



COVID-19

**A Nationwide Conversation
to Support Individuals at
High Risk for Severe Illness**



A photograph of a family walking on a paved path at sunset. A man in a red shirt carries a young girl on his shoulders. They are followed by a young boy, an older man in a checkered shirt, and a woman in a striped dress. The sun is low on the horizon, creating a warm, golden glow. The sky is filled with soft clouds.


INTRODUCTION

The United States public health response to the COVID-19 pandemic, and high levels of vaccination and population immunity, have led to considerable progress in making communities healthier and reducing the risk of severe illness, hospitalization, and death.¹ However, even as the public health emergency expires,² three out of four adults in the United States have at least one risk factor that places them at high risk for progression to severe illness and complications due to COVID-19.³ The risk of severe outcomes is increased in people of all ages with certain underlying medical conditions and in people who are 50 years and older.⁴

*For a full list of the conditions that result in a higher risk for progression to severe illness due to COVID-19, please refer to **Table 1** and/or the CDC website⁵*



THE EVOLVING COVID-19 LANDSCAPE



The Public Health Emergency ended in May 2023, but COVID-19 remains a public health priority.²

On May 11, 2023, the U.S. Department of Health and Human Services (HHS) declared the end of the COVID-19 pandemic in the United States.² This occurred after the World Health Organization (WHO) declared an end to the global Public Health Emergency (PHE) for COVID-19 on May 5, 2023, more than three years after COVID-19 was designated as a pandemic.⁶

Despite the end of the public health emergency, the following challenges remain:

- In 2021, COVID-19 remained one of the top three causes of death nationally.⁷
- More than 6,000 patients continue to be hospitalized each week due to COVID-19 in the United States (as of June 24, 2023).⁸
- COVID-19 tests may not be covered under certain insurance plans, resulting in out-of-pocket costs.²
- Despite the availability of treatments in the U.S. for COVID-19 disease, data show that they are underutilized.⁹
- Patients, caregivers, community health workers, and other healthcare professionals (HCPs) remain unsure of the latest COVID-19 care protocols due to a lack of information, misinformation, and the general desire to move past the COVID-19 pandemic.^{10,11}

THE EVOLVING COVID-19 LANDSCAPE



Oved Amitay

Solve M.E.

Patient advocacy groups need support to reach out to patients who are outside of their sphere of influence [...] and they need to be more strategic and collaborative about how to reach all of the trusted messengers.



Denise Smith

**National Association of
Community Healthcare Workers**

For me, it looks like there is a missed opportunity to integrate the roles of primary care and public health. We know this is also an issue of [...] treatment – it's about being informed. There are many layers, many environments, and many different providers who have that responsibility.



Tremendous personal and societal losses have arisen from COVID-19, particularly for those with chronic conditions and members of specific communities, including African American, Hispanic, American Indian/Indigenous American populations, and individuals with low socioeconomic status.¹² The United States Centers for Disease Control and Prevention (CDC) emphasizes the critical importance of improving awareness of personal risk factors among high-risk patient communities to enable informed decision-making for individuals to help protect themselves and others.¹³ Improving risk awareness of COVID-19 is linked with greater utilization of preventative behaviors (e.g., social distancing), which are in turn connected to lower incidence and mortality from COVID-19.^{14,15,16} In the U.S., Black and Latino communities reported having lower rates of awareness of COVID-19 risk than non-Latino White communities.^{17,18} Reaching these communities that have experienced historical inequities and providing up-to-date guidance are especially important, as many members of these communities have unique challenges navigating traditional healthcare systems.^{18,19}

THE EVOLVING COVID-19 LANDSCAPE



Lindsay Clarke

Alliance for Aging Research

People who have a COVID-19 preventive mindset may be more concerned about the long-term impact of COVID-19 than the short-term impact because they are not willing to tolerate the long-term disruption to their lives.



Daniel Zlott

American Pharmacists Association

One-third of patients tell [pharmacists] they are tired of talking about COVID-19. Those same people have a resurgence of interest once COVID-19 impacts their lives (e.g., a family member gets sick) [...] This demonstrates an opportunity to educate on the comorbidities as opposed to COVID-19 by itself.



Since 2020, certain treatments for COVID-19 disease have been authorized for use by the FDA for eligible individuals in the United States.²⁰ While treatments for COVID-19 are available, a recent study by a consortium of U.S. universities found that a large majority of eligible, high-risk patients are not accessing these treatments. In a survey fielded from June 8 to July 6, 2022, 43% of respondents (10,423 of 24,142) reported having been infected with COVID-19. Of people infected with COVID-19 between May and early July, only 11% reported having taken these treatments for COVID-19 disease.⁹ One of the highest-risk groups, adults 65 years of age and older, had a higher, but still low, rate of treatment at 20%.⁹ There are also contrasts in use by gender (13% of men report taking treatments versus only 9% of women) and socioeconomic status (e.g., 16% of individuals earning \$100k per year or more report receiving treatment compared to 7% of those earning \$25k per year or less).⁹

Lastly, COVID-19 continues to be explored through research—there are several active research areas regarding COVID-19 including the societal impacts (such as education gaps, isolation, and mental health) and personal medical impacts (including short-term symptoms of fatigue and the potential for more durable effects to the neurological and nervous systems and/or the worsening of underlying medical conditions, such as heart disease, diabetes, and asthma).²¹⁻²⁴ From a communications perspective, these active areas of research are important as more individuals are motivated to practice vigilance to avoid these unknowns.²¹ More information on the near-term and far future consequences of the impacts of COVID-19 on individual well-being and public and private healthcare systems provides insight into effective management and support to people affected by this condition.¹²



WHAT WE HEARD FROM INDIVIDUALS

Awareness of COVID-19 risk and progression to severe disease remains low.

Pfizer conducted a Patient Preference Survey in late 2022 with 10,000 patients and caregivers from the general public to gain insight into how individuals at high risk perceive their risk status and how this influences their health choices within a real-world setting. Results of the survey showed that overall, **less than 2 in 5 people (~40%)** at high risk for progression to severe illness due to COVID-19 were aware of their high-risk status.²⁵ Furthermore, **63% of individuals at high risk, who responded to the survey, reported not being informed** of their risk status by their healthcare professionals; however, this number varied by condition.²⁵ For example, 78% of people with primary immunodeficiencies were informed of their high-risk status, while only 34% of people over 65 years of age were informed.^{25*}

**Since the dissemination of the Patient Preference Survey in 2022, the Centers for Disease Control and Prevention (CDC) has provided updated guidance⁵ regarding the risk status of individuals aged 50 years and older who are at high risk for severe COVID-19.⁵*

Despite the historical progress in combating COVID-19, an opportunity remains to address certain unmet medical needs and improve the health of these communities. Individuals within high-risk categories for progression to severe COVID-19 remain largely unaware of their risk status.²⁵ Those unaware of their personal high-risk status have levels of concern and risk assessments for COVID-19 that are similar to individuals not at high risk.²⁵ This issue is concerning because it puts many at risk for severe outcomes that are preventable.

WHAT WE HEARD FROM INDIVIDUALS



Caroline Clark

Oncology Nursing Society

Patients who do not have regular contact with health care providers are challenging to reach with information about individual high-risk status.



Jennifer C. Schleman, MPS, APR

National Health Council

There is no single authority [on COVID-19 risk], and the COVID-19 message now lacks consistency and clarity. People may get conflicting information from different providers. For example, there is no aligned message in urgent care, ER, or telehealth for people who test positive.



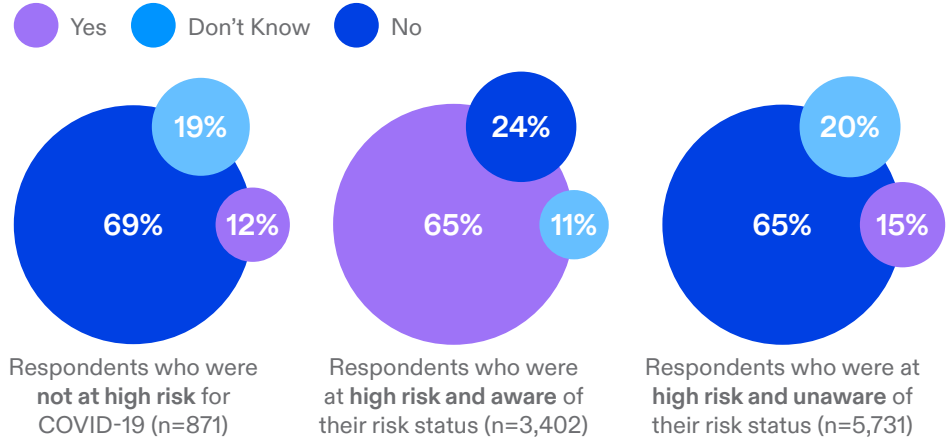
Jason Resendez

National Alliance for Caregiving

One of the top trusted channels for information is “family and friends” [...] because even if you do have a provider who’s prepared to talk about COVID-19, most of the time they’re only responding to a question. So what is triggering that conversation moving forward?

Figure 1 – Finding From Patient Preference Survey:
Only 65% of respondents who were “Aware of their high-risk status” have internalized that this risk status means that they are more likely to get very sick from COVID-19.²⁵

“Do you think you are more likely to get very sick from COVID-19, compared to others?”

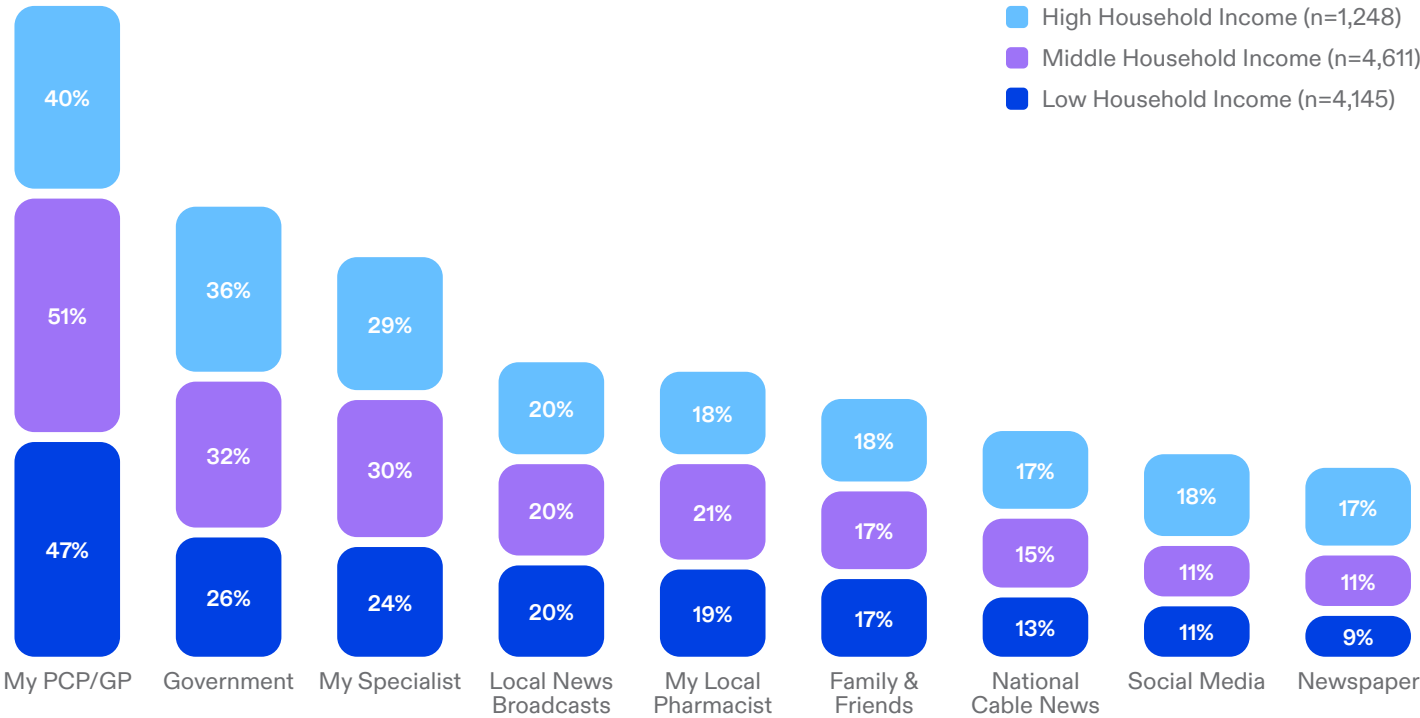


According to the Pfizer-sponsored *Patient Preference Survey*, individuals with health conditions that place them at high risk are more likely to see a doctor for pre-existing conditions rather than for COVID-19.²⁵ Sixty-eight percent (68%) of people who are aware of their high risk have regular checkups for existing health conditions, compared with 45% and 23% for those who are unaware of their high risk and who are not at high risk, respectively.²⁵ And while healthcare providers remain the most trusted sources of information related to COVID-19, this survey found that there are inconsistencies in how patients who are at high risk are informed, if they’re informed at all.²⁵

WHAT WE HEARD FROM INDIVIDUALS

Figure 2 – Finding From Patient Preference Survey: *Across income levels, an individual’s General Practitioner (“GP”) or Primary Care Provider (“PCP”) was the most trusted source for accurate COVID-19 information.*²⁵

Most Trusted Source for Providing Accurate Information on COVID (% of Respondents)



Note: The definitions of low, middle, and high household income are less than \$50,000, \$50,001-\$150,000, and more than \$150,000 annually, respectively.

WHAT WE HEARD FROM INDIVIDUALS



Albert A. Rizzo, MD

American Lung Association

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Individuals with underlying medical conditions and other factors that put them at high risk of complications should know that even mild cases of COVID-19 can lead to severe consequences.



Oved Amitay

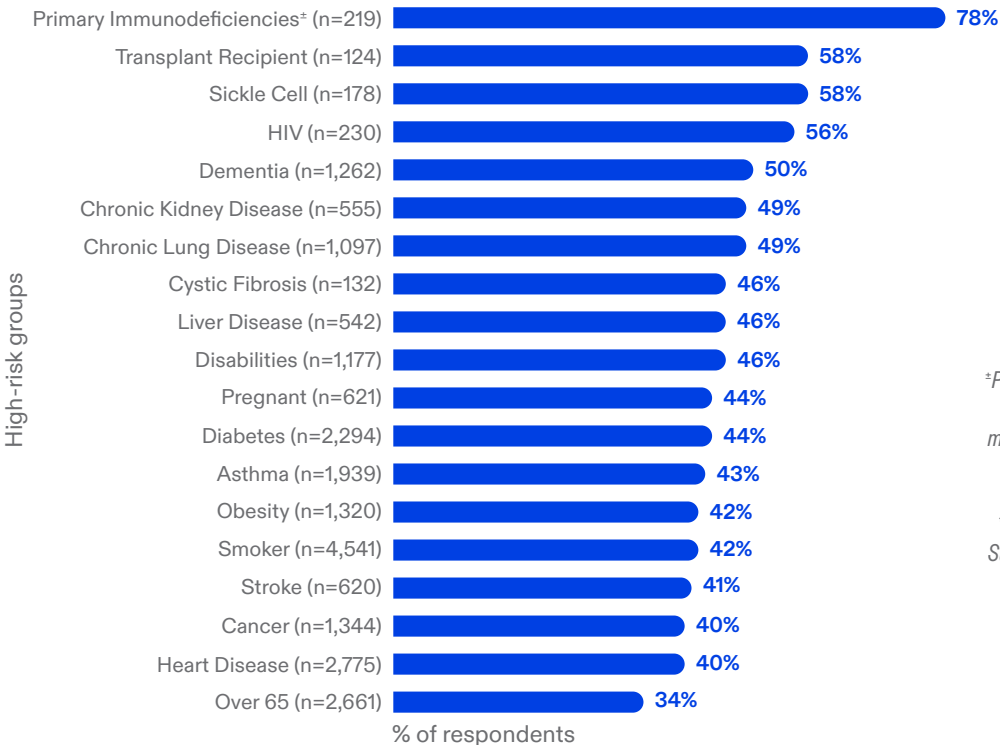
Solve M.E.

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A lot of educating is about really understanding what those lasting effects are and that COVID-19 is not just a respiratory disease; that even if you're not coughing or having difficulties breathing, you may still be affected.

Figure 3 – Finding From Patient Preference Survey: While the majority of patients with primary immunodeficiencies have been informed of their COVID-19 risk status, more than half of individuals in other high-risk categories, such as those over the age of 65, individuals with heart disease, and individuals with cancer, had not been informed of their high-risk status.^{25*}

Informed You Are at High-Risk of Getting Very Sick from COVID (% of Respondents)



*People with primary immunodeficiency (PI) have an immune system that does not work correctly. This means that people with PI are more likely to get and become very sick from infections.

*Since the dissemination of the Patient Preference Survey in 2022, the Centers for Disease Control and Prevention (CDC) has provided updated guidance regarding the risk status of individuals aged 50+ who are at high risk for severe COVID-19.



PFIZER'S COMMITMENT

Since 2020, Pfizer has been working to address COVID-19 for both patient and professional audiences through a **two-pronged approach focused on prevention through vaccinations and treatment through medications.**²⁶

While vaccinations remain one of the first lines of defense to help protect people against COVID-19, for those who do get COVID-19, there are treatment options available for eligible patients at high risk of progressing to severe illness (including hospitalization or death) due to COVID-19.²⁶ Pfizer remains unwavering in its commitment to combating COVID-19 and recognizes the need to do more to educate individuals and providers about COVID-19 care.^{26,27}



OUR RESPONSE: THE DEVELOPMENT OF AN ADVISORY BOARD

To address the need for education and communication for individuals who remain vulnerable to severe illness due to **COVID-19**, Pfizer formed a *COVID-19 Multi-Stakeholder Advisory Board* composed of healthcare professionals and patient organizations who represent the interests of individuals across a broad spectrum of criteria that can put someone at risk of progression to severe COVID-19. The specialties of our members include but are not limited to the areas of oncology, cardiology, respiratory, aging, obesity, and women's health. Members include medical doctors, nurses, pharmacists, patients, and caregivers.²⁷

The key objectives of the Advisory Board were to²⁷

- understand perceptions of individual risk among high-risk individuals, their caregivers, and healthcare professionals,²⁷
- identify gaps in current COVID-19 conversations in the U.S.,²⁷ and
- define a core communication strategy that facilitates the prevention and management of severe illness due to COVID-19, specifically for individuals at a higher risk.²⁷

Together with the Advisory Board, and based on the collective experience of patients, caregivers, and healthcare professionals through all phases of the COVID-19 pandemic, **we developed this *Position Statement* to outline a new COVID-19 narrative and calls to action that**²⁷

- recognizes the needs of individuals who remain vulnerable to severe illness,²⁷
- empowers patients to take protective actions,²⁷
- enables healthcare communities of interest to provide the best care,²⁷ and
- unites communities to be the healthiest they can be.²⁷

A group of diverse people, including men and women of various ethnicities, are shown in a celebratory mood. They are hugging and pointing upwards with their right index fingers. The background is slightly blurred, showing what appears to be an outdoor setting with trees and a fence.

CORE NARRATIVE SUPPORTING INDIVIDUALS AT HIGH RISK OF SEVERE COVID-19

Lack of awareness and/or recognition of how high-risk medical conditions impact a COVID-19 diagnosis requires a national, multi-stakeholder conversation.²⁷

In recognition of the stated end to the national public health emergency in the United States, and with empathy toward the millions of individuals still at risk of severe outcomes due to COVID-19, including hospitalization, death, or long-term/post-COVID-19 conditions, Pfizer's Multi-Stakeholder Advisory Board proposes these fundamental principles to guide patients, their families, individuals at risk, caregivers, and healthcare professionals in 2024 and beyond:

1 COVID-19 is now a component of everyday life.

Although the COVID-19 public health emergency has ended,² the SARS-CoV-2 virus (which causes COVID-19) continues to circulate among humans and evolve into new variants over time.^{2,28} While most people know what steps to take if they experience COVID-19-like symptoms,²⁵ it is important to reinforce this knowledge as the disease and our approach to it evolves. People are advised to understand their individual risk for infection and the severity of illness, take precautions to prevent infection, stop spread if exposed, and see their healthcare professional if infected.⁵

SUPPORTING INDIVIDUALS AT HIGH RISK OF SEVERE COVID-19



Karen Tracy



Gerontological Society of America

Individuals are less worried about COVID-19 today than three years ago, but care for yourself and care for others, regardless of health risk status, is a lifelong journey.



Lindsay Clarke



Alliance for Aging Research

People need to accept COVID-19 as a regular occurrence in their lives. This means understanding the consequences of COVID-19 while striking a balance between prevention and returning to our lives.



Joe Nadglowski



Obesity Action Coalition

Each high-risk segment has its own sensitivities to risk and motivations to prevent illness. Individuals in certain high-risk categories, such as obesity, older adults, and previous and current smokers, may not identify themselves as high-risk if they do not have any active comorbidities.

2 Individuals with high-risk factors require increased awareness.

The advisors observed through their patient organizations and constituencies that individuals who are managing certain underlying medical conditions—whether as a patient, caregiver, or healthcare professional—tend to prioritize their primary condition and view COVID-19 only as an added complication.²⁷ Only ~40% of people who are at a higher risk for progression to severe illness due to COVID-19 actually know their risk levels, and as illustrated in Figure 1, those who are at high risk for progression to severe COVID-19 infection, but unaware of their own high-risk status, assess their severe COVID-19 risk similar to those *not at high-risk*.²⁵ This is consistent with a less than 50% awareness of the risk of other infectious diseases such as human papillomavirus (HPV), shingles, and influenza among the general population.²⁹⁻³²

3 The most vulnerable populations are especially important to reach.

Vulnerable populations include people from historically marginalized racial and ethnic groups, and people who do not have easy access to quality care for a variety of reasons including lack of health insurance, transportation, child care, or the ability to take time off from work.³³ It is important to emphasize that this is a systemic issue that extends beyond personal behavior, which impacts social determinants of health.³⁴ Individuals who are especially vulnerable are often beyond the reach of traditional healthcare systems or established patient organization networks, requiring targeted efforts that are intentional and in collaboration with trusted messengers within the community.²⁷ Community health workers and pharmacists are often seen as trusted figures who are integral members of healthcare systems and communities.^{35,36} Utilizing their roles to reach and empower patients can create better health outcomes and can influence the occupational growth of these professions.^{35,36}

SUPPORTING INDIVIDUALS AT HIGH RISK OF SEVERE COVID-19



Beth Battaglini, RN-C

HealthyWomen

Right now, with COVID-19, it's so important to make sure that individuals who have higher risks, such as chronic conditions, obesity, or cancer, understand their current health status, signs, and symptoms (of COVID-19) and what they should be asking their healthcare providers for.

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Christine Verini

CancerCare

Disease-centric organizations find that patients may only view COVID-19 as an additional concern in comparison to their primary disease. For example, cancer patients are concerned with how a COVID-19 diagnosis may cause disruption to their active treatment plan.

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4 The present and future impacts from COVID-19 infection can cause significant complications.

Individuals with a COVID-19 infection may experience early symptoms such as fever, fatigue, cough, muscle, or body aches.^{37,38} Even among those without a COVID-19 infection, the life disruptions from the pandemic included depression, anxiety, loss of loved ones and friends, as well as impediments to social life, careers, and physical health.³⁹⁻⁴² Substantial disruptions to physical activity, sleep, time use, and mental health have also been documented.⁴² Individuals report seeking guidance from HCPs when concerned about the unknown impacts of COVID-19, including impact to personal health and resulting lifestyle challenges.^{25,27} The Advisory Board notes that equipping providers and caregivers with knowledge and further pursuit of research into this arena may be critical to reaching patients.²⁷ Additionally, there is a pressing need to research and understand the long-term impacts of COVID-19 on an individual's health, the economy and society as a whole.²⁷

SUPPORTING INDIVIDUALS AT HIGH RISK OF SEVERE COVID-19



Jennifer C. Schleman, MPS, APR ”

National Health Council

In addition to chronic disease—which disproportionately affects communities of color—misinformation and distrust in healthcare systems permeate these communities, which only serves to increase the risks of progression to serious illness due to COVID-19.



Caroline Clark ”

Oncology Nursing Society

Grassroots efforts can be effective to communicate with marginalized populations including communities of color, those with low socioeconomic status, and those geographically challenged in accessing healthcare resources.



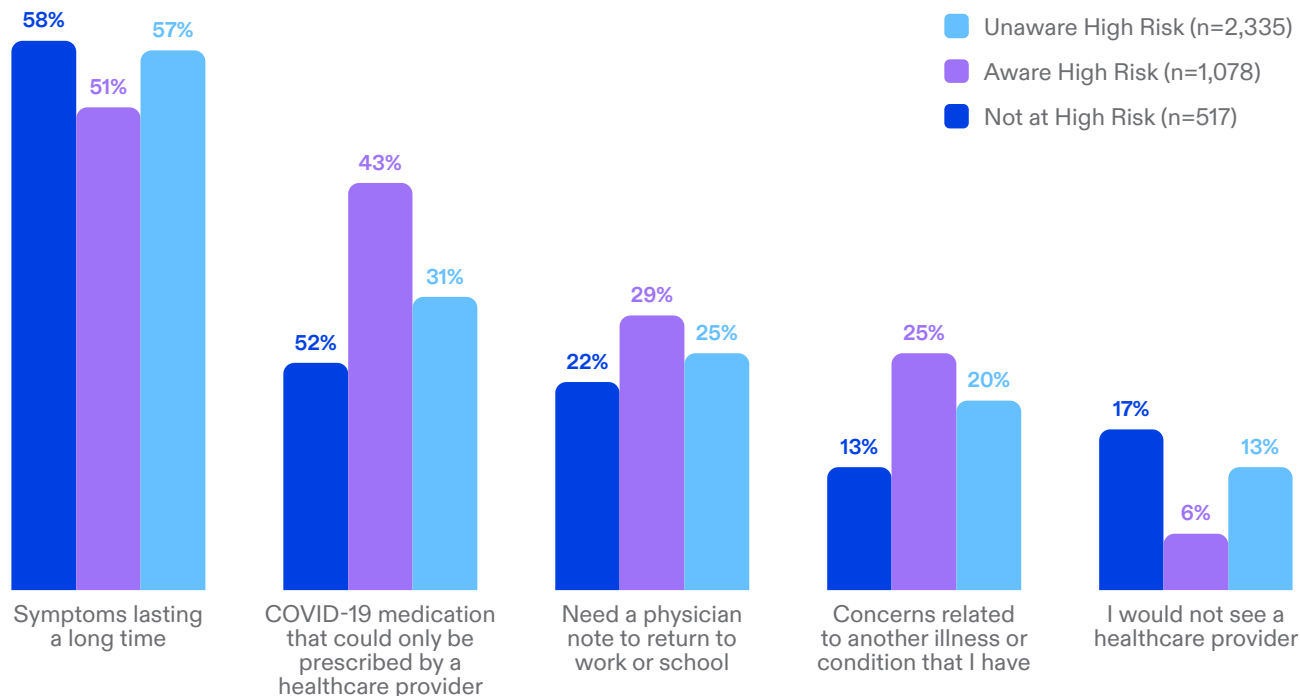
Jason Resendez ”

National Alliance for Caregiving

To ensure that everyone stays connected to protect individuals, families, and communities from COVID-19, it is important to categorize the vulnerable groups, such as understanding “caregivers” and “elders” as separate groups, and develop different approaches to speak to those groups.

Figure 4 – Finding From Patient Preference Survey: *High-risk individuals, regardless of their awareness of individual risk, are more likely to seek the guidance of an HCP if they test positive for COVID-19 and have acute symptoms that last a long time.*²⁵

What Would Cause You to See an HCP After Testing Positive



CALLS TO ACTION FOR COVID-19 IN 2024 AND BEYOND



The *Pfizer COVID-19 Multi-Stakeholder Advisory Board* recommends the following calls to action for each key community of interest, based on the four fundamental principles outlined above²⁷:

Individuals who are at high risk for progression to severe illness due to COVID-19	Know your risk: Understand the underlying medical conditions and other factors that may increase the risk associated with progression to severe illness due to COVID-19. ^{5,27} <i>Refer to Table 1 and/or CDC website for a list of conditions</i>
	Feel empowered: Talk to your primary care doctor, specialist, nurse, and/or pharmacist about how to best protect yourself from a COVID-19 infection and understand how to reach out for more guidance on potential treatment options should an infection occur. ⁵
	Have a plan in place: Know the signs and symptoms of COVID-19, test immediately if you suspect exposure or infection, and speak to your healthcare professional about potential treatment options. ^{5,37} Several treatment options require initiation within days of symptom start; ⁴³ the short window of opportunity to initiate treatment for COVID-19 disease may be a contributor to the underutilization of available treatments. ⁹
Caregivers and healthcare professionals treating individuals who are at a higher risk	Talk about the risk of COVID-19: Engage in conversations with individuals, especially those who are at high risk for progression to severe illness due to COVID-19 to help them understand their individual level of risk, the signs and symptoms of infection, need for testing, and potential treatment options. ^{9,43} By prompting the conversation in advance of infection, healthcare professionals can improve the opportunities for individuals to receive appropriate and timely treatment. ²⁷
	Personalize your approach for those in your care: Listen and understand what matters to each individual, and tailor your approach to care to incorporate their perspectives accordingly. For example, immunocompromised patients may be concerned about how immunosuppressant drug treatments impact their risk of a COVID-19 diagnosis, leading to severe outcomes. ^{5,25,27,44}
	Leverage technologies and tools to facilitate communication and quality care: Work within your practice or institution to integrate COVID-19 risk management communications with your patients. For example, using electronic medical record (EMR) systems to prompt conversations with patients can be impactful. ²⁷ A recent academic study demonstrated EMR and telehealth processes consisting of open-ended questions to elicit perception of risk, goals, and care preferences in the event of COVID-19 illness served as powerful tools to prevent or ameliorate suffering due to COVID-19. ⁴⁵

CALLS TO ACTION FOR COVID-19 IN 2024 AND BEYOND



Caroline Clark

Oncology Nursing Society



Healthcare professionals need to know that patients do not know their risks, deliver the messages routinely and ensure consistency in messages across different healthcare professionals [...] Deliver the message in a way that is not fear based but just a matter of fact.



Beth Battaglini, RN-C

HealthyWomen



Unlike the annual flu shot and immunization review, no standardized process/solution exists to address COVID-19, so standardized language and updated screening guidelines are needed to educate everyone about how to deal with COVID-19.



Daniel Zlott

American Pharmacists Association



[Manufacturers should] spend dollars and invest in spreading messages, whether it is direct to consumers or via relevant organizations or communities [...] Organizations would appreciate [the help] to support partnerships and conversations between patient advocacy groups and professional societies with powerful patient stories to spread the message.

National and State Health Authorities

Provide clear guidance on the latest COVID-19 protocols: Utilize the latest scientific data on COVID-19 as the virus and its impact on populations evolve, and share the latest guidance — clearly outlining any changes from previous or outdated guidance.²⁷ For example, the current CDC language on isolation as a first-line precaution for individuals who exhibit symptoms or test positive for COVID-19 does not adequately communicate the importance of reaching out to an HCP for treatment options.⁴⁶

Continue to support testing and treatments: Provide free or low-cost testing and treatment options for individuals who remain at high-risk for progression to severe illness due to COVID-19. With the recent expiry of the COVID-19 public health emergency in the U.S.,² clearly and prominently communicate details of continued access to tests, vaccines, and treatments through public information channels.²⁷

Increase funding to promote necessary improvements in the healthcare system, particularly in areas in which COVID-19 has overextended existing resources or exposed vulnerabilities in the current public health infrastructure.²⁷

Drug manufacturers and industry partners

Expand efforts to reach vulnerable populations: Work with trusted messengers to reach and educate individuals and communities who face increased health risks, including severe illness due to a COVID-19 infection.²⁷ People 50 years of age or older and/or people who do not have easy access to quality care for a variety of reasons, including lack of health insurance, transportation, child care, or an ability to take time off from work, are especially vulnerable and require focused efforts.^{4,28}

Continue developing innovative medicines that prevent and treat infectious diseases, including COVID-19.^{27,47,48}

Understand and appropriately support HCPs, such as pharmacists and community health workers, on whom marginalized communities disproportionately rely.^{27,35,36}

CONCLUSION

COVID-19 continues to present significant health risks to some individuals, including people who are 50 years of age or older, people who have certain underlying medical conditions, or people who lack access to quality care for a variety of reasons.^{2,5} For these individuals at high risk, all communities of interest can take action to improve individual risk awareness and help prevent and treat infections through proactive education and communication efforts, reducing the threat posed by COVID-19 for the most vulnerable individuals.²⁷ For example, healthcare providers should integrate COVID-19 care discussions with their patients into their current workflow, and health authorities should maintain equitable access to testing and treatment of COVID-19.²⁷ Also, all communities of interest have a role to play in improving the utilization of treatment for eligible patients.²⁷

As the *Pfizer Multi-Stakeholder Advisory Board* has proposed, recognition of how COVID-19 has evolved since the beginning of the pandemic requires acknowledgment of COVID-19 care as a component of everyday life. As such, patients and individuals are faced with the need to better understand the risk factors for progression to severe illness due to COVID-19 so they can advocate on their behalf with their healthcare team.²⁷

Furthermore, ongoing efforts are needed to address the potential short- and long-term impacts of COVID-19. While immediate attention has been given to mitigating the virus's spread through vaccination, understanding the potential long-term impacts on physical, mental, and social well-being is crucial to increasing active treatment of COVID-19. There is an opportunity for drug manufacturers to focus on specific populations (e.g., immunocompromised individuals) and there is an obligation to continue research, monitoring, and support for individuals who may experience current and future health challenges. This includes especially vulnerable patients, including historically marginalized individuals and communities.²⁷

By addressing these current and future needs, we can better support individuals in their COVID-19 journey toward recovery and resilience and better support communities to be the healthiest they can be.²⁷

T A B L E 1

The CDC has provided a list of certain criteria that put certain individuals at high-risk for progression to severe illness due to **COVID-19**.^{4,5}

Aged 50 years or older	<p>Age is the strongest risk factor for severe illness due to COVID-19.⁴</p> <p>Compared to younger people aged 18-29, the risk of dying from COVID-19 gets higher as people age: 3.5 times higher for people aged 30-39, 10 times higher for people aged 40-49, 25 times higher for people aged 50-64, 60 times higher in people aged 65-74, 140 times higher in people aged 75-84, and 360 times higher in people aged 85 or older.⁴⁹</p>
Cancer	<p>People who had cancer and COVID-19 had a death rate of 25.6%.⁵⁰</p> <p>People who had cancer and COVID-19 faced a high risk of death within 30 days of diagnosis of infection.⁵¹</p>
Chronic Kidney Disease (CKD)	<p>People who had chronic kidney disease (CKD) and got COVID-19 were 8% more likely to need invasive mechanical ventilation and 21% more likely to die, compared to people who did not have CKD.⁵²</p>

TABLE 1

Chronic Liver Disease (CLD)	People who had CLD and got COVID-19 were more likely to be admitted to the ICU (49.3% vs. 35%), need invasive mechanical ventilation (47.8% vs. 30.3%), or die (23.9% vs. 13.2%), compared to people without CLD. People with CLD also had to stay in the hospital longer (13.4 days vs. 10.1 days). People with CLD who also had cirrhosis (which is a serious liver condition) had an even higher risk of death (55.6% vs 13.2%). ⁵³
Chronic Lung Diseases (e.g., COPD)	People who had COPD and bronchiectasis and got COVID-19 were 18% more likely to need invasive mechanical ventilation, 9% more likely to need intensive care (ICU), and 18% more likely to die, compared to people who did not have COPD and bronchiectasis. ⁵²
Cystic Fibrosis (CF)	People who had CF and got COVID-19 were 1.56 times more likely to be hospitalized compared to people who did not have CF; they also faced an increased risk for invasive mechanical ventilation, ICU admission and death. ⁵⁴
Dementia or other neurological conditions	People with neurocognitive disorders such as dementia or Alzheimer's disease who got COVID-19 were 18% more likely to die, compared to people without these disorders. ⁵²
Diabetes (Type 1 or Type 2)	People who had diabetes with complications and got COVID-19 were 43% more likely to need invasive mechanical ventilation, 16% more likely to need intensive care (ICU), and 26% more likely to die, compared to people who did not have diabetes with complications. ⁵²

TABLE 1

Disabilities	People with intellectual disabilities who got COVID-19 were more likely to be hospitalized, be admitted to the ICU, or die, compared to people without these disabilities. Among people with intellectual disabilities, 63.1% were hospitalized (vs. 29.1%), 14.5% were in the ICU (vs. 6.3%) and 8.2% died (vs. 3.8%). ⁵⁵ A 2020 examination of claims data showed that people with developmental disabilities were over three times more likely to die. ⁵⁶
Heart conditions	People who had coronary atherosclerosis or other heart conditions and got COVID-19 were 10% more likely to need invasive mechanical ventilation, 8% more likely to need the ICU, and 14% more likely to die, compared to people who did not have heart disease. ⁵²
HIV infection	People with HIV who got COVID-19 had a 78% higher risk of dying, compared to people without HIV. ⁵⁷
Immunocompromised condition or weakened immune system	<p>People with primary immunodeficiency disorders were reported to have higher risk of mortality and ICU admissions.⁵⁸</p> <p>Patients who had undergone chemotherapy within the last 30 days before a COVID-19 diagnosis had higher odds of dying from COVID-19.⁵⁹</p> <p>People with inflammatory bowel disease (IBD) whose immune systems were compromised due to use of systemic corticosteroids and who got COVID-19 were 6.87 times more likely to be admitted to the ICU, require invasive mechanical ventilation, or die, compared to people who did not use systemic corticosteroids.⁶⁰</p>

TABLE 1

Mental health conditions	<p>People dealing with mental health conditions who also got COVID-19 had 1.75 times higher chance of dying, compared to people without these conditions.⁶¹</p> <p>People who suffered from mood disorders such as depression or bipolar disorder before catching COVID-19 were 1.3 times more likely to need hospital care and 1.51 times more likely to die, compared to people without mood disorders.⁶²</p>
Obesity or being overweight	<p>According to CDC, overweight, obesity, or severe obesity can make you more likely to get very sick from COVID-19.⁴</p> <p>People who were living with obesity and got COVID-19 were 50% more likely to need invasive mechanical ventilation, 16% more likely to go to the ICU, and 30% more likely to die, compared to people who do not live with obesity.⁵²</p>
Physical inactivity	<p>People with COVID-19 who were physically inactive were more than twice as likely to be hospitalized, about 1.7 times as likely to need intensive care, and over twice as likely to die from the disease, compared to people with COVID-19 who were regularly physically active. Furthermore, people who were consistently physically inactive were 20% more likely to be hospitalized, 10% more likely to need intensive care, and 32% more likely to die from COVID-19 than people who did only some physical activity.⁶³</p>

TABLE 1

Pregnancy or recent pregnancy	<p>Pregnant people are more likely to experience severe COVID-19 infections and have negative health outcomes during pregnancy including requiring a cesarean delivery, giving birth prematurely, having a low birth weight baby, developing preeclampsia, and needing intensive care.⁶⁴</p> <p>Pregnant people with COVID-19 were six times more likely to die and five times more likely to be admitted into the ICU, compared to pregnant people without COVID-19.⁶⁵</p>
Sickle cell disease	<p>People with hemoglobin blood disorders, such as sickle cell anemia, are at an increased risk for severe illness and complications due to a COVID-19 infection, often resulting from impaired immunity from functional hyposplenism and systemic vasculopathy, which can lead to organ dysfunction and high risk of thrombosis.^{66,67}</p>
Smoking, current or former	<p>People who smoke or have a history of smoking and get COVID-19 are at an increased risk for severe COVID-19 illness, compared to people who do not smoke: 29.8% of people with a history of smoking experienced COVID-19 progression (vs. 17.6%).⁶⁸</p>

TABLE 1

Solid organ or blood stem cell transplant	<p>Solid organ transplants: 81% of people with solid organ transplants were hospitalized for COVID-19.⁶⁹</p> <p>Kidney transplants: People with a kidney transplant were more likely to have acute kidney injury (27.5% vs. 13.3%), need renal replacement therapy (15.4% vs. 3.3%), and need intensive care (34.1% vs 15.1%) because of COVID-19, compared to people who did not have a kidney transplant. In the same study, 22.7% of patients with kidney transplants died due to COVID-19, compared to 16.2% of those without a transplant.⁷⁰</p>
Stroke or cerebrovascular disease	<p>People with a disease related to the brain’s blood vessels such as stroke were twice as likely to have severe illness from COVID-19, including higher chances of dying or becoming severely ill, compared to people without these conditions.⁷¹</p>
Substance use disorders	<p>People who had a substance use disorder, such as problems with drugs and alcohol, and got COVID-19 were 1.45 times more likely to need invasive mechanical ventilation, 1.84 times more likely to be hospitalized, and 1.3 times more likely to die, compared to people who did not have substance use disorders.⁷²</p>
Tuberculosis	<p>Compared to people who only had COVID-19, people who had both tuberculosis and COVID-19 were at an increased risk for death (2.17 times more likely). They also took longer to recover from COVID-19, if they recovered, and died faster.⁷³</p>

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