

# Help manage the long-term effects of COVID-19 with timely care

COVID-19 remains a major public health concern. Unlike other respiratory diseases, COVID-19 is present year-round and may lead to a second peak in cases during the summer months.<sup>1</sup> COVID-19 infections range in severity for patients 50+ years old or with certain underlying medical conditions, increasing risk of severe illness.<sup>2</sup> **Severe COVID-19 can affect most bodily systems, significantly impacting patient health.**<sup>3</sup> As we move into a post-pandemic era, healthcare leaders must recognize the long-term impacts that COVID-19 can have on patient outcomes and health system performance. There is an opportunity to shift our care mindset from reactive to proactive by adopting standardized workflows that prioritize timely, equitable treatment.

## The long-term impacts of COVID-19

### AT THE PATIENT LEVEL

#### Long-term health impacts of COVID-19



#### Post-acute sequelae (PASC) or post-COVID conditions (PCCs)\*

Per the Centers for Disease Control and Prevention (CDC), PCC is also known as Long COVID. The CDC states while anyone who gets COVID-19 can develop Long COVID, studies have shown that some groups of people are more likely to develop Long COVID than others, including those people who have experienced more severe COVID-19 illness, especially those were hospitalized or needed intensive care.<sup>4</sup> Symptoms of Long COVID, such as fatigue, cognitive impairment, breathing issues,<sup>5</sup> chest pain, psychiatric issues,<sup>6</sup> joint pain, gastrointestinal issues, and cough,<sup>7</sup> are difficult to attribute to one diagnosis.

\*According to the CDC, PCC is also known as Long COVID. The agency also notes that the definition of Long COVID continues to be evaluated as data are collected, analyzed, and reported, and understanding of the chronic condition improves. (CDC. Clinical Overview of Long COVID. July 24, 2025).



#### Worsening chronic conditions

Preexisting chronic conditions are not only risk factors for severe COVID-19 but can also be worsened by a COVID-19 infection due to heightened inflammation, added strain on bodily systems, and immune dysregulation.<sup>8,9</sup> For example, COVID-19 infection is linked to:



**Exacerbation of neurological symptoms** in patients with a history of stroke, Parkinson's disease (PD), Alzheimer's disease, multiple sclerosis, and epilepsy.<sup>10</sup>



**Respiratory complications**, leading to worsening of previous respiratory diseases like asthma, chronic obstructive pulmonary disease (COPD), and interstitial lung disease for patients hospitalized with COVID-19.<sup>14</sup>

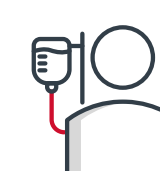


**Metabolic dysregulation and stress**, resulting in higher insulin resistance, reduced glycemic control, and increased risk of diabetic ketoacidosis in patients with type 1 diabetes and severe COVID-19.<sup>11,13</sup>



**Cardiovascular complications**, increasing incidence of cardiovascular diseases,<sup>†</sup> and structural heart changes, particularly for those with preexisting heart conditions.<sup>15,16</sup>

†Including stroke, arrhythmia, myocarditis, cardiomyopathy, coronary heart disease, hypertension, heart failure, thromboembolic disease, and cardiogenic shock.



#### New-onset chronic conditions

COVID-19 can also jump-start a long list of conditions, including:

##### DIABETES

**40%**

increased risk of incident diabetes compared with patients without COVID-19; risk and burden of diabetes increases with COVID-19 severity.<sup>17</sup>

##### ACUTE KIDNEY INJURY (AKI)

**2.4x**

higher risk for AKI and 1.6x higher risk for declined kidney function<sup>‡</sup> in hospitalized COVID-19 patients vs nonhospitalized COVID-19 patients.<sup>18</sup>

‡Glomerular filtration rate <60 mL/min/1.73 m<sup>2</sup>.

##### ASTHMA

**2.5x**

higher risk for developing asthma in patients with severe COVID-19 compared with those with nonsevere COVID-19.<sup>19</sup>

##### MAJOR ADVERSE CARDIAC EVENTS (MACE)

**20%**

increased risk of MACE in hospitalized COVID-19 cases without history of cardiovascular disease (CVD), compared with COVID-19–negative subjects with CVD.<sup>20</sup>

##### PSYCHIATRIC DISORDERS

**5.8%**

increased incidence of first psychiatric diagnosis post COVID-19, with higher risk for psychiatric sequelae after hospitalization.<sup>21</sup>

##### AUTOIMMUNE DISEASES

**43%**

increased risk of acquiring an autoimmune disease among patients with COVID-19, with greater risk among patients with severe COVID-19.<sup>22</sup>

### AT THE SYSTEM LEVEL

#### Quality measures

COVID-19 may negatively impact performance on multiple quality measures. Many Healthcare Effectiveness Data and Information Set (HEDIS) and Centers for Medicare & Medicaid Services (CMS) quality measures are focused on high-risk factors for severe COVID-19.<sup>2,23</sup>

For example: Condition-specific measures<sup>8</sup> related to chronic conditions impacted by COVID-19

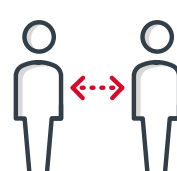
- Comprehensive diabetes care: Hemoglobin A1C poor control (>9.0%)
- COPD or asthma in older adults admission rate
- Heart failure admission rate
- Depression remission at 12 months

†Across Medicaid Adult Core Set, Merit-based Incentive Payment Systems (MIPS), Medicare Shared Savings Program (MSSP), and Medicare Stars.

## From reactive to proactive COVID-19 care<sup>24</sup>

### EARLY COVID-19

#### Responding to emergency (“reactive mode”)



Responding to COVID-19 as a public health emergency, requiring reactive measures like social distancing and quarantine to prevent hospitalization and death



Treatment uncertainty, emerging therapies reserved for the most severe cases



Ad hoc, resource-intensive workflows that contribute to staff burnout and economic losses



Loosened quality reporting requirements during the pandemic



Look for opportunities to leverage existing infrastructure, adapt current processes to enable more standardized COVID-19 care without added burden on clinicians. **Learn more about how to protect patients and mitigate broader systemic impacts related to COVID-19.**

### TODAY'S COVID-19

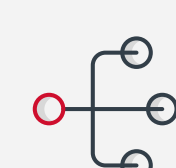
#### Treating to prevent exacerbation (“proactive mode”)



Responding to COVID-19 in the context of broader respiratory disease initiatives, requiring a proactive approach focused on education and vaccination to prevent hospitalization, death, and the risk of chronic disease



Guideline-endorsed,<sup>25,26</sup> testing and treatment options used widely in outpatient and acute care settings to prevent disease progression



Standardized, streamlined workflows that prioritize timely testing and treatment to preserve healthcare resources



Growing focus on COVID's connection to quality measures

\*As part of their Core Elements of Hospital Antibiotic Stewardship Programs, the CDC recommends changing from IV to oral antibiotic therapy to improve patient safety.