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State of Health 2022

The Domino Effect



Escalating health crises in 2022,
plus expert advice to manage
pandemic repercussions



Overview

Nearly two years since COVID-19 first erupted in the United States, the true magnitude of its influence on the health of Americans is becoming much clearer—and much more troubling. The devastating and deadly virus has unleashed a domino effect of crises that, if left unmanaged, will continue to erode population health and increase healthcare spending for years to come.

These crises include a significant increase in care deferrals that have, and will continue to, lead to later stage diagnoses of previously undetected diseases and exacerbated chronic health conditions. They also include skyrocketing rates of substance use and behavioral health issues, declining rates of proactive wellness activity, and persistent problems related to healthcare access and inequities.

This second annual State of Health Report, released by predictive healthcare analytics company Prealize Health, identifies the top health conditions and utilization spikes that healthcare leaders must act on in 2022. The report presents the predictive findings and explores the top contributing factors, along with practical commentary from industry leaders.

Methodology

The 2022 predictions included in this report are based on Prealize's analysis of claims data from more than 2 million members between September 2017 through August 2021, the latest month for which claims data was available at press time. To ensure that the sample reflected the broader U.S. population, the analysis included patients of all ages across all lines of business including commercial, Medicare Advantage, and Medicaid managed care.

To predict future healthcare costs and utilization at the patient level, Prealize uses advanced machine learning and artificial intelligence, trained on four years of medical claims, prescription claims, and lab data. The suite of models, built from the largest feature set in the industry, works in concert to form a full picture of risk trajectory at the individual and population levels, and include over 30 clinical drivers of future healthcare utilization. Predictions also include single point estimates of cost in the next 12 months, identification of patients rising in risk, future emergency department and inpatient admission risk, and identification of patients likely to seek medical care for a specific undiagnosed condition in the next 12 months.

Both the models and the impact of data drift have been validated and assessed across millions of lives, numerous health plans, and continue to perform with high positive predictive value (approximately 70%) in the past two years of the global pandemic.



Key Findings At-A-Glance

2022 Predictions

Year-over-year predicted increases in healthcare utilization (between 2021 and 2022)

Diagnosis	Predicted Increase
Musculoskeletal condition	22.08%
Diabetes	17.61%
Cardiovascular condition	
Valvular disorder	35.75%
Cardiomyopathy	18.16%
Cardiac dysrhythmias	16.68%
Cardiac block	9.30%
Hypertension	9.92%
Obesity	14.5%
Substance abuse	4.04%

Key Drivers At-A-Glance



DELAYED CARE: The new chronic condition

Nearly two years after healthcare shutdowns in response to the COVID-19 crisis, care continues to be delayed. Whether due to patient safety concerns or ongoing health system bottlenecks, healthcare consumers are foregoing preventive health screenings and chronic condition follow-up—resulting in a sicker and less mobile population.

More troubling, early 2021 research concluded that care that did not happen early on in the pandemic was forgone rather than simply delayed, and that most of it is not coming back.¹

Will Americans Ever Recover From the Pandemic's Domino Effect?



Our predicted increases in care claims are a by-product of how our society coped with the pandemic combined with the already reactive healthcare system. The negative repercussions will extend into 2022 and beyond because, as a country, we've fallen backwards in pushing preventive care. This new normal requires healthcare leaders to redouble efforts to promote proactive health through early detection and better member engagement. It will require a culture shift to regain trust and meet people where they are while providing additional services to communities and cohorts of the population in order to improve health outcomes. And it just may cost more to do so."

- LINDA HAND,
CEO of Prealize Health

1. https://www.healthsystemtracker.org/brief/early-2021-data-show-no-rebound-in-health-care-utilization/?_hsmi=2&_hsenc=p2ANqtz-p6TdXneITgGB9CAdQZ8MkocsDJrhOv11HGV041T0gFf0Euh0JcPpAu3-09cDyWzjiUfJ-w7z9klKpG7vEfaX9jLmxBA&utm_campaign=KFF-2021-Coronavirus&utm_medium=email&utm_content=2&utm_source=hs_email



"We know that people deferred care due to COVID and that this has continued. Care, especially for chronic conditions or delayed diagnoses, can be put off for a period, but it always results in more significant care requirements later," says Ronald Paulus, MD, President and CEO at RAPMD Strategic Advisors, LLC and a faculty member at the Stanford Clinical Excellence Research Center. "It's almost as if delayed care is becoming a new chronic condition in itself."



BEHAVIORAL HEALTH: From one crisis to the next

From anxiety and depression to loneliness and an inclination to self-medicate with alcohol or other substances, behavioral health needs and costs are spiraling out of control.

Providers have been treating anxiety 90% more frequently than before the pandemic and depression 95% more, according to the 2021 Anthem Blue Cross State of the Nation's Mental Health Report. Treatment for other behavioral conditions has increased as well:

- Alcohol use (75%)
- Suicide ideation (54%)
- Illicit drug use (45%)
- Eating disorders (39%)²

Health plans cannot afford to wait to address the behavioral health crisis—more proactive interventions are the best way to keep these conditions and the costs associated with them from escalating. A behavioral health patient who has regular therapy costs on average \$3,000 less per year than a member who does not get regular behavioral health therapy, according to Prealize data.

Much of this cost is a result of individuals who seek emergency room care in crisis. More importantly, members are suffering needlessly without getting the help they need.

The Way Forward

To course correct for a healthier year for members and reduce ballooning avoidable healthcare expenditures, health plans and providers must proactively address looming health crises and shore up resources to support members with the conditions most likely to escalate in 2022. Here, experts share their advice on how.

LOOK FOR THIS SYMBOL 



Deliver whole person care

"If we've learned anything from the past 18 months, it's that our physical, social, and mental health are all inextricably integrated. We must take advantage of this moment to translate this learning into action, resourcing initiatives that solve for health outside of the traditional sick care system," says Chris DeRienzo, MD, Senior Vice President and System Chief Medical and Quality Officer for WakeMed Health & Hospitals. "We must embrace whole person health and pivot to provide the time, resources, and reimbursement models needed to holistically support it."

2. https://www.thinkanthem.com/wp-content/uploads/2021/04/State-of-the-Nations-Mental-Health-Insights-and-Overview_FINAL_04282021.pdf



Mental health challenges

The pandemic spurred a 400% increase in depression.³ Plus, more than 20% of adults with anxiety or depression symptoms reported needing but not receiving mental health therapy during the pandemic, which portends dizzying ramifications for care in 2022.⁴

Nearly 75% of providers surveyed in a recent Anthem study believe that the mental health effects from the pandemic will linger for up to three years or longer.

While depression, anxiety, loneliness, and social isolation are problematic on their own, they are also linked to worse health outcomes for individuals with chronic conditions.⁵

Substance use

Prealze predicts a 4% increase in healthcare utilization for substance use services in 2022.

The National Institute on Drug Abuse reports that social isolation and pandemic-related stress are likely contributing factors to increases in substance use and poor substance use outcomes.⁶ In addition, research has shown that job loss can lead to adverse behavioral health outcomes, including substance use disorder.⁷ As of September 2021, the Census Bureau reported 19.7 million Americans either unemployed or living with an unemployed individual⁸, a likely contributing factor.

People struggling with substance use disorders are more likely to have weakened immune systems and are more likely to develop COVID-19 with worse than normal outcomes, including higher risk of hospitalization and premature death, the American Psychological Association reported.⁹ Substance use can also lead to overdoses, accidents, and increases in blood pressure and heart rate, which can lead to heart attack or stroke.

Crisis Boom: Mental Health Issues Increase for Teens and Youth

In December 2021, U.S. Surgeon General Vivek Murthy issued a Surgeon General's Advisory to highlight the urgent need to address the nation's youth mental health crisis.

The Surgeon General's warning includes a recommendation to "increase timely data collection and research to identify and respond to youth mental health needs more rapidly."

Prealze predicts an 8.5% increase in under-18 mental healthcare utilization in 2022 as well as increased overall risk. Health plan leaders should act now to quickly identify dependent members most at risk and work closely with families, schools and communities to prevent further crisis.

"Technology and healthcare need to work side-by-side to address the behavioral health crisis at the heels of the pandemic," says Ryan Panchadsaram, Advisor to the Chairman of Kleiner Perkins, former Deputy Chief Technology Officer of the United States, and Prealze Board advisor. "We should not have to wait for a teenager to show up in the ER in crisis. The tools are available to precisely predict this risk and engage sooner with the right care. Plans and providers can get ahead of it. It is important to act now. "

3. <https://www.cdc.gov/mmwr/volumes/69/wr/mm6936a4.htm>

4. <https://www.kff.org/statedata/mental-health-and-substance-use-state-fact-sheets/>

5. <https://www.sciencedirect.com/science/article/abs/pii/S0033350617302731>

6. <https://www.drugabuse.gov/drug-topics/comorbidity/covid-19-substance-use>

7. <https://www.theatlantic.com/health/archive/2017/07/how-job-loss-can-lead-to-drug-use/534087/>

8. <https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-economys-effects-on-food-housing-and>

9. <https://www.apa.org/monitor/2021/03/substance-use-pandemic>



WELLNESS DECLINE: Increased stress, overeating, and weight gain

According to Prealize, the growing rate of overweight Americans will continue in 2022 with a 14% predicted rise in obesity next year.

For some who were privileged to be able to work from home during the pandemic, the normal commute time was replaced with home exercise. For others, closures of public green spaces and other restrictions meant lack of safe exercise outlets. For many in both groups, the changes enforced during the pandemic shelter resulted in increased stress and overeating, and increased likelihood of diseases such as diabetes, cardiovascular disease, and obesity, according to a study published in BMC Public Health. Social distancing due to the pandemic has made people "much more physically and mentally vulnerable."¹⁰

Stress triggers the body to store more fat. Research from the American Psychological Association found 42% of Americans gained more weight—an average of 29 pounds—during the pandemic, and the number of overweight or obese children aged 5–11 increased from 36.2% to 45.7%. Sixteen states now report obesity rates of 35% or higher.¹¹

Obesity is linked to poor mental health outcomes and is a significant contributor to the leading causes of death in the United States, including heart disease, diabetes, stroke, and some cancers, the CDC says.¹²

Continue reading to view the 2022 Forecast: Conditions Most at Risk of Increased Utilization, which begins on page 8.



Connect behavioral health to co-morbidities

"The biggest misnomer is that behavioral health only represents roughly three percent of the overall cost of care," says Kristin Gasteazoro, Senior Vice President at SapphireDigital, a consumer digital marketplace for healthcare. "It is actually greater than 20% when considering the impact to chronic conditions as a co-morbid factor, psychotropic prescription drug costs, and utilization of higher cost levels of care for when a mental health or substance abuse issue is impacting a member. The impact of behavioral health on medical costs cannot be ignored, especially as the ever-more pressing wrinkle of diminished access to care affects individuals' ability to want or need access to therapy. In many cases they are unable to get it."



Anticipate and improve access to behavioral healthcare

History has shown that the mental health impact of disasters typically outlasts the physical impact.¹³ "Care delivery through telehealth, including telepsychiatry, and enhancing benefits to reduce or eliminate copays for mental health are two ways plans and providers can get ahead of such encounters in 2022," advises Lee Sacks, MD, Retired Chief Medical Officer of Advocate Aurora Health. "Plans and providers can leverage predictive analytics to identify those patients who are most at risk for mental health issues, and providers should incorporate additional screening for those individuals when they come in for routine exams or other office visits."

10. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-10470-z#citeas>

11. <https://www.npr.org/sections/health-shots/2021/09/29/1041515129/obesity-rates-rise-during-pandemic-fueled-by-stress-job-loss-sedentary-lifestyle>

12. <https://www.cdc.gov/obesity/adult/causes.html>

13. <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>



Executive Insight: How Plans Can Advance Health Equity in 2022

Across the country, disparities in health outcomes continue to persist and grow, caused by many barriers at the individual, community and structural level. The COVID-19 pandemic exposed these inequities in a way that can no longer be ignored. Each individual should have the opportunity to achieve their full health potential, and both health plans and providers are starting to play a more active role in this journey. Here's how to move from ideas to action in 2022:



"**Better health for all begins with equity.** Healthcare leaders can leverage predictive analytics to develop an upstream approach to addressing drivers of inequity at the individual and community level, while working to dismantle deeper structural determinants, such as redlining and structural racism." – Rishi Manchanda, MD, President and CEO of Health Begins, which helps healthcare professionals improve the social drivers of health and equity

"The single action most likely to improve health equity among members in 2022 is to **identify those in need and proactively ensure that they get the care they deserve.** We know that both need and care are unequally distributed, so proactively identifying those with needs and tailoring interventions to ensure that they receive the appropriate care is a crucial responsibility for both payers and providers." – Ronald Paulus, MD, President and CEO at RAPMD Strategic Advisors, LLC, and a faculty member at the Stanford Clinical Excellence Research Center

"Plans can **start by taking their most important quality measures and analyzing results by the axes for which we know inequities exist:** race, principal language, gender, neighborhood, etc. This stratification almost always yields insights which can determine a specific agenda for improvement." – Mark Smith, MD, Professor, Clinical Medicine, University of California, San Francisco, and Co-chair of the Health Evolution Forum Roundtable on Community Health and Advancing Health Equity

"**It's critical to ensure you understand any social risk data you may be actioning.** Do you know who collected the data and how? Are you confident in it? Do you have it in sufficient volume, with sufficient representation across all categories of interest? If assessing affordability or access, does the data fairly represent the financial resources from the poorest to the richest individuals? Plans should consider these questions in the context of broader strategic decision making." – Colt Courtright, Chief Data Officer and VP, Corporate Data & Analytics, Premera Blue Cross



2022 Forecast: Conditions Most at Risk of Increased Utilization

DIABETES

Prealize predicts a 17.61% increase in diabetes-related medical encounters in 2022. Also of significant concern, members already diagnosed with diabetes will likely present with worsened cases in 2022.

Based on 2021 claims analysis, Prealize found that in 2021, members with diabetes were presenting to the emergency department with higher A1C levels than their pre-pandemic averages, likely the result of unmanaged conditions during pandemic care deferrals. Researchers have also observed an increase in the prevalence of severe diabetic ketoacidosis in patients with established type 1 diabetes who test positive for COVID-19, according to *The Lancet Diabetes & Endocrinology*.¹⁴

"Studies show that individuals with diabetes already incur medical expenses about 2.3 times higher than those without," says Alan Glaseroff, MD, Adjunct Professor and Cofounder of Stanford Coordinated Care. "Mental health, poor diet, and increased alcohol use seem to be the top drivers that are exacerbating chronic conditions such as diabetes. For health plan leaders, these drivers will likely contribute to less primary care among members with diabetes in 2022 and increased use of costly emergency department visits."

Challenges in accessing care during periods of peak COVID demand may have also impacted individuals with diabetes, says Chris DeRienzo, MD, Senior Vice President and System Chief Medical and Quality Officer for WakeMed Health & Hospitals.

"At several points over the past two years, people both delayed non-urgent procedures and avoided seeking care for truly acute needs," DeRienzo explains. "That's led to a 'double bubble' of increased utilization, as the delayed acute care leads to more severe, even emergent presentations at the same time as other people are finally comfortable to schedule needed, non-urgent care. Lastly, this double bubble is likely to keep growing, as new COVID waves and new variants continue to drive cycles of deferral and acuity."

Limited Access, Economic and Social Issues Will Persist into 2022

While inequitable access to healthcare based on race, socioeconomic status and other factors has always been pervasive in the American healthcare system, the COVID-19 pandemic highlighted inequities in case count, mortality, and vaccine access in a way that has made the issues impossible to ignore any longer.

Of all the drivers that promulgate increases in care costs and incidents of chronic diseases presenting in the emergency department, economics and culture remain pervasive.

"[The] pandemic has had a disproportionate impact on groups, like Native Americans, Latinos, and Caucasians affected by poverty, and those who have trouble getting access to care for various reasons, including the kind of work they do," says former U.S. Surgeon General David Satcher, MD, PhD, at the Association of American Medical Colleges (AAMC) 2020 Annual Meeting.

The disparities in health are at play not only in terms of race but also in terms of geographic and socioeconomic status, among other factors.

The communities cited by Dr. Satcher have also been hit extraordinarily hard by another persistent pandemic after effect—mental health: non-Hispanic Black adults (48%) and Hispanic or Latino adults (46%) reported symptoms of anxiety or depressive disorder during the pandemic, according to a Kaiser Family Foundation (KFF) report.

14. <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7180013/>



MUSCULOSKELETAL CONDITIONS

Prealize predicts a 22.08% increase in joint pain medical encounters in 2022 and a 7% increase in spine-related encounters.

Multiple studies have shown that exercise keeps muscular, nervous, and skeletal systems intact, yet the stress and isolation caused by the pandemic and subsequent lockdowns meant less exercise and an increase in sedentary lifestyle for many Americans.

In fact, the social and physical confinement brought on by the pandemic decreased all levels of physical activity and increased daily sitting time by about 28%, according to a *Frontiers in Psychology* study.¹⁵

Exacerbating these issues is the fact that many patients who required spine and joint-related procedures delayed surgery since the start of the pandemic in March 2020. In fact, more than one-third of elective spine surgeries that were canceled during the first wave of the pandemic remained unscheduled as of July 2021, according to Elsevier Public Health Emergency Collection.¹⁶ Results of these delays, including the inability to function in daily life, will likely show up in 2022 care utilization.

"The lack of exercise is a key driver of yet-undiagnosed musculoskeletal issues, even among people who are fitness fanatics or have no underlying contributors," says Lee Sacks, MD, Retired Chief Medical Officer of Advocate Aurora Health. "The ramifications of the pandemic-influenced sedentary lifestyle and long-haul COVID effects will start to arise en masse in the coming year."

"Also, emotional eating, which spiked during the pandemic stay-at-home orders, contributes to obesity, which puts excess stress on weight-bearing joints such as the knees and hips," Glaseroff adds. "It's also a serious risk factor for diabetes and cardiovascular diseases. As far back as 2014, it was



Focus on workforce capacity

Payers and providers need to ensure they have adequate time and resources to address the 2022 predictions. "Given finite work capacity to follow up with patients who are flagged by a predictive model, it is necessary to prioritize that follow-up according to additional criteria, such as engagement likelihood, and have the requisite intervention as an existing capability in the care network," says Nigam Shah, MBBS, PHD, Associate Professor of Medicine at Stanford University, Medical Director of Research Informatics at Stanford Health Care, and co-founder of Prealize Health.



Make telehealth a lasting access option

"Payers will need to challenge themselves, and possibly CMS, to integrate both video and telephone options for telehealth permanently into their covered services," advises Linda Hand, Prealize Health CEO. For Medicaid patients, 56% of telehealth visits in 2020 were telephone only and did not include video.¹⁷ "Expanding access to care via telehealth will create a more equitable approach and enable members to stay engaged with providers where they would otherwise be limited. This is especially true for Medicaid and Medicare members with multiple chronic conditions or long-term disabilities." This may require an investment in video capability for underserved people who lack bandwidth or do not own a smart phone or similar connected device.

13. <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.590172/full>

16. <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8321964/>

17. <https://www.kff.org/medicare/issue-brief/medicare-and-telehealth-coverage-and-useduring-the-covid-19-pandemic-and-options-for-the-future/>



reported that obesity raised medical care costs by more than \$3,500 per obese adult annually."¹⁸

Additionally, pandemic-induced restrictions on surgical procedures, especially orthopedics, will start driving individuals who can't be maintained by telehealth alone back to costlier utilization in 2022.

CARDIOVASCULAR DISEASES

Prealize predicts increases across the board for cardiovascular encounters in 2022. Conditions including valvular disorder (36% increase), cardiomyopathy (18% increase), cardiac dysrhythmias (17% increase), cardiac block (9% increase), hypertension (10% increase), and a contributing factor for all the above, obesity (14%), are especially on the rise in the coming year.

While these conditions are typically rare in an overall population, Prealize predicts alarming increases in healthcare utilization for these conditions.

Significant contributors to the rise in cardiovascular diseases include the avoidance of hospitals over the past 24 months for fear over virus exposure, increased strains on healthcare systems, and deferred outpatient and procedural care. Further, any gaps in healthcare coverage would cause patients to delay care, allowing conditions to further deteriorate.

The COVID-19 virus also has a direct impact on the rise in cardiovascular conditions, explains Gordon Norman, MD, Chief Medical Officer for Prealize Health. "Long COVID-19 has proven to cause organ damage not only to the lungs and heart, but also to the kidneys and brain," he explains. "While this process bears some similarities to what we see in inflammatory states and autoimmune conditions, we still don't know the exact mechanisms working to produce the long COVID-19 syndrome."

JAMA Cardiology reported a study showing that a majority of COVID-19 survivors experience some degree of heart damage,



Move beyond the traditional network

In 2022, payers should eye an increased focus on how access and mental health affect clinical outcomes—and respond accordingly. "The number one way payers can address increases in usage is to invest in broader levels of services and support for diagnosis and triage beyond traditional provider networks," advises Julie Murchinson, Partner, Transformation Capital, former CEO of Health Evolution, and National Committee for Quality Assurance board member. "Payers are in a unique position to drive data-driven member navigation that begins to connect mental and clinical health in more meaningful ways."



Identify and engage members sooner

"Payers should identify those individuals who are likely to benefit from an intervention, then have care management reach out to them," suggests Ronald Paulus, MD, President and CEO at RAPMD Strategic Advisors, LLC, and a faculty member at the Stanford Clinical Excellence Research Center. "Other support services are critical, but the top priority is to understand who to reach out to and what for, leveraged with the likelihood of success. This is true for both payers and providers and requires an analytics provider to sift through the large amount of data to identify and target these individuals."

18. <https://pubmed.ncbi.nlm.nih.gov/25381647/>



even if they didn't have pre-existing heart disease or obvious cardiac symptoms. The researchers found heart abnormalities in 78% of recovered COVID-19 patients and heart inflammation in 60% among the recovered patients.¹⁹

"What is still unknown is what immediate or long-term damage occurs in non-hospitalized COVID-19 patients," says Norman. "Complications yet unknown to patients or their doctors could lead to heart conditions or even heart failure over the coming years. Cardiovascular issues can be expected to arise with the surges of COVID-19 cases among the unvaccinated and with emerging new variants, making it more important than ever to prevent COVID-19 infection by vaccination, masking, and social measures, and to identify active disease early for appropriate treatment and prevention of further COVID-19 spread."

"In 2022, for plans to better impact future risk, it will be necessary to adopt a holistic view combining prediction with cost forecasting, engagement estimates, and hard capacity constraints," says Nigam Shah, MBBS, PHD, Associate Professor of Medicine at Stanford University, Medical Director of Research Informatics at Stanford Health Care, and co-founder of Prealize Health. "I advise taking proactive action where there is the highest chance to make a difference."



Prepare for a different kind of Medicaid member

Historically, new Medicaid members who were previously uninsured show an initial increase in utilization as they address problems that have not been attended to before. "But many of the new COVID-19-related Medicaid enrollees will be coming from employer-sponsored insurance rather than the ranks of the previously uninsured," says Mark Smith, MD, MBA, Professor, Clinical Medicine, University of California, San Francisco, policy expert, and a Prealize board member. "Medicaid managed care plans will need help from nontraditional actuarial methods to anticipate utilization in this population with whom they have had little engagement."



About Prealize

Prealize Health is a predictive analytics company that helps payers and providers improve health outcomes, improve healthcare experience, reduce avoidable cost, and generate more revenue. Prealize uses deep AI and machine learning augmented with clinical intelligence to transform healthcare from reactive to proactive, so that more people can live healthier lives. To learn more visit us at www.PrealizeHealth.com.

19. <https://jamanetwork.com/journals/jamacardiology/fullarticle/2768916>