators.
- The correlation to diabetes and higher mortality may be due to damage already caused by this pre-existing condition. “There is a whole bucket of people who already have some chronic kidney disease who are at higher risk for acute kidney injury,” says Suzanne Watnick, Chief Medical Officer at Northwest Kidney Centers.
- Reports of blood clots and neurological complications have been widely reported.
- COVID-19’s targeting of blood vessels, particularly where previous damage has been caused by high blood pressure and/or diabetes, might explain the higher complication and mortality rate with HBP and diabetic patients.

The financial impact of COVID-19 compared to seasonal influenza is highlighted by the above severity of its attack on the body and higher demand for critical-care services as the result of many of the cases. If the post-recovery liability of COVID-19 is heart, liver, and/or kidney damage, risk of stroke or possible brain and nervous system damage, the unforeseen cost of COVID-19 years later is obvious but hard to quantify. What we do know is transplants, dialysis and strokes can range from $100,000 to $1,000,000 or more per case to employer-sponsored health plans.

If it is determined there is future health risk or health deterioration as the result of having been infected with COVID-19, from an underwriting perspective, this could potentially have significant impact on health, life and disability insurance rates. Over time, we will know COVID-19’s impact on future health risk and any associated deterioration of health, and if the correlation is confirmed, then rates for various insurance policies are likely to be impacted.

SUMMARY

- COVID-19 has changed our lives over the past eight weeks in ways none of us could have imagined, but AHT is prepared and ready to adapt and pivot to these new norms. We will continue to deliver an exceptional service experience, utilizing tools and resources that align with these new business norms.
- The cost impact of supportive care, such as widespread serology testing, antiviral treatments and other drugs, could be significant simply due to the potential volume.
- Behavioral and lifestyle change programs could be much more valuable to employers to keep their employees at lower risk of developing complications in the event of a COVID-19 infection.
- With the prevalence of high-risk conditions, particularly high blood pressure, prediabetes and Type II diabetes, programs that are capable of reversing or controlling these conditions should become more popular to employers in the post-COVID-19 environment.
- COVID-19 appears to be much more insidious and destructive to the body than other seasonal illnesses.
- Because of the intensity of COVID-19 in some patients, damage to internal organs, central nervous system and brain could result in significant future healthcare costs to employer-sponsored plans.
- If higher future risk is associated with COVID-19, the fact that one was once infected could perhaps be a future underwriting risk factor.