

From Vaccines to Vaccinations: Delivery Planning and Implementation for a COVID-19 Vaccine

As the COVID-19 pandemic continues, more attention is turning to vaccine development and its potential to support the response. Based on current [estimates](#), the first vaccines will likely make it through clinical trials and emergency use authorizations early next year – possibly late this year in a best case scenario. Governments, multilateral institutions, and philanthropies have put in place a range of innovative [mechanisms](#) for financing, manufacturing, and allocating these vaccines to governments around the world.

As this news has unfolded, we've been asking ourselves one question: **what should every government be ready to do the day after the world's first safe and effective vaccine is announced?**

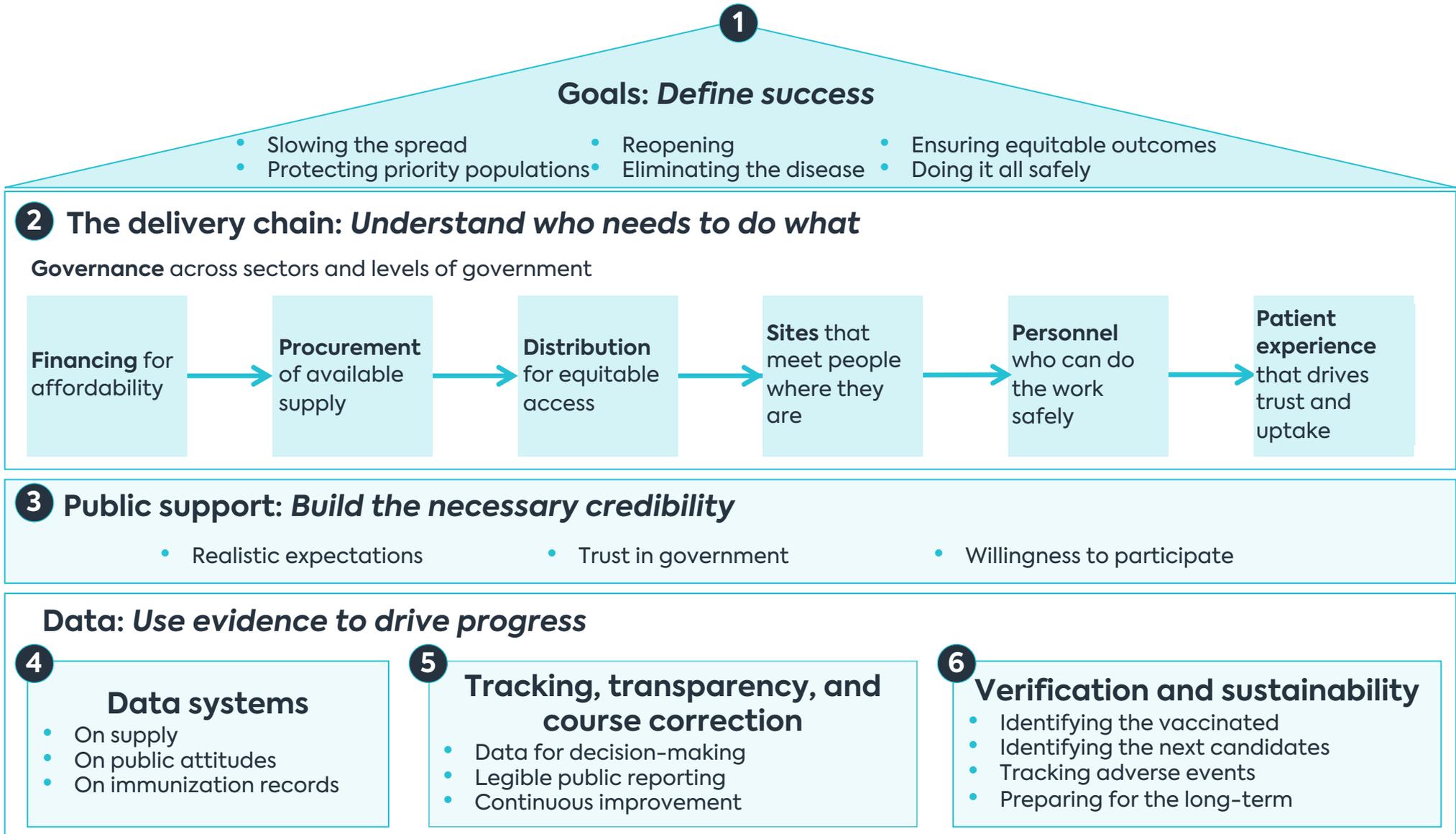
We know that vaccines alone don't save lives; vaccinations do. Every government at every level will have a role to play, including distribution, administration, public engagement and communication, and tracking impact. We know this today, so there is no need to let the news of a vaccine take us by surprise. **Now is the time to create a plan and systems for managing vaccine delivery and implementation.**

This tool sets out a list of key questions we believe every government will need to answer in order to develop this plan – with a set of measures for tracking progress on each part. It is based on our experience working with governments and public sector health systems to deliver improved patient outcomes, as well as research and consultation with our current partners in governments around the world.

This is a fast-moving topic and will evolve as we learn more about the most likely vaccine candidates. We will continue to update this guidance to reflect what we've learned. Check back [here](#) in the coming months for the most up-to-date documents.

An approach to vaccine delivery planning

If you lead any government at any level, consider these six elements in your delivery plan for vaccination. The tool that follows provides a checklist of questions to answer and measures to track for each element.



Summary tool for vaccine delivery planning

The table below outlines a checklist of questions to answer and measures to track for each element.

Category	Questions to answer	Measures to track
1 Goals	<ul style="list-style-type: none"> • What are you trying to achieve through vaccination? • How will you make these outcomes equitable? 	<ul style="list-style-type: none"> • Vaccine coverage vs prioritization framework, by community group • Impact on infection, hospitalization, and death rates, by community group
2 The delivery chain	<ul style="list-style-type: none"> • Who needs to do what in order to deliver vaccination in your community equitably and at scale, from procurement to patient experience? • Where do you need to build capacity to deliver? • What are the biggest risks to delivery? • What feedback will tell you the most about whether things are going as planned? 	<ul style="list-style-type: none"> • Doses procured • Viability of cold chain per site • Wastage of doses across delivery chain • Population access to fully staffed administration sites • Dose availability per site (vs. demand) • Doses administered per day by site • <i>(All by community group and geography)</i>
3 Public support	<ul style="list-style-type: none"> • Does the public trust you to be fair and even-handed in distribution and allocation? • Are they willing to participate in vaccination? • How do these beliefs vary by community, particularly among high-risk and marginalized communities? • What can you do to improve public trust in and support of this work? 	<ul style="list-style-type: none"> • Regular surveys of: <ul style="list-style-type: none"> – Public trust in vaccine safety – Public willingness to be vaccinated – Public trust in government and its approach • Percent of organizations engaged in communication, outreach, or delivery that are led by representative community voices
4 Data systems	<ul style="list-style-type: none"> • Do you have access to daily or real-time data on each of the measures you have chosen to track? • Do you know what data systems you are using to collect, integrate, analyze, and visualize them? • How are you verifying data independently and transparently? 	<ul style="list-style-type: none"> • Percent of above measures available to government • Number of measures audited per month • Percent of audits that validate reported data
5 Tracking, transparency, and course correction	<ul style="list-style-type: none"> • What continuous improvement infrastructure have you put in place? • Does it empower leaders to act? • Is data reporting legible and transparent to the public and to marginalized communities? 	<ul style="list-style-type: none"> • Percent of above measures made available to leaders • Percent reported to the public • Utilization rate of data
6 Verification and sustainability	<ul style="list-style-type: none"> • How will a vaccinated individual prove they have been vaccinated? • What will you ask of those who have been vaccinated early to support reopening? • How can this work to permanently strengthen your health system? 	<ul style="list-style-type: none"> • Number of certifications of vaccination issued • Percent of vaccinated individuals engaging in public service to support reopening • Percent of businesses or organizations or venues reopened in targeted sectors

Appendix: Detailed questions and measures to track

Category	Questions to answer	Measures to track
1 Goals	<ul style="list-style-type: none"> • What are you trying to achieve with your vaccination campaign? E.g.: <ul style="list-style-type: none"> – Slowing the spread (reducing transmission rate) – Prioritizing and protecting targeted populations – Ensuring equitable outcomes across community groups, with a focus on race, economic status, age, and other risk categories – Eliminating the disease – Reopening the economy – Minimizing side effects • What models are you using to estimate the vaccination rates necessary to achieve each of these goals? • What prioritization framework are you already committed to? These might include: <ul style="list-style-type: none"> – The WHO's – In the US, the emerging framework from the CDC – A mechanism signed onto by a higher level of government • Based on that prioritization framework, what details, if any, are left for you to fill in? How can you center equity as you make these decisions? <ul style="list-style-type: none"> – Which community groups are likely to be left behind without a proactive and targeted effort? – Which groups will need disproportionate supports (including disproportionate access to doses) to achieve equitable health and economic outcomes? • When a successful vaccine candidate is made available to you, what criteria will you use to evaluate its efficacy and safety? How will you explain this to the public? How might the vaccine profile affect your goals and prioritization (e.g., safe for some but too risky for others)? 	<ul style="list-style-type: none"> • Vaccine coverage against prioritization framework, broken down by: <ul style="list-style-type: none"> – Prioritization category – Community group – Geography – Stage of vaccination (if more than one dose is needed) • Comparison against modeled benchmark targets: Vaccination rate (by community) needed to: <ul style="list-style-type: none"> – Lower and equalize infection, hospitalization, and death rates across community groups – Bring R below 1 – Bring case counts to 0 by X date • Realized impact of vaccination on infection, hospitalization, and death rates across community groups

Category	Questions to answer	Measures to track
2 The delivery chain	<ul style="list-style-type: none"> • Starting from the procurement of a dose of vaccine and ending with effective administration to patients, who needs to do what in order to deliver vaccines in your community? • Based on your context, what is/are the most likely vaccine candidates you will be allocated first? How do their profiles shape the requirements of the delivery chain? • Consider the following levels of delivery. Which of them do you have leverage or responsibility for, and where will you depend on others? What partnerships or relationships must be formed? <ul style="list-style-type: none"> – Governance: How will you oversee and govern an effort that requires the cooperation of multiple levels of government and multiple sectors at each level? What structures will you set up to facilitate this? – Financing: What financing has already been made available to make vaccination free at the point of service? What gaps are there, and what actions can you take to fill them? – Procurement: How will a dose of vaccine become available for distribution in your community? What agreements are you (or a higher level of government representing you) already party to? What will that mean for the allocation(s) you are likely to receive? What else can you do to boost your community's access? – Distribution: What are the entities that will have to cooperate and work together for equitable distribution at scale? Do they have adequate equipment for cold chain storage and transportation between sites? Is the reach of this network equitable? – Sites: What are the sites that will meet people where they are, in locations that are safe, familiar, and accessible? – Providers and personnel: Who will operate these sites, and what training and support will they need to do the job? – Patients: How can the experience of vaccination be designed to maximize trust in and uptake of vaccines? • Where are the biggest risks to delivery? What feedback loops will tell 	<ul style="list-style-type: none"> • <i>Note: Break down all indicators by community group and geography where applicable</i> • Number of doses procured • Percent of sites with functional cold chain facilities available from center to front line (if applicable) • Wastage rate of doses due to expiration, cold chain failure, or patient attrition from first to second stage (depending on vaccine profile) • On-time in-full delivery rates of doses by site • Percent of sites staffed by adequately trained personnel • Percent of sites with adequate PPE for personnel • Percent of population living less than X km/miles from an operational site • Average patient-born cost per dose administered by site • Average daily demand for doses by site (trailing 7 day average) • Dose availability by site (vs. forecasted demand) • Number of doses administered per day per site and as a percentage of total population • Patient satisfaction with vaccination experience by site

Category	Questions to answer	Measures to track
3 Public support	<ul style="list-style-type: none"> • What are the public's beliefs about the benefits, risks, and supply/availability of vaccines? Are their expectations realistic? • What level of trust does the public have in your ability to be fair and even-handed in distribution and allocation of vaccines? • How willing is the public to participate in a vaccination campaign? • How do these beliefs vary by community, particularly among health care workers, high-risk groups, and marginalized communities? <ul style="list-style-type: none"> – What is the community's prior history with vaccine campaigns, and what are the lessons learned? – Where does this history lead to mistrust of vaccination as experimentation, and with which whom? – What must you do to earn trust back in these spaces? • What can be done to improve public trust in and support of the work you are about to undertake? <ul style="list-style-type: none"> – What stakeholders are in your coalition? – Who are your most effective messengers? – How can you create two-way dialogue that allows you to really hear and engage with community concerns? – What mediums of communication will meet people where they are? 	<ul style="list-style-type: none"> • <i>Note: Break down all indicators by community group and geography where applicable</i> • Regular surveys of: <ul style="list-style-type: none"> – Public trust in vaccine safety – Public expectation for length of time until a vaccine will be made available for general use – Public willingness to be vaccinated – Public assessment of the fairness of the government's allocation and distribution plan, both in design and implementation – Public trust and confidence in the government's overall approach to vaccination • Percent of organizations engaged in communication, outreach, or delivery that are led by representative community voices (MWBE in the US), weighted by funding

Category	Questions to answer	Measures to track
4 Data systems	<ul style="list-style-type: none"> • Do you have access to daily or real-time data on each of the measures you have chosen to track in this framework? <ul style="list-style-type: none"> – Do you have access to immunization records that allow you to track the percentage of your population vaccinated? – Do you have access to supply info across the delivery chain? – Do you have a means of understanding and tracking public attitudes toward this work? – Can all of this information be broken down by populations in your prioritization framework and by geography at a minimum? • Do you know what data systems you are using to collect, integrate, analyze, and visualize each of these measures? <ul style="list-style-type: none"> – Where will you need to negotiate access to an existing system, and with whom? Have you worked through and met requirements around patient privacy to facilitate this access? – What modifications to existing systems will you need to make, or will you need to build something new? – Are all providers and sites connected to the same systems, either directly or indirectly? Are personnel trained to report accurately? – Can you overlay this information on current data about infection and hospitalization rates? • How are you verifying data independently and transparently? How can this increase public trust in the work? 	<ul style="list-style-type: none"> • Percent of data points available to the government • Number of measures audited per month (e.g., checking accuracy of stock records across delivery chain) • Percent of audits that validate the reported data

Category	Questions to answer	Measures to track
5 Tracking, transparency, and course correction	<ul style="list-style-type: none"> • What continuous improvement infrastructure have you put in place? How will you use the data to regularly take stock of progress, surface the biggest barriers to delivery, and make targeted course corrections based on the evidence? • Do these routines involve the right leaders across your delivery chain? • Is this reporting legible and transparent to the public, and to marginalized communities in particular? Do you have confidence it is improving trust in your approach? • Does it empower leaders (e.g., site operators, providers, front line personnel) across your delivery chain? Do they receive their data back in a format more useful than the way they provided it to you? 	<ul style="list-style-type: none"> • Percent of data points made available to leaders throughout the system (e.g., through a dashboard) • Percent of data points made available to the public • Utilization rate of data (e.g., utilization rate of dashboard tool)

Category	Questions to answer	Measures to track
6 Verification and sustainability	<ul style="list-style-type: none"> • How will a vaccinated individual prove they have been vaccinated? How many people will need a formal identity for the first time in order to receive a vaccine? • What will it take to build public trust in this system? • How will successful vaccination interact with and shape your current plans for reopening? What sectors will you prioritize beyond health care (e.g., education)? • What public service will you ask for from those who have been vaccinated early to support this? • How will you leverage this unprecedented vaccination campaign to permanently strengthen delivery in your health system? • How will you track and report adverse events for new vaccines? 	<ul style="list-style-type: none"> • Number of “certifications” of vaccination issued as a percentage of those vaccinated • Percent of vaccinated individuals engaging in public service to support reopening • Percent of businesses or organizations or venues reopened in targeted sectors • Incidence rate of adverse events among those vaccinated