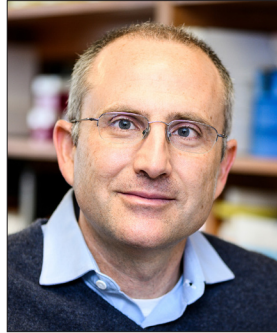


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The First COVIDecade

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Predicting the future is risky business. In 2007, the CEO of Microsoft declared, “There’s no chance that the iPhone is going to get any significant market share. No chance.” Predictions made in a fast-changing landscape are at the greatest risk of being spectacularly flawed.

Predictions from only a few months ago have not aged well, both in Wisconsin and globally. In November 2020, people expressed little, if any, concern that SARS-CoV-2 variants would impact vaccination campaigns, and experts predicted that India was on its way to “ending” its epidemic until, tragically, it surged to catastrophic levels. Such forecasts are fraught and illustrate how little we know about COVID-19. Often, we don’t even know what we don’t know! Nonetheless, experiences over the last year and from past pandemics allow us to squint into the horizon, anticipating some of the scientific and social issues that lie ahead.

1. The COVID-19 pandemic will be the defining societal event of this decade through-

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out the world. It is one of the rare events that has touched nearly everyone’s life. It is this decade’s Word War II or 9/11. Beyond its immediate impact on health, it has forever changed art, media, technology, sports, and

demographic will reverberate long into the future. For example, in 2003, the President’s Emergency Plan for AIDS Relief exemplified the United States’ moral authority by making lifesaving treatment for HIV widely

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other facets of life. Many cultural landmarks will be immediately binned into “before COVID” and “after COVID” categories, akin to pre-9/11 movies in which people rush to an airport gate to bid farewell to a paramour without encountering security checks or the early Superman episodes that rely on ubiquitous telephone booths for his transformation from a mild-mannered reporter into the Man of Steel. Moreover, lingering chronic health impacts of COVID-19 infection that are difficult to predict and treat may be felt for a generation or longer, similar to the chronic respiratory illnesses and other diseases that the 9/11 first responders continue to struggle with.

2. COVID-19 will continue to feature prominently in global geopolitics. Many decisions made in the earliest days of the pan-

available. Two decades later, China and Russia have joined the United States as major international leaders in the COVID-19 crisis, supplying precious supplies, such as vaccines, as well as scientific and medical expertise. COVID diplomacy will be a major instrument of exerting soft power in resource-constrained countries.

3. Borrowing from George Harrison, all things will pass, including front-page concern about COVID-19. The 20th century witnessed a huge reduction in mortality from infectious diseases in developed countries, as mortality from cancer and cardiovascular diseases gained prominence. Now, the general public’s focus on infectious diseases has skyrocketed, similar to the way concerns about terrorism became dramatically elevated after 9/11. Eventually,

people will adapt and stop thinking about COVID-19 on a daily basis. At the start of the 20th century, people attended school, visited their families, and lived their lives in a world where infectious disease mortality was a constant threat. This does not mean we will suddenly return to a pre-pandemic “normal.” Rather, we hope we will emerge from the pandemic with a greater, enduring appreciation of the importance of public health measures (vaccines, masks, social distancing) and public health funding.

4. COVID-19 will increase awareness of the global village and the reality that virulent pathogens do not require visas or passports to spread across the world. In other parts of the world, infectious diseases have never ceased to be a major cause of mortality, often as a result of inadequate infrastructure, including limited access to clean water, nutrition, and health care. Acceptance or denial of the reality of disadvantaged populations sets the stage for future pandemics that can spread quickly to wealthy nations, as well.
5. Global travel will resume, but unfettered international travel will be a distant memory. Outright travel bans will become less common, but ongoing quarantine requirements may not. Some of this will reflect legitimate concerns about importing more contagious, vaccine-resistant variants, but quarantine policies may also be sustained by xenophobia or political considerations.
6. Variants will continue to emerge and spread throughout the next decade. People have significant reasons to worry that the first batch of variants will increase contagiousness, potentially heighten virulence, and may overcome natural and vaccine-induced immunity. If “second-generation” COVID-19 can possess such worrisome biological properties, what will “20th-generation” and “50th-generation” viruses look like?
7. The rapid development of vaccines will embolden a sense of triumphalism, that future threats from SARS-CoV-2 and other emergent viruses can be brought to heel by quickly developed vaccines. If sci-

entists can generate vaccines to protect against SARS-CoV-2, they should be able to adapt them to variants. Yet, we have no guarantee that vaccine immunogens that match circulating variants will elicit antibodies with the same efficacy as vaccines against “first-generation” SARS-CoV-2. We also have no guarantee that repeated vaccination will allow our immune systems to stay “up-to-date,” or that the current resistance to vaccination among “anti-vaxxers” may grow to include others who develop “vaccination fatigue.”

8. COVID-19 will have a seismic impact on education. Coping with the loss of an in-person school year will be a challenge for a generation of students and will exacerbate inequities. As a silver lining, talented students coming-of-age during the pandemic and fascinated by infectious disease will become the next generation’s leaders to fight COVID-19 and other global infectious disease threats, such as influenza, HIV, tuberculosis, and malaria. The next decade will usher in a renaissance in our understanding of infectious disease forecasting, prevention, and treatment.
9. COVID-19 will catalyze access to free and ubiquitous high-speed internet throughout the United States and other developed countries. The need for remote schooling

demonstrated that internet access is a public utility, as fundamental to modern life as electricity and running water. At the same time, the pandemic has highlighted the pernicious effects of misinformation about health and safety via social media, endangering efforts at masking, social distancing, testing, and vaccinations. Public policy needs to address the epidemic of dangerously false information.

10. Another pandemic will occur in the next 10 years. In the 2010s, Zika virus emerged in the Americas, and the most explosive Ebola outbreak in history occurred in West Africa. A camel-borne coronavirus known as Middle East respiratory syndrome, or MERS, disrupted the Middle East and South Korea. SARS-CoV-2 is simply the most recent member of the “new virus club” to threaten human health, but it will not be the last. The systems we put in place to respond to COVID-19, belatedly and at huge expense, will stand us in good stead against the next pandemic threat. We must remain patient, however, and accept that being ready for unknown future threats necessitates indefinitely supporting resources—the people, infrastructure, and plans—that we can rapidly mobilize when an unpredictable event occurs at an unpredictable time in the future.



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