

COVID: Moving from Emergency to the 'New Normal'

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Key Takeaways:

- Public opinion polls increasingly reflect a desire to return to 'normal,' and states are announcing plans to repeal mask mandates and restrictions. These changes increase urgency for questions of how and when to move to a 'new normal.'
- 2. The 'new normal' can be defined as an endemic state where some level of hospitalizations and deaths are expected, and hospitalizations - not cases - are a primary indicator for policy.
- 3. On one hand, vaccine effectiveness and availability, progress on therapeutics, and the reduced severity of Omicron could indicate readiness for a shift to the 'new normal.'
- On the other hand, daily deaths are still high. Emanuel et al. (2022) propose an acceptable risk threshold of 3000 deaths per week across respiratory viruses, but the U.S. is currently experiencing about six times this threshold.
- 5. Additionally, concerns about domestic and global vaccine coverage, access to therapeutics and testing, healthcare capacity, and other factors would indicate that a state of continued emergency is necessary.
- 6. For the healthcare system, a readiness for a shift to 'new normal' will require continued investment in vaccines and therapeutics; preparation and systems to enable surge capacity, new payment and responsibility policies, management of non-COVID health issues, and a rebuilding of trust in the public health system.



Introduction

As the peak of the latest Omicron wave begins to subside in many places in the U.S., experts, policymakers, and laypeople alike are raising questions about whether the U.S. is ready to transition out of a permanent state of national crisis and move into the 'new normal.' This brief defines what the 'new normal' could look like, explores readiness for such a shift across four key mitigatory levers, and outlines implications for the U.S. healthcare system.

Current state of virus, mitigation measures, and public opinion

The U.S. is currently recovering from an explosive wave of COVID cases in December and mid-January. By the second week of February, 7-day average daily cases hover around 200,000 – slightly less than the January 2021 peak, which held the prior record before Omicron.¹ Despite consensus that the Omicron variant is less virulent, 7-day average daily deaths continue to hover around 2,500, which exceeds April 2020 and September 2021 peaks. Cumulatively, the country has lost over a recorded 900,000 lives before considering excess mortality.^{1,2}

Fortunately, studies continue to indicate that vaccines and boosters protect against severe disease; one CDC study based in Los Angeles found that unvaccinated individuals had hospitalization rates 23.0 higher than a fully vaccinated person with a booster.³ As of the second week of February, about 36% of the U.S. population is not fully vaccinated, and 73% remain without a booster, with declining rates of daily vaccinations nationally.⁴

With this context, the state of emergency for the pandemic varies locally and remains in flux. Recently, a group of bi-partisan governors told President Biden that the country needs to "move away from the pandemic," and requested clear guidelines on how to return to normalcy.⁵ Social distancing and masking requirements vary significantly by state and country, but more states have been making headlines with plans to retire mask mandates in schools or other settings.^{4,6} Public opinion polls indicate growing sentiment of frustration with the pandemic and a desire for a return to 'normal,' placing increased pressure on policymakers and raising questions on whether any remaining restrictions will be broadly followed.⁷ These factors and disparate policy approaches beg the question of how and when the U.S. should move from a state of emergency to the 'new normal.'

Defining the 'new normal' and thresholds to reach it

Increasingly, experts agree that COVID will not be eradicated but will eventually become endemic – a regular factor of life, like a flu that circulates regularly with varying



intensity.^{8,9,10} Qualitatively, Dr. Anthony Fauci described a future state as one where the virus "does not disrupt us in society, does not dominate our lives, not prevent us [from doing] the things that we generally do under normal existence;" instead, there "would be a level of...hospitalizations and deaths that fall within the category of what we generally accept."⁹ Quantitatively, Emanuel et al. (2022) argue for a risk threshold for all respiratory virus infections combined, defined by "peak weekly deaths, hospitalizations, and community prevalence of viral respiratory illnesses during high-severity years, such as 2017-2018."⁸ Notably, the U.S. is currently experiencing about six times the threshold for weekly deaths that Emanuel et al. (2022) propose of 3000 per week, indicating we are far from their recommended benchmark. Moving forward, the U.S. must grapple with social, health, and economic trade-offs of continued pandemic mitigation (e.g., restrictions) versus shifting to the 'new normal' before such thresholds are reached.

Hospitalizations as a key indicator

Hospitalizations – not cases – are now looked to as the primary metric to guide relaxation of crisis-time policy measures.^{11,12} Hospitalizations are believed to be more fully reported than case data and more accurately reflect strain on the healthcare system.¹¹Additionally, with the impact of vaccines on disease severity and the lessened virulence of Omicron, hospitalizations would better indicate how many people are really getting sick. Recently, five U.S. public health groups, including the Association of State and Territorial Health Officials and the Council of State and Territorial Epidemiologists, recommended a shift away from comprehensive case monitoring (i.e., contact tracing), a signal that reflects this shift.¹² Additionally, in a January 2nd interview with ABC, Dr. Anthony Fauci indicated that it may make sense for the federal government to focus on hospitalizations, rather than cases, as a primary driver of policy change, though the timeline for such a shift remains unclear.^{13,14}

Readiness of key mitigation levers: Vaccines

Vaccines continue to be effective in reducing severe outcomes, but many argue that several key vaccination barriers remain before we can shift to the 'new normal,' including higher domestic and global population coverage and preparation for regular vaccination campaigns with variant-specific vaccines, new administration mechanisms, optimized dosing, and other strategies.

Population coverage levels

Early in the vaccine rollout, 'herd immunity' was heralded as the ultimate goal for a transition to a 'new normal.' Estimates of vaccine coverage levels needed to achieve population immunity in the U.S. currently hover around 90%, a target that remains out of reach primarily due to vaccine hesitancy and limited uptake and eligibility among



children.^{15,16} Only 25% of children aged 5 to 11 are 'fully vaccinated' and those under 5 are still ineligible.⁴ Vaccine hesitancy is steadfast; a KFF survey has found that the portion of adults who say they will "definitely not" get vaccinated stands at 14% and "has not moved in a statistically significant way since December 2020."¹⁷

Indeed, access barriers do not appear to be the primary driver of the gap: a US Census Household Pulse survey indicates that only 2% of unvaccinated adults surveyed reported not getting the vaccine due to difficulty obtaining it.¹⁸ Notably, these adults are disproportionately people of color, economically disadvantaged, and experiencing disabilities; promoting equitable access for these groups will continue to be of high importance.¹⁸

The ability for vaccine mandates to bridge remaining hesitancy and gaps in access is up to some debate, but some U.S. employers and states reported significant jumps in vaccine uptake after mandates were in place in 2021.¹⁹ Most of the Biden administration vaccine mandates have either been struck down by the Supreme Court or held in the balance of federal and state courts, further indicating the future of mandates as a lever to address coverage gaps remains uncertain.²⁰

Wide-scale global vaccination is reinforced by experts as a crucial lever to prevent future variants.²¹ As of the second week of February, only ~10% of people in low-income countries have received at least one dose of the vaccine.²² Drivers of low vaccination include availability, access, and hesitancy; the relative contribution of each factor to low vaccination rates is up to some debate. In some regions, researchers are concerned about growing vaccine hesitancy as a major issue for vaccination, although supply availability, distribution complexity (e.g., cold chain), and other challenges such as poorly funded healthcare systems, receiving doses close to expiry dates, and access for remote populations all contribute to low vaccination rates.^{23,24} Borio et al. (2022) advocate for the U.S. to invest more in improving vaccine access and uptake globally as a key tenet of readiness to shift to a 'new normal.'²⁵

If global vaccinations remain low and domestic hesitancy cannot be overcome with mandates or other measures, the U.S. may need to accept that achieving targeted population coverage may be unlikely for at least the next several years.¹⁶ Some argue that doing so would be to accept the risks that new variants of concern will continue to arise globally and high rates of hospitalizations and deaths will continue for unvaccinated persons.²⁶ As policymakers consider available levers to increase population coverage, they will need to weigh implications for personal liberty or other costs against potential continued negative health, social, and economic impacts of illness and/or restrictions.

Preparation for regular vaccination campaigns



Experts broadly suggest that regular vaccination campaigns could be a feature of the 'new normal' because vaccinated persons can be susceptible to 'breakthrough cases,' there is a lack of clarity on exact immunity duration from vaccination, and new variants may continue to be introduced. Preparation for regular vaccination campaigns therefore could be considered a threshold for shifting to the 'new normal,' by increasing speed to create, approve, and distribute variant-specific vaccines and introducing new administration techniques such as nasal or oral vaccines, which can be more speedily distributed and may be more effective and acceptable.^{25,27,28} Additionally, optimal vaccination strategies could include creating a universal coronavirus vaccine and refining dosing schedules, though further research is needed to identify whether an optimal dosing interval exists that balances health benefits with concerns of uptake and costs.²⁵

Readiness of key mitigation levers: Therapeutics

To shift to a 'new normal,' experts contend that the U.S. needs increased supply and faster access to therapeutics including monoclonal antibodies, antivirals, and anti-inflammatory drugs. Key levers of readiness include faster development times for therapeutics in response to new variants, more rapid turnaround times between testing and treatment to maximize effectiveness, and reduced or removed cost barriers to COVID-19 outpatient treatments.²⁵

New variants pose the greatest threat to monoclonal antibodies, which rely on a close match with the virus.²⁹ The U.S. experienced this challenge in the recent surge: hospitals experienced supply shortages of antibody treatments in December when it was found only one of three approved treatments were effective against Omicron.³⁰ Antiviral Paxlovid was recently found to be highly effective against Omicron, and the U.S. has contracted production of 20 million courses of treatment in 2022.³¹ However, even if supply matches future need, treatment must be initiated within five days of symptoms, a timeline which is challenged by lack of awareness, hesitancy, and delays in testing and prescribing.³² A shift to the 'new normal' that manages adverse health outcomes would require adequate supply of antivirals and anti-inflammatory drugs like dexamethasone, while addressing these time-to-treatment barriers.³³

Readiness of key mitigation levers: Testing and surveillance

Despite the Biden Administration's recent move to distribute 500 million at-home rapid tests and require private insurers to cover the cost of at-home rapid tests, many experts believe the U.S. is still far behind where it needs to be for testing and surveillance as mitigation levers.^{34,35} Key steps to enable a 'new normal' could include increasing access to low-cost tests, improving data attached to testing, and expanding surveillance to track new variants and enable rapid policy response.³³



Access to rapid at-home tests remains a challenge, despite being a crucial lever to detect infectiousness and limit the spread of the virus. Supply is limited, tests are costly, and the requirement for private payers to cover at-home tests does not extend to Medicaid and Medicare Advantage, which insure vulnerable groups.³⁶

Readiness of key mitigation levers: Distancing and masking

Distancing and masking mandates are highly polarizing and are increasingly called for removal. To safely shift into a 'new normal,' policymakers, healthcare administrators, and private sector leaders may need to be flexible in their ability to re-apply measures as needed to combat surges.

Currently, requirements by state vary significantly, and increasingly states such as California, New York, and New Jersey are announcing plans to roll back mask mandates for certain settings such as schools.^{4,6} However, during periods of high transmission, experts expect that some measures such as mask-wearing may need to be re-applied, especially in settings with vulnerable populations such as hospitals.¹⁰ To move to this more responsive phase, real-time data, clearly established thresholds (i.e., hospitalizations), and trust in public health will be needed for measures to be applied and removed with meaningful adherence.^{8,37}

Implications for the U.S. healthcare system

For the U.S. healthcare system, a readiness for a shift to 'new normal' will require continued investment in vaccines and therapeutics, preparation and systems to enable surge capacity, new payment and responsibility policies, management of non-COVID health issues, and a rebuilding of trust in the public health system.

Much of the vision for the 'new normal' is dependent on rapid development and distribution of variant-specific vaccines and therapeutics. Pharma, biotech, and the government will need to continue to invest in and research new treatments and variant-specific vaccines, faster production and distribution, new administration techniques, optimal dosing strategies, and more. As new treatments and vaccines come on to the market, regulators should quickly and safely approve these options while providing clear guidance to the public and providers on appropriateness of use. Many argue that vaccines and therapeutics should be offered at no or low cost to the public to bolster continued uptake, but the cost per person can be high; for example, the federal government ordered about 450,000 doses of sotrovimab, a monoclonal antibody treatment proven effective against Omicron, at a cost of about \$2,100 a person.³⁰ The government and taxpayers continue to foot the bill on expensive treatments and vaccination campaigns for the

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foreseeable future, but redefining payment responsibility may be a key element of a noncrisis phase of the pandemic.

As we shift to the 'new normal,' some level of COVID-19 hospitalizations and deaths will continue to occur, though what level is deemed 'acceptable' will vary by community without clear federal guidance. Continued high rates of severe illness will place further burden on an already strained healthcare delivery system. Providers will need to prepare for ongoing sufficient regular and surge capacity, but clinician burnout and nursing shortages remain significant barriers.⁸ Potential policy solutions could include development of a national public health workforce that can surge to areas in need, better data and systems to sooner detect where surge capacity is needed, investment in clinician well-being and support systems to improve retention, all while managing costs.⁸ Telemedicine could enable flexibility in deploying healthcare capacity to non-emergent needs, but there are instances where virtual care is impractical, and the future of policy issues such as coverage and licensure remain unclear.

The payment landscape for COVID-19 care is already changing; payers and policymakers must grapple with ethical and financial dilemmas of to whom they should shift costs of COVID-19-related care and when. Some health insurers have begun charging patients copays and deductibles for COVID-19-related care, and short-term health plans and employer wellness programs could charge unvaccinated persons higher costs due to their increased risk.³⁸ For example, Delta Airlines in August started charging unvaccinated workers \$200 per month.³⁶ Looking forward, the implications of 'long COVID' for payers and patients is unclear. Given unknowns around how many people have 'long COVID,' how long it will last, and what its impact will be on healthcare costs, payers will likely address risk profiles and premiums to mitigate losses.³⁶

The healthcare system will need to increasingly address growing health issues beyond COVID-19. Behavioral health and substance abuse increased significantly during the pandemic in the face of already strained capacity for appropriate care and services.³⁹ Elective procedures may return to normal levels, but patients may have more complex cases due to a deferral of care.⁴⁰ Providers will need to promote timely seeking of care and rebuild trust that returning to hospitals is safe; one study found that patient reluctance to emergency care may have contributed to worse cardiac outcomes.⁴¹

More broadly, improving trust in public health is crucial to a smooth recovery and transition to the 'new normal.' A 2021 survey found that the public's positive rating of the public health system has declined substantially over time, with low levels of trust for federal, state and local public health agencies and departments: 52% of respondents said they have a great deal of trust in the CDC, followed by 44% for local health departments and 41% for state health departments.^{42,43} As messaging and mitigation measures evolve in



the 'new normal,' trust in public health officials and systems will continue to be paramount.

Discussion Questions

- 1. Is it time to declare an end to the emergency response to the pandemic?
- 2. How many deaths per day or week due to coronavirus is tolerable in the 'new normal'? Emanuel et al. (2022) suggest a risk threshold of 3000 deaths per week across respiratory viruses - is that number correct?
- 3. Should governments outline a 'tolerable' risk threshold for deaths or hospitalizations to inform policy and healthcare capacity?
- 4. Who, if anyone, should be mandated to get vaccinated?
- 5. Should payers be permitted to charge higher premiums for people who have chosen not to get vaccinated, given their higher risk? If so, what are the mechanisms for these penalties?
- 6. How long should the US government continue to cover costs or heavily subsidize COVID-19 vaccines, treatments, and/or tests? Should the government be defraying these costs at all today?
- 7. How will the midterm elections impact COVID policy at federal and state levels, given that public opinion is increasingly shifting toward a desire to return to 'normal'?
- 8. What has the Biden administration done well when it comes to virus response, and what changes should the administration make?
- 9. What will it take to rebuild trust in the public health system?
- 10. How big of a priority should investing in global vaccination be?



References

- ¹ By. "Coronavirus in the U.S.: Latest Map and Case Count." *The New York Times*, The New York Times, 3 Mar. 2020, https://www.nytimes.com/interactive/2021/us/covid-cases.html.
- ² Ritchie, Hannah, et al. "Excess Mortality during the Coronavirus Pandemic (COVID-19)." Our World in Data, 5 Mar. 2020, https://ourworldindata.org/excess-mortality-covid.
- ³ Danza, Phoebe, et al. "SARS-COV-2 Infection and Hospitalization among Adults Aged ≥18 Years, by Vaccination Status, before and during SARS-COV-2 B.1.1.529 (Omicron) Variant Predominance Los Angeles County, California, November 7, 2021–January 8, 2022." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 3 Feb. 2022, https://www.cdc.gov/mmwr/volumes/71/wr/mm7105e1.htm.
- ⁴ The New York Times. "See How Vaccinations Are Going in Your County and State." *The New York Times*, The New York Times, 17 Dec. 2020, https://www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html.
- ⁵ Carvajal, Nikki. "Governors Say They Told Biden US Needs to 'Move Away from the Pandemic' at White House Meeting." CNN, Cable News Network, 1 Feb. 2022, https://www.cnn.com/2022/01/31/politics/governorspandemic-biden/index.html.
- ⁶ Cowan, Jill. "California Will End Its Indoor Mask Mandate next Week." *The New York Times*, The New York Times, 8 Feb. 2022, https://www.nytimes.com/2022/02/07/us/california-indoor-mask-mandate.html.
- ⁷ Cohn, Nate. "Americans Are Frustrated with the Pandemic. These Polls Show How Much." *The New York Times*, The New York Times, 8 Feb. 2022, https://www.nytimes.com/2022/02/08/us/politics/covid-restrictionsamericans.html.
- ⁸ Emanuel, Ezekiel J., et al. "A National Strategy for the 'New Normal' of Life with Covid." JAMA, vol. 327, no. 3, 2022, p. 211., https://doi.org/10.1001/jama.2021.24282.
- ⁹ Smith-Schoenwalder, Cecelia. "Endemic, 'New Normal' Chatter Intensifies as U.S. Coronavirus Cases Start to Decline." U.S. News & World Report, 27 Jan. 2022, https://www.usnews.com/news/health-
- news/articles/2022-01-27/endemic-new-normal-chatter-intensifies-as-u-s-coronavirus-cases-start-to-decline. ¹⁰ Howland, Jason. "What Will Be the Future 'New Normal' with Covid-19? - Mayo Clinic News Network." *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 17 Jan. 2022,
- https://newsnetwork.mayoclinic.org/discussion/what-will-be-the-future-new-normal-with-covid-19/.
- ¹¹ "Reich Offers Insight into Predictions About Omicron Peak, COVID-19 Forecasting." UMass Amherst School of Public Health & Health Sciences, UMass Amherst, 28 Jan. 2022, https://www.umass.edu/sphhs/newsevents/reich-offers-insight-predictions-about-Omicron-peak-covid-19-forecasting.
- ¹² Yoon, Dasl, et al. "Omicron Pushes Health Authorities toward Learning to Live with Covid-19." *The Wall Street Journal*, Dow Jones & Company, 30 Jan. 2022, https://www.wsj.com/articles/Omicron-pushes-health-authorities-toward-learning-to-live-with-covid-19-11643537865.
- ¹³ Johnson, Carla K. "Covid Case Counts May Be Losing Importance amid Omicron." AP NEWS, Associated Press, 5 Jan. 2022, https://apnews.com/article/coronavirus-pandemic-science-health-anthony-fauci-9444d63b650b98e235ed2595b0ebe844.
- ¹⁴ Wallace-Wells, Benjamin. "How Soon Will Covid Be 'Normal'?" *The New Yorker*, Condé Nast, 8 Jan. 2022, https://www.newyorker.com/news/annals-of-inquiry/how-soon-will-covid-be-normal.
- ¹⁵ Mcneil, Donald G. "How Much Herd Immunity Is Enough?" *The New York Times*, The New York Times, 24 Dec. 2020, https://www.nytimes.com/2020/12/24/health/herd-immunity-covid-coronavirus.html.
- ¹⁶ D'Souza, Gypsyamber, and David Dowdy. "Rethinking Herd Immunity and the Covid-19 Response End Game." *Johns Hopkins Bloomberg School of Public Health*, 13 Sept. 2021, https://publichealth.jhu.edu/2021/what-isherd-immunity-and-how-can-we-achieve-it-with-covid-19.
- ¹⁷ Hamel, Liz, et al. "KFF COVID-19 Vaccine Monitor: January 2022." *KFF*, Kaiser Family Foundation, 28 Jan. 2022, https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-january-2022/.
- ¹⁸ Monte, Lindsay M. "Household Pulse Survey Shows Many Don't Trust COVID Vaccine, Worry about Side Effects." *Census.gov*, 28 Dec. 2021, https://www.census.gov/library/stories/2021/12/who-are-the-adults-notvaccinated-against-covid.html.



- ¹⁹ Beer, Tommy. "Covid-19 Vaccine Mandates Are Working-Here's the Proof." *Forbes*, Forbes Magazine, 10 Dec. 2021, https://www.forbes.com/sites/tommybeer/2021/10/04/covid-19-vaccine-mandates-are-working-heres-the-proof/?sh=15e5f2922305.
- ²⁰ Gershman, Jacob. "Judges Weigh More Biden Vaccine-Mandate Cases after Supreme Court Rulings." *The Wall Street Journal*, Dow Jones & Company, 6 Feb. 2022, https://www.wsj.com/articles/judges-weigh-more-biden-vaccine-mandate-cases-after-supreme-court-rulings-11644143401.
- ²¹ Desmon, Stephanie. "Without Global Vaccinations, Further Variants Ahead." *The Hub*, Johns Hopkins University, 21 Dec. 2021, https://hub.jhu.edu/2021/12/21/global-vaccination-prevents-variants-durbin-moss/.
- ²² Ritchie, Hannah, et al. "Coronavirus (COVID-19) Vaccinations." *Our World in Data*, 5 Mar. 2020, https://ourworldindata.org/covid-vaccinations.
- ²³ Mallapaty, Smriti. "Researchers Fear Growing Covid Vaccine Hesitancy in Developing Nations." *Nature News*, Nature Publishing Group, 23 Dec. 2021, https://www.nature.com/articles/d41586-021-03830-7.
- ²⁴ Collins, Keith, and Josh Holder. "What Data Shows about Vaccine Supply and Demand in the Most Vulnerable Places." *The New York Times*, The New York Times, 9 Dec. 2021,
 - https://www.nytimes.com/interactive/2021/12/09/world/vaccine-inequity-supply.html.
- ²⁵ Borio, Luciana L., et al. "A National Strategy for COVID-19 Medical Countermeasures." JAMA, vol. 327, no. 3, 2022, p. 215., https://doi.org/10.1001/jama.2021.24165.
- ²⁶ Thompson, Derek. "Why More Americans Are Saying They're 'Vaxxed and Done'." *The Atlantic*, Atlantic Media Company, 10 Jan. 2022, https://www.theatlantic.com/ideas/archive/2022/01/covid-Omicron-vaccinationrashomon/621199/.
- ²⁷ Mandavilli, Apoorva. "The Covid Vaccine We Need Now May Not Be a Shot." *The New York Times*, The New York Times, 2 Feb. 2022, https://www.nytimes.com/2022/02/02/health/covid-vaccine-nasal.html.
- ²⁸ Abutaleb, Yasmeen, and Lesley Wroughton. "President Biden Said South Africa Has Turned down Vaccine Doses. but the Issue Is More Complicated than That." *The Washington Post*, WP Company, 30 Nov. 2021, https://www.washingtonpost.com/health/2021/11/29/president-biden-said-south-africa-has-turned-downvaccine-doses-issue-is-more-complicated-than-that/.
- ²⁹ Gallagher, James. "Coronavirus Treatments: What Progress Is Being Made?" BBC News, BBC, 21 Dec. 2021, https://www.bbc.com/news/health-52354520.
- ³⁰ Jewett, Christina, et al. "Hospitals Scramble as Antibody Treatments Fail against Omicron." *The New York Times*, The New York Times, 21 Dec. 2021, https://www.nytimes.com/2021/12/21/health/covid-monoclonalantibodies-Omicron.html.
- ³¹ "Pfizer to Provide U.S. Government with an Additional 10 Million Treatment Courses of Its Oral Therapy to Help Combat COVID-19." *Pfizer*, 4 Jan. 2022, https://www.pfizer.com/news/press-release/press-releasedetail/pfizer-provide-us-government-additional-10-million.
- ³² Van Beusekom, Mary. "Eagerly Awaited COVID Lifesavers Molnupiravir, Paxlovid Now Wait for Patients." *CIDRAP*, University of Minnesota, 11 Feb. 2022, https://www.cidrap.umn.edu/newsperspective/2022/02/eagerly-awaited-covid-lifesavers-molnupiravir-paxlovid-now-wait-patients.
- ³³ Hensley, Scott. "First Doses of Paxlovid, Pfizer's New Covid Pill, Are Released to States." NPR, NPR, 23 Dec. 2021, https://www.npr.org/sections/health-shots/2021/12/22/1066761436/fda-authorizes-1st-antiviral-pill-for-covid.
- ³⁴ Alper, Alexandra. "Biden Omicron Measures Too Little, Too Late for Fast-Moving Virus -Experts." *Reuters*, Thomson Reuters, 24 Dec. 2021, https://www.reuters.com/business/healthcare-pharmaceuticals/biden-Omicron-measures-too-little-too-late-fast-moving-virus-experts-2021-12-23/.
- ³⁵ Michaels, David, et al. "A National Strategy for Covid-19." JAMA, vol. 327, no. 3, 2022, p. 213., https://doi.org/10.1001/jama.2021.24168.
- ³⁶ Dawson, Lindsey, et al. "How Are Private Insurers Covering at-Home Rapid Covid Tests?" *KFF*, Kaiser Family Foundation, 21 Jan. 2022, https://www.kff.org/policy-watch/how-are-private-insurers-covering-at-homerapid-covid-tests/.
- ³⁷ Wen, Leana S. "Opinion | in This next Phase of the Pandemic, Beware of the Extremes." *The Washington Post*, WP Company, 9 Feb. 2022, https://www.washingtonpost.com/opinions/2022/02/08/this-next-phasepandemic-beware-extremes/.



- ³⁸ Wheeler, Lydia. "Unvaccinated to Pay More out-of-Pocket under New Covid Policies." *News.bloomberglaw.com*, Bloomberg Law, 2 Feb. 2022, https://news.bloomberglaw.com/health-law-and-business/unvaccinated-to-paymore-out-of-pocket-under-new-covid-policies.
- ³⁹ "Drug Overdose Deaths in the U.S. Top 100,000 Annually." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 17 Nov. 2021, https://www.cdc.gov/nchs/pressroom/nchs press releases/2021/20211117.htm.
- ⁴⁰ Mensik, Hailey. "Covid Hangover' to Spur Health Costs to Rise 6.5% in 2022, PWC Poll Predicts." *Healthcare Dive*, 9 June 2021, https://www.healthcaredive.com/news/covid-hangover-to-spur-health-costs-to-rise-65-in-2022-pwc-poll-predic/601467/.
- ⁴¹ Sun, Christopher, et al. "Worse Cardiac Arrest Outcomes during the COVID-19 Pandemic in Boston Can Be Attributed to Patient Reluctance to Seek Care." *Health Affairs*, 2021, https://doi.org/10.1377/hlthaff.2021.00250.
- ⁴² Sweeney, Chris. "Poll: Public Supports Substantial Increase in Spending on U.S. Public Health, but Has Concerns about How the System Functions Now." *Harvard T. H. Chan School of Public Health*, Harvard T. H. Chan School of Public Health, Robert Wood Johnson Foundation, 13 May 2021, https://www.hsph.harvard.edu/news/press-releases/poll-public-supports-substantial-increase-in-spending-onu-s-public-health-but-has-concerns-about-how-the-system-functions-now/.
- ⁴³ Simmons-Duffin, Selena. "Poll Finds Public Health Has a Trust Problem." NPR, NPR, 13 May 2021, https://www.npr.org/2021/05/13/996331692/poll-finds-public-health-has-a-trust-problem.