

A close-up photograph of a hand holding a syringe and a vial of vaccine. The vial is labeled 'MM Injection' and '3 doses of 0.5 ml'. The syringe has a '0.5' mark. The background is a blurred grey.

CASE STUDY

# COLOMBIA

## PREPARING FOR MAINSTREAMING COVID-19 VACCINATION INTO THE EXPANDED PROGRAMME ON IMMUNIZATION

### Abstract:

This case study from Colombia presents the activities carried out to mainstream the delivery of COVID-19 vaccination into the Expanded Programme on Immunization (EPI) through planning and coordination to achieve high COVID-19 vaccination coverage through the delivery of COVID-19 vaccination in 76% of fixed vaccination sites.

It outlines the solutions used by the country and the resulting impact, benefits, challenges, and opportunities. Key lessons are summarised, and additional resources are provided for reference.

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**COVID-19 Vaccine**  
DELIVERY PARTNERSHIP



## Global challenges in COVID-19 vaccination

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To date, many countries have faced and continue to face challenges with identifying and reaching the populations targeted for COVID-19 vaccination. These target populations are often not included in the national immunization programmes of many low-and-middle-income countries as they are outside the traditional immunization schedule, and in many countries the adult vaccination platform is not sufficiently well developed to reach targeted people.

Despite many unknowns about the future of the pandemic and COVID-19 vaccination, planning for sustainable COVID-19 vaccination as an integral part of EPI, Primary Health Care (PHC), and other relevant health services will have numerous benefits. Many countries are already mainstreaming the delivery of COVID-19 vaccination into their regular health service delivery and exploring new entry points for vaccination of high-risk groups.

There are four main reasons why mainstreaming COVID-19 vaccination into immunization programmes, PHC and other relevant services is important:

- 1. Epidemiological:** The most likely future COVID-19 pandemic scenario will require periodic booster doses for high-risk groups.
- 2. Sustainability:** Achieving and sustaining the required COVID-19 vaccination coverage with the primary series and booster doses will require moving from mass vaccination campaigns to including regular immunization services mainstreamed in PHC.
- 3. Leveraging resources:** Benefiting from the existing investments in the EPI structure in terms of vaccination points, health workforce, cold chain, and information systems, coupled with the innovations made during the vaccination response against COVID-19 to facilitate the population's access to vaccination, which will strengthen the immunization programme, PHC, and pandemic preparedness.
- 4. Life-course approach:** Optimising delivery platforms across the life-course to deliver COVID-19 and other relevant vaccines as part of an integrated package of health services in alignment with IA2030 (Immunization Agenda 2030).

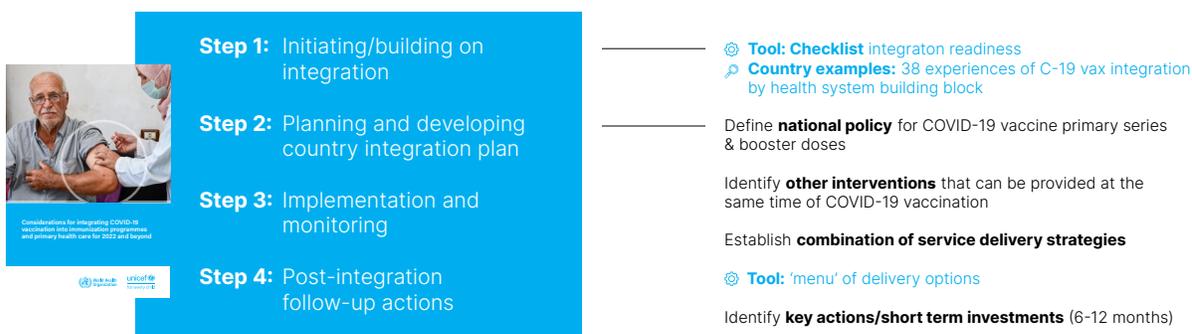
Furthermore, mainstreaming COVID-19 vaccination is not limited to its co-delivery with other routine vaccines but encompasses the partial or full adoption of COVID-19 vaccination into PHC and other relevant health services with the overall aim of: (a) improving programme efficiency and sustainability; (b) enhancing demand and improving user satisfaction; (c) achieving and maintaining satisfactory coverage; and (d) addressing inequities.

To help countries make this transition, WHO and UNICEF have developed a guidance document entitled: “Considerations for integrating COVID-19 vaccination into immunization programmes and primary health care for 2022 and beyond”<sup>1</sup> – see below infographic.



## WHO — UNICEF guidance: Considerations for integrating COVID-19 vaccination into immunization programmes and Primary Health Care

### Proposed steps for countries to take



Source: WHO – UNICEF. Considerations for integrating COVID-19 vaccination into immunization programmes and primary health care for 2022 and beyond (<https://www.who.int/publications/i/item/9789240064454>)

With this in mind, and the objective of mainstreaming COVID-19 vaccination of its population, in 2022, Colombia took steps to move beyond mass vaccination campaigns and mainstream the delivery of COVID-19 vaccination into EPI for 2023.

## Background & context: Colombia

Between May and June 2020, Colombia started to explore the market for the new COVID-19 vaccine, and by the end of 2020 had negotiated agreements to acquire COVID-19 vaccines through the COVAX Facility, through bilateral arrangements and by obtaining donations from some countries.

In 2021, Colombia started its preparations for the deployment of COVID-19 vaccination by training 62,000 health professionals, strengthening its cold chain by acquiring new refrigerators, and procuring syringes and safety boxes for the 1,727 vaccination points that would be administering COVID-19 vaccines.

<sup>1</sup> <https://www.technet-21.org/en/knowledge-hub/main/8023-considerations-for-integrating-covid-19-vaccination-into-immunization-programmes-and-primary-health-care-for-2022-and-beyond-?itemid=1758>

In addition, Colombia prepared and published its National Vaccination Plan (NVP) against COVID-19. Colombia's NVP was based on the principles of beneficence, solidarity, equity, justice, transparency, progressivity, best interest of the general population and effectiveness. The implementation of the NVP was through gradual introduction using a population prioritization exercise in two phases and five stages, starting with frontline health workers in February 2021, and opening the fifth stage of the second phase in July of the same year. The plan also included the administration of booster doses to the population aged 18-49 years, according to the phase and stage of implementation.

At the same time, the Ministry of Health and Social Protection (MHSP) prepared and implemented the technical and operational guidelines for COVID-19 vaccination for each of the COVID-19 vaccine products available in the country, adjusting them and incorporating changes in line with feedback received from the vaccination posts. The Government also conducted periodic monitoring of the progress of the NVP and updating of regulations as needed.

However, in some territories there were difficulties in the implementation of the NVP as initially proposed, so it was necessary to analyse the epidemiological situation at the territorial level and to redefine vaccination strategies to achieve the necessary coverage of the target population. Some territories were prioritized, including San Andrés and Providencia, which on 15-16 November 2020 were hit by category five Hurricane Iota, which devastated a large part of the island, leaving a large part of the population vulnerable. Also, given the overwhelming increase in COVID-19 cases and deaths in Brazil, together with the presence of a new COVID-19 variant, a public health alert was instituted for the inhabitants of this area bordering the departments of the Amazon belt (Guainía, Vaupés and Amazonas). These situations are cited as an example requiring the unification of phases, vaccinating the population over 18 years of age with the available COVID-19 vaccines to ensure greater control of the spread of the virus, and maintaining the three basic public health measures, i.e., hand washing, social distancing and the use of masks.

In addition, the Colombian Government was working to put in place various legal and regulatory resolutions and to set up coordination platforms for discussions with stakeholders to move from mass vaccination campaigns to integrating COVID-19 vaccination into the EPI.

The Ministry of Health held meetings with several other government agencies, most notably, the Ministry of Foreign Affairs, and the Ministry of Education to discuss the best strategies for reaching the large immigrant population (especially from Venezuela) and discuss best ways to roll out COVID-19 vaccination in children and adolescents between the ages of 3-17.

Some of the main challenges that Colombia faced to increase the uptake of the COVID-19 vaccination that had to be considered during the deployment of the NPV were the following:

1. Geographically hard to reach areas characterized by difficult access to the population in dispersed rural areas.
2. Problems of access associated with social conflict.
3. Cultural challenges linked to accessing indigenous populations.
4. Large migrant population, specifically in seven of the 37 territorial entities.
5. Lack of continuity of health workforce in the immunization programme.
6. The need to manage the “infodemic” and the spread of misinformation fuelling concerns about the safety of COVID-19 vaccines.

By the end of 2022, COVID-19 vaccination in Colombia, with a total population of just over 51 million, had achieved a coverage of 88% for first and single doses, and 76% for the complete primary series. Booster dose coverage of 35% was achieved in those eligible for the first booster dose, i.e., those  $\geq 12$  years of age, and 6% coverage was achieved in those eligible for the second booster dose, i.e.,  $\geq 18$  years of age.

Currently, of the 2,423 EPI vaccination points, 1,849 continue to offer vaccination against COVID-19 to eligible individuals.

## Colombia's innovative response

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Having achieved a high coverage with COVID-19 vaccination through mass vaccination campaigns, and considering that from 2023 vaccination against COVID-19 will be free of charge for specific age groups as part of the national EPI, the Government of Colombia decided to advance the transition from vaccination against COVID-19 to the national EPI.

Planning for the incorporation of COVID-19 vaccination in the national EPI of Colombia was divided into three phases with a strategy and milestones to measure progress along the way for each phase.

The first phase of the transition consisted of preparing and publishing the operational guidelines for implementing COVID-19 vaccination, in addition to the other EPI vaccines, as well as developing the regulatory frameworks to support the implementation.

The second phase of operationalizing the integration will begin with the training of the health workforce for the delivery of the COVID-19 vaccine at fixed vaccination points. This will include ensuring that health workers know how to communicate with their communities to increase uptake of COVID-19 vaccination, how to administer the COVID-19 vaccine, how to design vaccination strategies to reach the relevant target populations as defined by the national EPI, and how to record and report COVID-19 vaccination coverage data.

The third phase is to monitor the delivery of COVID-19 vaccines in the national EPI and to ensure that COVID-19 vaccine provision is included in the national budget. The focus of this phase will be on defining the population groups that will be vaccinated with COVID-19 vaccine, developing the best strategies to reach the different target populations, and the collection and management of immunization data that will be used to provide information on COVID-19 vaccine acceptance and coverage achieved in the different target populations.

The following table illustrates the strategies and milestones for each of the three Phases.

## PHASE I P- PLANNING

### Strategy

1. Coordination, planning and programming.
2. Capacity building in the strategic, technical, and operational components.
3. Management of supplies.
4. Management of the cold chain.
5. Information system.
6. Pharmacovigilance.

### Milestones

1. Territorial plan for integration.
2. Training of 100% of the EPI health workforce in COVID-19.
3. Procedure to carry out the movement of biologicals including COVID-19.
4. Availability of vaccines and supplies in all the vaccination sites.
5. Process for reporting information.
6. Define the route that the *Empresas administradoras de Planes de Beneficios* (EAPB), as providers of the vaccination process will carry out for the surveillance and follow-up of adverse events following immunization (AEFI), the monitoring of programmatic errors and failures in quality.

## PHASE II – OPERATIONALISING THE MAINSTREAMING

### Strategy

1. Communicating with the public.
2. Vaccination using strategies and tactics defined by the national EPI.
3. Reporting information.<sup>2</sup>
4. Following up on supplies.
5. Induction and re-induction of health workers.

### Milestones

1. Communication plan.
2. Achieving territorial vaccination coverage targets.
3. Timely and complete reporting of data.
4. Updated inventory of vaccines and supplies.
5. Functional systems for monitoring operational and programmatic errors.

<sup>2</sup> Health providers who vaccinate with COVID-19 biologicals and other EPI vaccines enter the data of the vaccinated population through PAIWEB, which is part of the SISPRO (Integrated Social Protection Information System) data warehouse. Based on the data provided, progress in the NVP is monitored by having relevant variables for population characterization for subsequent analysis. Bearing in mind that in the country the population aged 3 years and over is vaccinated, the denominators were taken from the population projections of the Departamento Administrativo Nacional de Estadística (DANE).

## PHASE III – MANAGEMENT FOLLOW UP FOR INTEGRATION

### Strategy

1. Baseline with initial self-assessment.
2. Follow up and periodic assessments of the process.

### Milestones

1. Integration of COVID-19 vaccination in the national EPI.
2. Achieving territorial vaccination coverage targets.

## Outcomes

In Colombia, vaccination against COVID-19 was based on the EPI infrastructure, building on a system built over time in the country, strengthening basic capacities both at the central level and in the territories particularly in relation to the health information system, the cold chain and the health workforce, to respond to the needs raised by the pandemic.

A key challenge was overcoming the fact that in the national EPI, vaccination is carried out in specified target age groups of the population, and the supplies and personnel are available to carry it out, while for COVID-19 vaccination it was necessary to vaccinate just under the entire population of >3 years as well as a migrant population.

Vaccination began according to the prioritization established in the NVP in phases and stages in line with the availability of the vaccine. This made it possible to focus efforts on the relevant population groups as progress was made on other fronts to secure the maximum amount of vaccine.

In 2023, the advances in the first phase to guarantee the inclusion of COVID-19 vaccination in the national EPI guidelines. The steps required for implementing these guidelines are:

1. Updating the COVID-19 vaccination guidelines by:
  - a. eliminating staggered and prioritized vaccination and refocusing on the priority-use groups who will require continued vaccination;
  - b. dissolving the teams that only provided COVID-19 vaccination; and
  - c. adjusting the regulation and distribution channels for biological products to include the COVID-19 vaccine.
2. Include the COVID-19 vaccines in the Capitation Payment Unit (UPC) 2023 to recognize the need for allocating funds for the procurement and use of COVID-19 vaccines in addition to the other EPI vaccines.

Once the population groups eligible for COVID-19 vaccination are defined, and the vaccine products to be available in the future determined, these advances will be incorporated into the national guidelines to guide the operation and from there the deployment of actions at the territorial level as stated in the aforementioned phases.

## Benefits that could be leveraged for integration

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The benefits for the country have been the achievements in vaccination coverage: with 16 territorial entities achieving coverage of >70%; 7 territorial entities achieving coverage between 65-69% (very close to achieving the goal of 70%); and 7 territorial entities achieving coverage of 50-64%. These results have positioned EPI as a relevant programme in PHC, highlighting the need for the national EPI programme to be further strengthened to deliver vaccination across the life-course and enhance pandemic and outbreak preparedness. The increased demand for COVID-19 vaccination in the country can be leveraged to improve demand for other vaccines across the life course and make the case for strengthening the immunization programme.

Advances in information systems have also been notable. Despite having a 10% lag, PAIWEB (the electronic registry used by the “Programa Ampliado de Inmunización”) is the only nominal system where data for almost 100% of the Colombian population and foreigners is stored according to the doses of COVID-19 vaccine received. This system can be leveraged for managing data on COVID-19 vaccines and expanding it to include other vaccines provided across the life course.

Regarding the training of the health workforce responsible for vaccination in the national EPI, refresher training will need to be continued and strengthened so that the health workers remain aware of the different vaccine products available and of the individual particularities of each product, of the deployment of vaccines, and of the need and methodology for reporting vaccination data and the reporting of AEFIs.

## Challenges and solutions

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Some of the main challenges have already been outlined above. These include accessing hard to reach areas, working with the cultural considerations of **indigenous populations**, and identifying, planning for, and reaching **immigrant populations** with COVID-19 vaccine.

- To overcome these, the Government of Colombia focused on strengthening strategies to reduce the regional gaps in access to quality health care and to reach rural, indigenous, and migrant populations. This will require working with health managers and conducting site visits to assess programmatic challenges. The Government of Colombia has identified the need to continue with the response to the large number of migrants.

In addition to this, identifying and being able to access **pregnant women** was also identified as a challenge, as well as being able to reassure this risk group that the COVID-19 vaccine would improve pregnancy outcomes and was not harmful to their unborn child.

- Colombia worked with different public, private and mixed entities belonging to the General System of Social Security in Health (SGSSS) and were able to inform and create strategies to reach this target group, and to be able to gather information on coverage achieved.

The “**infodemic**” has been cited as an ongoing challenge that includes fake news being spread about the dangers of vaccination and threats being made to disrupt vaccination campaigns. Not only did misinformation hinder COVID-19 vaccine uptake in the early phases of the vaccine rollout, but there was also concern that integrating COVID-19 vaccine into routine immunization programmes, or other health programmes, e.g., ante-natal care, could negatively affect the programmes that COVID-19 vaccination is being integrated into. This highlighted the need to counteract such misinformation and enhance preventive communication around safety concerns related to the vaccine.

- The Government of Colombia set up a communication response to such concerns through phone hotlines, community volunteers, a targeted television campaign, and developing communication guidelines for radio and television, together with generating communication messages about the safety and effectiveness of vaccines.
- The Government of Colombia also worked with health workers to train them on how to provide information to reassure users.
- Efforts were also made to strengthen communication directed at the family regarding access to vaccination services to increase the confidence of the population in the vaccination programme, access to vaccines and their safety.

There was also a need to strengthen and raise awareness of the benefits of a **culture of self-care in vulnerable populations** against becoming infected with COVID-19, of promoting self-care measures and to provide information on the implications of not complying with self-care measures from becoming sick to severe illness and death.

- To achieve this, Colombia strengthened one-to-one monitoring of vulnerable populations by having insurers validate databases and using phone calls to summon at-risk individuals to the vaccination point nearest them. This was accompanied with carrying out education campaigns to promote self-care against COVID-19 and highlighting the potential consequences of not complying with these measures. It would be important to sustain this programme since continued COVID-19 vaccination will be directed to these vulnerable populations and ensuring periodic boosters will be required to protect them from severe disease and death.

## Lessons

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Planning is key to being able to integrate COVID-19 vaccine into the EPI. This includes identifying the different target populations and their numbers, working with the relevant authorities to develop targeted strategies to reach the different populations, and ensuring that provision is made for COVID-19 vaccination in the national budget for the coming year.

The health workforce is vital to the successful integration of COVID-19 vaccination, and understanding their concerns and challenges, and addressing them during the planning phase is crucial.

Communication with the different communities to ensure that they are aware of the provisions for COVID-19 vaccination and their eligibility for vaccination is also a key factor in ensuring maximum uptake.

## Additional resources

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### References:

[Considerations to Inform country COVID-19 vaccine decision-making. Version 4.1, April 2023](#)

[Consideraciones para integrar la vacunación contra la COVID-19 en los programas de inmunización y en la atención primaria en salud para 2022 y más adelante \(technet-21.org\)](#)

## Acknowledgements

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