Preface

COVID-19: Where We Are, Where We Need to Be

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The COVID-19 pandemic has drastically changed life across the globe. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has directly caused hundreds of millions of cases and millions of deaths and has indirectly had far-reaching impacts on health and society. Many of the direct and indirect impacts of the COVID-19 pandemic disproportionately impact marginalized and less-resourced persons and communities around the world, and the disparate impacts, including wide-ranging differences in public health and political responses, have meant that we are all living through the same pandemic, but having vastly different experiences of its risks and hardships. In particular, the COVID-19 pandemic, and the response to it, has highlighted long-standing gaps in pathogen surveillance, public health infrastructure, access to care and social services, as well as the global inequities that cause worse health outcomes. At the same time, the scientific community has had remarkable achievements in two short (or very long) years. Within 4 months of the first detected case of the novel coronavirus infection in December 2019, there were many vaccines in human clinical trials, and several safe and effective vaccines were authorized for use less than a year from when the SARS-CoV-2 genome was sequenced. Now, those vaccines must be deployed around the world. We have novel and repurposed treatments for COVID-19, although there is much more that must be done to develop and equitably distribute safe and effective treatments that retain activity in the face of new variants of concern. We understand much more about SARS-CoV-2 transmission and how to prevent COVID-19 through a variety of nonpharmacologic measures; now we must overcome lingering distrust and societal divisions to implement the tools that we have.

Because nearly as much has been published on COVID-19 as has been published on HIV since the beginning of that pandemic, it is a dizzying task to stay current on
both the scientific and the clinical advances in COVID-19. We hope that this *Infectious Disease Clinics of North America* issue provides a thorough primer on virology, pathogenesis, transmission, clinical manifestations, treatments, and vaccines, with important information pertaining to specific risk populations, such as pregnant persons, children, individuals with different types of immune compromise, and the risks disproportionately born by those with societally marginalized identities. We also know that new and ever-changing information will make some of what is included here outdated within a short period of time. This is inevitable given the record-breaking pace at which new knowledge is being generated and new interventions that are being developed to respond to this novel pathogen and its new variants. Our goal is to have provided foundational understanding for each of these topics, written by established and emerging leaders in their respective fields, such that as new information emerges, these summaries can continue to form a solid knowledge base and stepping-off point.

In addition to summarizing where we are in our understanding of COVID-19, we also define several areas where more progress is needed to bring us to where we need to be. First, we need to know more about the pathophysiology and treatment of various phenotypes of “long-COVID” or postacute sequelae of COVID-19. Second, we need more direct-acting antivirals that do not have some of the shortcomings of our current treatments. Third, we need vaccines that provide durable protection against a broader array of variants, a universal coronavirus vaccine. Fourth, outside the clinical sphere, we are in urgent need of a better understanding of how to improve indoor ventilation for the nonmedical spaces in which the world works, goes to school, and lives. Finally, we need to achieve a more equitable distribution of diagnostics, vaccines, and therapeutics around the globe. The lesson of COVID-19, and of HIV before it, is that a global pandemic requires a coordinated and equitable global response.

It is our privilege to have the opportunity to work with colleagues with wide-ranging expertise to create a comprehensive anthology for clinicians summarizing the current knowledge about COVID-19 just a few years since its first impact in the human population. We hope that this first COVID-19 issue of *Infectious Disease Clinics of North America* provides a succinct and accessible review of the current knowledge in early
2022, and, through these insights, sets the stage for how we might more effectively respond to COVID-19 and new pandemics in the future.

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