Because I Said So: Examining the Science and Impact of COVID-19 Vaccine Mandates
Select Subcommittee on the Coronavirus Pandemic
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Testimony
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Chairman Wenstrup, Ranking Member Ruiz and distinguished members of the Subcommittee, thank you for holding today's hearing to examine the role and impact of COVID-19 vaccine requirements and inviting me to testify. As an infectious diseases (ID) physician, I have cared for many patients with serious illness due to COVID-19, worked on programs and protocols to prevent COVID-19 transmission in health care settings, and I have seen firsthand the extraordinarily positive impact of COVID-19 vaccines on individuals, our health systems and our society. I am committed to saving lives and providing my patients and colleagues with the highest quality care and medical advice, and it is for those reasons that I recommend that all eligible individuals receive the COVID-19 vaccine and booster. COVID-19 boosters provide important protection against serious disease, hospitalization and death. For health care professionals like me, COVID-19 boosters help keep my patients and co-workers safe and help protect my health so that I can continue to provide essential care. I have also had the opportunity to advise my health system and our state on COVID-19 vaccine policies. I greatly appreciate your commitment to hearing from physicians like me who have been on the front lines of this pandemic.

My testimony will cover:

- The robust safety and efficacy data supporting COVID-19 vaccination;
- The rationale for COVID-19 vaccine requirements earlier in the pandemic, reasons for removing many of those requirements as the pandemic entered different phases, and the fundamental importance of continually updating policies to reflect the latest and best available information;
- Opportunities to improve public understanding and uptake of vaccines, including improving communication and better leveraging physicians and other health care professionals.

COVID-19 Vaccine Efficacy

COVID-19 vaccines provide significant protection against severe disease, hospitalization and death. An April 28, 2023, *Morbidity and Mortality Weekly Report (MMWR)* found that monovalent mRNA vaccination was 76% effective in preventing COVID-19–associated mechanical ventilation and death up to 6 months after the last dose and remained 56% effective at 1–2 years.[1] The bivalent booster increases protection. According to a December 2022 *MMWR*, when compared with unvaccinated persons, vaccine effectiveness of a bivalent booster dose against COVID-19–associated hospitalization was 84%.

[1] https://www.cdc.gov/mmwr/volumes/72/wr/mm7217a3.htm?s_cid=mm7217a3_x

Compared with persons who received a monovalent mRNA vaccine, vaccine effectiveness of a bivalent booster dose against COVID hospitalization was 73%.[2] An April 2022 study published in the *Lancet* found the vaccine effectiveness of the bivalent mRNA vaccine booster dose was 72% for COVID-19-related hospitalization and 68% for COVID-19-related death.[3]

COVID-19 vaccination also appears to reduce the risk of developing long COVID, which can be seriously debilitating for a long period of time. A study published in March 2023 in *JAMA Internal Medicine* analyzed data from 41 studies, including more 860,000 people around the world. Of the four studies with vaccination information for nearly 250,000 people, those who had been vaccinated had less than half the risk of developing long COVID compared to people who were not vaccinated.[4] This is likely due, at least in part, to vaccines preventing severe illness, though vaccination also appears to lower the risk of long COVID even in those with more severe COVID-19 disease.[5] In addition, some studies indicate that individuals with long COVID who receive a vaccine may experience symptom improvement, though more research is needed on this topic.[6]

Vaccines provide important benefits even to individuals who also have immunity from prior COVID-19 infection. A systematic review published in *Nature* in January 2023 found that hybrid immunity (the combination of vaccine-induced immunity and infection-induced immunity) was more protective than infection-induced immunity alone against the Omicron variant. The effectiveness of previous infection against hospital admission or severe disease was 74% and against reinfection was 24% at 12 months. The effectiveness of hybrid immunity against hospital admission or severe disease was 97% and against reinfection was 41% at 12 months.[7] Several additional studies have shown that vaccinating previously infected individuals significantly enhances their immune response and reduces the risk of additional COVID-19 infections, hospitalizations and death.[8, 9]

COVID-19 Vaccine Safety

COVID-19 vaccines are also safe. Side effects after a COVID-19 vaccination are typically mild and temporary, similar to those experienced after other vaccinations. Side effects may include pain at the injection site, fever, headache, tiredness, muscle pain and chills. Adverse events following vaccination are rare but can occur. Individuals may report any adverse event following vaccination to the Vaccine Adverse Event Reporting System (VAERS). The Centers for Disease Control and Prevention (CDC) has conducted extensive monitoring of adverse events and continues to find that the risks associated with COVID-19 infection are far greater than the risks associated with COVID-19 vaccination. It is important to note that whenever any health event occurs following vaccination, individuals are encouraged to report that event to VAERS to ensure that we receive as much information as possible. Those events are investigated and often found to be unrelated to the vaccine.

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[2] https://www.cdc.gov/mmwr/volumes/71/wr/mm715152e2.htm
[3] https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00122-6/fulltext#:~:text=The%20relative%20vaccine%20effectiveness%20of,%25%20CI%2052%E2%80%9385).
[4] https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2802877
[5] https://www.nature.com/articles/s41598-023-28839-y
[6] https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00354-6/fulltext
[7] https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00801-5/fulltext
[8] https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/vaccine-induced-immunity.html
[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9027152/

Societal Benefits of Vaccination

In addition to providing protection for individuals, COVID-19 vaccination has had tremendous societal benefits. COVID-19 vaccines have been central in reducing COVID-19 hospitalizations, preserving our health systems' capacity to care for patients with a wide array of health care needs and protecting our health care workers from burnout. Vaccines have been a key factor in facilitating a return to normalcy, including participating in routine activities that support our economy, such as going to work and school, eating in restaurants and patronizing other local businesses.[10, 11] By limiting severity of illness and protecting against long COVID, vaccines also limit the number of days individuals miss work or school.[12,13,14] COVID-19 vaccines also decreased Americans' depression and anxiety, which were on the rise in the early days of the pandemic, both by decreasing fear of COVID-19 hospitalization and death and by allowing us to safely interact with one another, decreasing loneliness and isolation.[15, 16]

COVID-19 Vaccination Requirements

As COVID-19 vaccines became available, the federal government instituted requirements for certain populations to be vaccinated, including health care personnel. Requirements have long been in place for other vaccines and have been effective at increasing vaccine uptake. Since 1905, when the US Supreme Court upheld compulsory smallpox inoculations, there has been sustained judicial consensus that the Constitution "does not import an absolute right to be…wholly freed from restraint." Otherwise, "organized society could not exist with safety to its members."[17,18] As another example, prior to the pandemic, seasonal influenza vaccine requirements for health care personnel as a condition of employment had already been in place for several years. Influenza vaccines help ensure health care personnel remain healthy and able to perform our essential jobs, and they help prevent us from transmitting influenza to our patients, which is an underappreciated hazard for already sick patients during the flu season. From 2013-2017, the percentage of hospitals requiring influenza vaccination for health care personnel rose from 37% to 61%. In hospitals with a requirement, including my own system, vaccination coverage rates of health care personnel have consistently been greater than 95%.[19] Influenza vaccine requirements for health care workers in hospitals and long-term care facilities also decrease patient influenza diagnoses and reduce influenza mortality for long-term care residents.[20, 21]

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[10] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9946727/#b1
[11] https://sjes.springeropen.com/articles/10.1186/s41937-021-00082-0
[12] https://www.gov.uk/government/publications/impact-on-school-absence-from-covid-19-vaccination-of-healthy-12-to-15-year-old-children/impact-on-school-absence-from-covid-19-vaccination-of-healthy-12-to-15-year-old-children
[13] https://www.commonwealthfund.org/blog/2022/how-covid-booster-campaign-could-keep-kids-out-of-hospital-in-school
[14] https://www.healthychildren.org/English/ages-stages/gradeschool/school/Pages/School-Attendance-Truancy-Chronic-Absenteeism.aspx
[15] https://www.economist.com/graphic-detail/2022/01/20/covid-19-vaccines-have-made-americans-less-anxious-and-depressed
[16] https://www.nber.org/papers/w29593
[17] https://jamanetwork.com/journals/jama/fullarticle/2807811
[18] *Jacobson v Massachusetts*, 197 US 11 (1905).
[19] https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2682876
[20] https://pubmed.ncbi.nlm.nih.gov/33395343/
[21] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6527478/

In addition, states' school-entry mandates (e.g., requirements for vaccines to protect against diseases such as measles or pertussis) are effective in improving vaccination coverage among schoolchildren and have greatly reduced dangerous disease outbreaks in the U.S.[22, 23]

When COVID-19 vaccines were first made available, there were extremely compelling reasons to boost vaccination rates quickly, which caused many health care professional societies to support policies requiring vaccination, particularly for health care workers. COVID-19 vaccines were a strong tool in preventing COVID-19 transmission because, prior to the Delta variant, the vaccines offered incredibly powerful protection against infection. Reducing transmission could limit the development of more dangerous variants, ease pressure on extremely overwhelmed health care facilities and save lives. Because most of the population did not yet have any immunity to COVID-19 at that time, we remained very vulnerable to infection, severe disease and surges in cases. It is also critical to recall that much of what we now know about the virus and the disease was unknown at that time, increasing the benefits of required vaccination requirements.

In my personal experience, when COVID-19 vaccines became available, my health system sought guidance from my ID colleagues, scientists and me about potential vaccination policies for our health system's employees. We wanted to ensure that any employee providing direct patient care would be vaccinated in order to minimize the risk of that essential health care worker being unable to work due to COVID-19 illness or transmitting COVID-19 to a patient. Our health system decided to require the COVID-19 vaccine as a condition of employment so that we could best protect our employees and the patients that we serve.

There are reports that COVID-19 vaccination mandates for health care workers, emergency first responders, federal workers, school staff, university students and staff, and other groups have garnered high levels of compliance and boosted COVID-19 vaccine uptake.[24] Among U.S. adults vaccinated from June to September 2021, 35% reported that a major reason they got vaccinated was to participate in recreational activities that required proof of vaccination, and 19% said their employer's requirement was a major reason.[25]

Vaccine requirements were not and should not be the only tool utilized to boost vaccination rates. Robust communications with the general public, recommendations from individual health care providers to their patients and sustained efforts to increase equitable access to vaccines are all critical. In fact, greater investment and improved utilization of these strategies can help decrease reliance on vaccine requirements in the future.

There has also been resistance to COVID-19 vaccine requirements, and it is important that we understand these perspectives so that we can find effective ways to improve trust in vaccines and in public health overall. I applaud the significant efforts from CDC, state and local public health officials, and health care professionals who have worked tirelessly for the last three and a half years to communicate with the public about COVID-19 vaccines. I also think we must all acknowledge where we

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[22] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4202987/
[23] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6386772/
[24] https://www.forbes.com/sites/tommybeer/2021/10/04/covid-19-vaccine-mandates-are-working-heres-the-proof/?sh=54a3b6972305
[25] https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-september-2021/

can improve our communications to include more of the "why" behind recommendations and requirements. It is critical to apply the lessons learned from COVID-19 to strengthen public health communication and rebuild vaccine confidence.

Updating COVID-19 Policies to Keep Pace With the Latest Data

As we know, the trajectory of the pandemic has changed in many ways, and our knowledge of COVID-19 and the arsenal of tools we possess to fight it have both grown substantially. It is critical for medical recommendations and public health policies to keep pace with emerging knowledge and changes in a disease landscape. While our vaccines thankfully remain highly effective at preventing severe disease, hospitalization and death, they are no longer as effective in preventing infection and transmission due to the emergence of new variants. In addition, most people in the U.S. now have some level of immunity thanks to a combination of vaccination and prior infection. We also now have safe and effective COVID-19 therapeutics available to help prevent serious illness and death. Policies should evolve based upon the latest data, and the data do not support federal COVID-19 vaccination requirements at this time.

Boosting Vaccine Confidence, Access and Uptake: Applying Lessons Learned From COVID-19

There is clearly significant work remaining to help the public understand the benefits and safety of staying up to date on COVID-19 vaccination. I am deeply concerned that most eligible individuals have not yet received a bivalent COVID-19 booster. As respiratory viruses are typically more common in the colder months, we have an important opportunity to improve communication, education and outreach about COVID-19 boosters before the upcoming fall and winter.

In addition, there were very worrisome declines in routine childhood vaccinations early in the pandemic when many children were staying home, and these rates remain below pre-pandemic levels. Among kindergarten students in the 2021-2022 school year, national vaccination rates for the DTaP, MMR, polio and varicella vaccines were 93.1%, 93.5%, 93.5% and 92.8%, respectively — all decreases from the previous school year.[26]

Declining vaccination rates drive outbreaks of infectious diseases like measles, pertussis (whooping cough) and polio. In a November 2022 measles outbreak in Columbus, Ohio, 85 children contracted measles, and 35 of those were hospitalized.[27] In 2022, a case of polio was identified in New York as local immunity dropped enough to allow the virus to circulate.[28]

In addition to negative health outcomes, outbreaks of vaccine-preventable illnesses also have economic costs. A 2018-2019 measles outbreak in my home state of Washington involving 72 confirmed cases was estimated to cost nearly half a million dollars including public health response costs, direct medical costs and productivity losses of affected individuals.[29]

Increasing vaccine confidence and uptake will improve our nation's health. There are several steps the federal government can take to help boost vaccine confidence, access and uptake for routine vaccines,

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[26] https://www.cdc.gov/mmwr/volumes/72/wr/mm7202a2.htm
[27] https://www.dispatch.com/story/news/healthcare/2023/03/01/columbus-measles-outbreak-was-largest-in-us-in-2022-what-about-now/69943824007/
[28] https://www.cdc.gov/media/releases/2022/s0913-polio.html
[29] https://publications.aap.org/pediatrics/article/147/4/e2020027037/180774/Societal-Costs-of-a-Measles-Outbreak?autologincheck=redirected

COVID-19 vaccines and future vaccines to combat new threats. As a nation, we need to improve public communication about vaccines. Communication about vaccines should be transparent (including what we know and what we do not know), easy to understand, provided through a variety of mechanisms to reach people where they are and delivered by trusted messengers.

Physicians are widely considered among the most trusted messengers with information on vaccines. One of the most important things we can do is get vaccinated ourselves to demonstrate our own confidence in vaccines. The American Medical Association (AMA) released a survey among practicing physicians in June 2021 that showed more than 96% of surveyed U.S. physicians had been fully vaccinated for COVID-19, with no significant difference in vaccination rates across regions.[30] My colleagues and I have spent many hours speaking with our patients, our colleagues and other members of our communities about COVID-19 vaccines, answering questions and providing factual information, without judgment. We have been communicating with individuals, groups and the general public. Studies have shown that a recommendation from a health care provider increases the likelihood that an individual will receive a COVID-19 vaccine, but not all patients are receiving those recommendations yet.[31] There is more we can do.

To better leverage physicians as messengers of evidence-based vaccine information, we must expand our physician workforce so that there are enough physicians to reach individuals and families in every community. As I noted, ID physicians often play a unique and critical role in educating other physicians about vaccines, given our specific training and expertise. That helps ensure that all physicians can communicate effectively with their patients and the general public. Unfortunately, we are facing severe workforce shortages, and we struggle to recruit physicians to the ID specialty. Nearly 80% of counties in the U.S. do not have a single ID physician.[32] In the graduate medical education match at the end of 2022, in which medical residents are matched with specialty fellowship training programs, only 56% of ID training programs filled, compared to most other specialties, which saw all or nearly all of their programs fill. Many medical students and residents consistently report interest in ID, but high medical student debt draws many physicians to more lucrative specialties. ID physicians are among the lowest compensated medical specialists, earning less than general internal medicine physicians despite the additional 2-3 years of training.

To help address ID physician shortages, IDSA recommends that Congress take steps to reduce the financial barriers to entering the field of ID, including improving Medicare reimbursement of ID physicians, funding the new Bio-Preparedness Loan Repayment Pilot Program to provide targeted loan repayment to health care professionals who pursue careers in ID and work in health care provider shortage areas, and increasing funding for NIH to strengthen training.

Beyond effective communication, there are other critical strategies we should advance to improve vaccine confidence, access and uptake, including:

- Increase funding for public health infrastructure to increase vaccine rates among uninsured and underinsured individuals, educate the public, maintain and establish additional partnerships

[30] https://www.ama-assn.org/press-center/press-releases/ama-survey-shows-over-96-doctors-fully-vaccinated-against-covid-19
[31] https://www.cdc.gov/mmwr/volumes/70/wr/mm7050a1.htm
[32] https://www.acpjournals.org/doi/10.7326/m20-2684

with physicians, community-based organizations and other trusted messengers, and improve vaccine information systems that help track vaccination;

- Fund research on vaccine hesitancy and vaccine communications strategies and invest in implementation evidence-based strategies to increase public awareness about vaccination and combat misinformation and disinformation;
- Ensure first-dollar coverage of all medically recommended vaccines under Medicaid, Medicare and commercial insurance to minimize financial barriers to vaccination.

Once again, I greatly appreciate the Subcommittee's attention to the important issue of vaccination, and I thank you for the opportunity to testify. IDSA welcomes the opportunity to work with you to help prevent serious disease, hospitalization and death due to COVID-19 and other infectious diseases.