

# Framework for equitable allocation of a COVID-19 vaccine released

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The National Academies of Sciences, Engineering, and Medicine today released the final report of a consensus study recommending a four-phased equitable allocation framework that the U.S. Department of Health and Human Services (HHS) and state, tribal, local, and territorial (STLT) authorities should adopt in the development of national and local guidelines for COVID-19 vaccine allocation. "Framework for Equitable Allocation of COVID-19 Vaccine" recommends using existing systems across all levels of government to provide necessary resources to ensure equitable allocation, distribution, and administration of COVID-19 vaccine; launching a COVID-19 vaccine promotion campaign and risk communication and engagement program; and supporting equitable allocation globally.

In response to the COVID-19 pandemic, the U.S. and international communities have invested billions of dollars and immense amounts of human resources to develop a safe and effective vaccine in an unprecedented time frame, the report says. There are nearly 190 COVID-19 vaccines either in preclinical development or undergoing clinical trials

in the U.S., Europe, and China. However, even if one or more safe and effective COVID-19 vaccine is authorized for use, it is very unlikely that sufficient quantities will be immediately available to vaccinate large portions of the U.S. population.

For the initial period when vaccine demand exceeds supply, the committee that conducted the study and wrote the report recommended a four-phased approach to allocation built on widely accepted foundational principles and guided by evidence to maximize societal benefit by reducing morbidity and mortality caused by the transmission of SARS-CoV-2.

Phase 1a covers approximately 5 percent of the population and includes [front-line health workers](#) (in hospitals, nursing homes, or providing [home care](#)); workers who provide health care facility services such as transportation and environmental services who also risk exposure to bodily fluids or aerosols; and first responders. This group has a critical role in maintaining health care system functionality, high risk of exposure to patients exhibiting symptoms of COVID-19, and higher risk of then transmitting the virus to others, including family members.

Phase 1b covers approximately 10 percent of the population and includes people of all ages with comorbid and underlying conditions (for example, cancer, serious heart conditions, and sickle cell disease) that put them at significantly higher risk of severe COVID-19 disease or death. Based on data from the COVID-19 Associated Hospitalization Surveillance Network, adults with two or more comorbid conditions make up the large majority of those hospitalized for COVID-19 in the U.S. Also included in this phase are older adults (age 65 and over) living in congregate or overcrowded settings including nursing homes, long-term care facilities, homeless shelters, group homes, prisons, or jails. This group faces the joint risk factors of severe disease and reduced resilience associated with advanced age and of acquisition and transmission

due to their living settings, in which they have limited opportunity to follow public health measures such as maintaining physical distance.

Phase 2 covers approximately 30 percent to 35 percent of the population and includes K-12 teachers and school staff (including administrators, environmental services and maintenance workers, and bus drivers), and child care workers, who play a vital role in children's education and development. Also included are critical workers in high-risk settings who cannot avoid a high risk of exposure to COVID-19, such as workers in the food supply system and public transit. In addition, this phase includes people of all ages with comorbid and underlying conditions that put them at moderately higher risk, defined as having one of the conditions listed by the Centers for Disease Control and Prevention (CDC) as being associated with increased risk of severe COVID-19, and potentially some rare diseases as well. Phase 2 also includes people in homeless shelters or group homes for people with disabilities and those in recovery, as well as staff who work in those settings, as many of the individuals in this group have chronic health care needs and challenging living settings that increase potential exposure. In addition to people in prisons, jails, and detention centers and staff working in those settings, all older adults not included in Phase 1 should be included in Phase 2, as adults age 65 and older account for approximately 80 percent of reported deaths related to COVID-19.

Phase 3 covers approximately 40 percent to 45 percent of the population, and includes young adults, children, and workers in industries such as colleges and universities, hotels, banks, exercise facilities, and factories that are both important to the functioning of society and pose moderately high risk of exposure because there are likely to be some protective measures implemented in these work settings. Young adults between the ages of 18 and 30 typically have broader social networks than older adults, increasing their risks of infection and transmission, but they are less likely to become severely ill or die due to COVID-19, making them, along with children, targets for transmission prevention. The report notes that broad immunization of children will depend on whether

COVID-19 vaccines have been adequately tested for safety and efficacy in these age groups.

Phase 4 covers everyone residing in the U.S. who did not have access to the vaccine in prior phases.

"Inequities in health have always existed, but at this moment there is an awakening to the power of racism, poverty, and bias in amplifying the health and economic pain and hardship imposed by this pandemic," said committee co-chair Helene Gayle, president and CEO of the Chicago Community Trust. "We saw our work as one way to address these wrongs and do our part to work toward a new commitment to promoting health equity."

For each group included in each phase, the committee recommended that STLTs ensure that special efforts are made to deliver vaccine to residents of high-vulnerability areas by using the CDC's Social Vulnerability Index or another more specific index such as the COVID-19 Community Vulnerability Index. This would incorporate the variables that the committee believes are most linked to the disproportionate impact of COVID-19 on people of color. Black, Hispanic or Latinx, American Indian and Alaska Native, and Native Hawaiian and Pacific Islanders have been disproportionately impacted by COVID-19 with higher rates of transmission, morbidity, and mortality. This reflects the impact of systemic racism leading to higher rates of comorbidities that increase the severity of COVID-19 infection and the socio-economic factors that increase likelihood of acquiring the infection, such as having front-line jobs, crowded living conditions, lack of access to personal protective equipment, and inability to work from home.

When individuals fit into multiple categorizations, the report notes, the higher phase should take precedence. The framework provides guidance to the STLT authorities for adapting its risk-based criteria to these realities while still maximizing benefit, mitigating health inequities, manifesting equal regard for all, being fair and transparent, and building on the best current evidence.

This framework can also inform the decisions of other groups, such as the Advisory Committee on

Immunization Practices. In addition to the framework, the report includes recommendations that HHS should:

- Leverage and expand the use of existing systems, structures, and partnerships across all levels of government and provide the necessary resources (including funding items such as needles, syringes, and personal protective equipment for vaccinators) to ensure equitable allocation, distribution, and administration of COVID-19 vaccine. Secure vaccine storage, transport, and safe, efficient, and equitable vaccine distribution are critical to a successful vaccination program, especially given potential vaccine ultra-cold-chain requirements and a multidose vaccine regimen.
- Coordinate across agencies to provide and administer COVID-19 vaccine with no out-of-pocket costs for those being vaccinated, regardless of their social and economic resources or their employment, immigration, or insurance status. This will help assure equity and decrease vaccine hesitancy.
- Create and appropriately fund a COVID-19 vaccination risk communication and community engagement program to support STLT authorities. Community-based organizations and other partner organizations—including hospitals, pharmacies, faith-based organizations, community centers, and schools and universities—can support community outreach and foster accountability. Employers and unions could support improved access by providing work-site clinics and by covering costs for employees. The communication workforce must reflect the diversity of the communities being vaccinated and should sustain proactive two-way communication, the report says.

To help improve vaccine acceptance, the CDC should rapidly develop and launch a national, branded, multidimensional COVID-19 vaccine promotion campaign, using rigorous, evidence-informed techniques from risk and health communication, social marketing, and behavioral

science. CDC should partner with diverse stakeholders and prioritize promoting the vaccine to people of color and other communities in which vaccine hesitancy and skepticism have been documented. In addition, the U.S. government should commit to a leadership role in the equitable allocation of COVID-19 vaccine globally by opting into the COVAX facility at Gavi, the Vaccine Alliance, deploying a proportion of the U.S. vaccine supply for global allocation, and supporting the World Health Organization and its member states to optimize fair and equitable allocation of vaccine, regardless of income level.

There are many uncertainties affecting COVID-19 vaccine allocation, such as number and timing of available vaccine doses, number of available vaccine types, vaccine efficacy and safety, vaccine uptake, and vaccine distribution and administration. The report includes a summary of the application of the framework in various scenarios. Furthermore, while vaccine distribution is an essential part of pandemic response, other efforts such as social distancing, testing, diagnostic testing, contact tracing, and wearing masks will continue to be vital, especially during the early phases of vaccination.

"Despite the committee's intense effort, this framework should still be regarded as an evolving document—meant to be adapted and refined in the face of continuing improvement in our understanding of the dynamics of the pandemic," said committee co-chair William H. Foege, emeritus distinguished professor of international health at Emory University and former CDC director. "We hope these guidelines serve as the impetus for one of the most consequential peacetime efforts this country has ever seen, as well as a springboard to resuming our place as a leader in global health."

"Ultimately, in these uncertain and challenging times, the integrity of the COVID-19 [vaccine](#) development, allocation, and distribution processes will be critical to ensuring widespread access to vaccines that are safe and effective, and convincingly so for the public," said National Academy of Medicine President Victor J. Dzau. "I hope the recommendations set forth in our report contribute to society's ability to respond to and recover from the COVID-19 pandemic here in the

United States and globally."

**More information:** Framework for Equitable Allocation of COVID-19 Vaccine:

[www.nap.edu/catalog/25917/framework ... -of-covid-19-vaccine](http://www.nap.edu/catalog/25917/framework_for_equitable_allocation_of_covid-19_vaccine)

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