According to national plans submitted to the PAHO regional office:

- 26 countries and territories used the campaign to strengthen routine vaccination; 24 of those countries included measles vaccination.
- 14 countries included seasonal influenza vaccination. Brazil set out to vaccinate 80 million people.
- 21 countries included polio vaccination, and 16 countries included human papillomavirus (HPV) vaccination.
- 23 countries and territories used the campaign to support the rollout of COVID-19 vaccines.
- 19 countries and territories used the campaign to vaccinate specific populations, such as indigenous populations and health workers.
- 17 countries and territories used the campaign to promote public health protection measures (proper use of masks, hand washing, etc.) to protect the population from COVID-19.

### Launch and regional activities

To celebrate the launch of VWA 2021 and the 19th anniversary of the campaign, PAHO organized a regional virtual launch event that included the Organization’s executive management and the presidents of Colombia and Costa Rica. During the launch, soccer legend Pelé sent a special greeting and spoke of the importance of vaccination. The launching of VWA 2021 was followed by a regional virtual launch event that included the presidents of Colombia and Costa Rica. During the launch, soccer legend Pelé sent a special greeting and spoke of the importance of vaccination. The launching of VWA 2021 was followed by a regional virtual launch event that included the presidents of Colombia and Costa Rica.

### Ultra-Low Temperatures: Challenges for the Storage and Distribution of COVID-19 Vaccines in Latin America and the Caribbean

A year ago, the challenge that countries would face in vaccinating the world’s population against COVID-19 would have been unimaginable. The virus was just beginning to make headlines. On 11 March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. The industry has been racing against the clock to develop a vaccine to effectively contain the coronavirus outbreak and/or better respond to new outbreaks. As of 10 February 2021, there are 240 vaccine candidates (177 in the pre-clinical phase and 63 in the clinical phase) and at least 10 vaccines have been approved by a national regulatory agency. How do we vaccinate billions of people, reaching the most remote and hard-to-reach places (e.g., rural health posts with unstable or no access to electricity and poor road access), with a vaccine that has a short shelf life, while preserving the cold chain?

Besides the policies led by the health sector, this massive and expedited vaccination effort involves other sectors, such as transportation, logistics, and energy. The vaccines being developed have different storage requirements and therefore demand different logistical solutions. According to information from the WHO (2020), vaccines can be grouped by temperature into three storage categories:

1. between 2°C and 8°C (should not be frozen).
2. at -20°C.
3. at an ultra-low temperature (ULT) between -60°C and -90°C.

Our countries have cold chain capacities that can efficiently handle vaccines requiring storage temperatures between two ranges:

1. This article was originally published on the blog of the Inter-American Development Bank. To view the original article, see [https://blogs.iadb.org/transporte-america-latina/2021/10/01/a-year-ago-the-challenge-that-countries-would-face-in-vaccinating-the-worlds-population-against-covid-19-would-have-been-unimaginable/](https://blogs.iadb.org/transporte-america-latina/2021/10/01/a-year-ago-the-challenge-that-countries-would-face-in-vaccinating-the-worlds-population-against-covid-19-would-have-been-unimaginable/)
Vaccination Week in the Americas 2021 Publications Were Mentioned over 92 Million Times on Social Media

During the 19th annual Vaccination Week in the Americas (VWA) 2021, social media posts from the headquarters of the Pan American Health Organization/World Health Organization (PAHO/WHO) received 92,640,173 hits and many positive comments from users.

“This is an excellent contribution, PAHO, thank you very much for clarifying such common but important questions about these new vaccines.” “Thank you, keep doing your job so responsibly.” These were some of the responses from social media users who participated in the Twitter chats and the Ask the Expert live sessions on Facebook, held as part of the VWA 2021 activities from 24 to 30 April.

As in previous years, VWA 2021 is an opportunity for PAHO/WHO to emphasize the importance of vaccination to protect against various diseases, especially during the ongoing COVID-19 pandemic. It was promoted on the Organization’s Facebook, Twitter, Instagram, and LinkedIn accounts at headquarters and in the countries, with tailored messages in Spanish, English, Portuguese, and French.

The goal of VWA 2021’s social media strategy, which garnered 4,610,719 reactions (likes, shares, and comments on headquarters accounts), was also to strengthen public confidence in immunization and support the roll-out of COVID-19 vaccines in the countries where they are available. To this end, PAHO/WHO focused on answering questions, clearing up doubts, and refuting common myths about vaccination, COVID-19 vaccines, and routine vaccines.

Getting closer
PAHO/WHO invited followers to join the conversation on all social networks with the main hashtag #Vacunate/#GetVax, as well as #LasVacunasFuncionan/#VaccinesWork. Twitter also added emojis: 🤖 and 🙋, respectively.

Go to your account and tweet using #GetVax, which is still active. See how nice it looks? Facebook also contributed with the design of creative and promotional coupons for the campaign, free of charge.

At PAHO/WHO we are concerned about misinformation and the lack of knowledge about health issues in the COVID-19 pandemic crisis, so we organized live conversations through Twitter and Facebook. On 27 April, two Twitter chats were held, in English and Spanish, with the hashtags #LetsTalkVaccines and #HablemosDeVacunas, respectively, and on 29 April, Ask the Expert was held in English and in Spanish. These events were aimed at clarifying doubts about vaccination issues, answering questions, and inviting people to get vaccinated.

Experts answered questions such as:
- Are COVID-19 vaccines safe? How can we be sure?
- Should I get vaccinated if I already had COVID-19? When?
- In what situations should I avoid getting a COVID-19 vaccine?
- Can vaccines affect fertility?
- Can people with autism be vaccinated?
- Can moms who breastfeed their babies get vaccinated against COVID-19?
- Is a COVID-19 vaccine going to give me the disease?
- ... and many more!

Pelé and Sésame Street also supported the campaign. Thousands of people reacted to the video soccer star posted on his personal Instagram account, which generated 296,371 views and 445 comments, mostly positive.

This year PAHO/WHO has joined WHO in the global campaign for the 10th World Immunization Week—which coincided with VWA—with the slogan: “Vaccines bring us closer,” and the hashtag #IA2030, which marked the launch of Immunization Agenda 2030.²

We are pleased that people are still sending in questions on Twitter and Instagram with the hashtag #HablemosDeVacunas. At PAHO/WHO we will continue to respond, promoting access to safe and reliable information. If you have questions, let us know, using the hashtag #LetsTalkVaccines!

Go to your social media profiles and engage with #Vacunate/#GetVax and #LasVacunasFuncionan/#VaccinesWork to continue spreading messages about vaccination. For content you can download or share with friends, organizations, and others, visit the campaign pages www.paho.org/sva et www.paho.org/vwa, as well as Canto.

Many thanks to all the colleagues, organizations, and partners who supported us in making VWA 2021 outreach possible.

VIRAT-VRAF 2.0 Assessment Tool: Summary of Country Progress in the Region of the Americas in Preparation for the COVID-19 Vaccine Rollout

Summary
Since the outbreak of COVID-19 (the novel SARS-CoV-2 coronavirus) was declared a Public Health Emergency of International Concern, the entire world has been swept up in changes and challenges that have forced a response to an unprecedented health threat. The pandemic has affected every country in the world, so finding an effective vaccine became one of the main objectives of the scientific community. However, simply having a vaccine available is not all that is needed for the population to access it, especially in low-income countries.

In April 2020, the World Health Organization (WHO) and other partners launched the Access to COVID-19 Tools Accelerator (ACT-Accelerator or ACT-A) as a collaborative framework for pandemic control. ACT-A comprises four pillars: diagnostics, therapeutics, vaccines, and health system strengthening. Within this framework, the COVAX facility was launched in June 2020. This platform supports the research, development, and manufacture of a wide range of potential COVID-19 vaccines, and the negotiation of their prices.3

In addition to having approved vaccine candidates, countries need to prepare for a successful COVID-19 vaccine rollout by having the necessary infrastructure and elements in place. WHO and several partners developed the VIRAT-VRAF 2.0 tool, a self-assessment tool for establishing a roadmap and monitoring the progress of activities to prepare for the rollout of COVID-19 vaccines.

Background
The Pan American Health Organization (PAHO) was one of the first to publish an epidemiological alert about the novel coronavirus on 16 January 2020. The alert included recommendations to international travelers on infection prevention and control measures, and on laboratory testing. Five days later, on 21 January 2020, the United States reported its first confirmed case of infection with the novel coronavirus. Since then, COVID-19 has spread to all 51 countries and territories in the Americas.

On 30 January 2020, the Emergency Committee advised the WHO Director-General that the outbreak met the criteria to be declared a Public Health Emergency of International Concern. On 11 February 2020, WHO announced that the disease was caused by the novel coronavirus and would be named COVID-19. COVAX is led by CEPI, Gavi, and WHO. COVAX is one of the four pillars of ACT-A. It is led by CEPI, Gavi, and WHO. COVAX has a strong governance facility and independent advisory bodies to support the facility’s decisions. The COVAX facility acts as a platform to support research, development, and procurement and delivery on a global scale with the participation of other partners.

The Access to COVID-19 Tools Accelerator (ACT-A)
ACT-A is a framework for collaboration and a comprehensive global solution to end the acute phase of the devastating COVID-19 pandemic. It was created in response to a call from G20 leaders, WHO, the European Commission, France, and the Bill & Melinda Gates Foundation (BMGF), and was launched in April 2020. It consists of four pillars (Table 1) and aims to end the COVID-19 pandemic as soon as possible by reducing mortality and the most severe manifestations of the disease by accelerating the development and production of and equitable access to COVID-19 tests, treatments, and vaccines.4

This support structure was created to facilitate the work of ACT-A’s implementing partners through knowledge sharing. It is co-led by nine global health organizations: WHO; the Coalition for Epidemic Preparedness Innovations (CEPI), the Vaccine Alliance (Gavi); the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund); International Drug Purchasing Facility (Unitaid), the Foundation for Innovative New Diagnostics, the Wellcome Trust, the World Bank Group, and BMGF.

Table 1. Pillars of ACT-A

| Diagnostics | Aims to rapidly identify game-changing new diagnostics, and bring 500 million affordable, high quality, rapid diagnostic tests to market by mid-2021, for populations in low- and middle-income countries. |
| Therapeutics | Seeks to develop, manufacture, procure and distribute 245 million treatments for populations in low-and middle-income countries within 12 months. |
| Vaccines (COVAX) | The role of COVAX is to ensure that vaccines are developed as quickly as possible, manufactured in adequate quantities—without compromising their safety and quality—and delivered to those who need them most. As of early 2021, its goal is to obtain two billion doses through this facility. |
| Health systems connector | This pillar underpins the other three. It aims to strengthen health systems and local community networks struggling to cope with COVID-19, and to eliminate existing challenges in health systems that may hinder the delivery and implementation of new and expanded COVID-19 tools. It also seeks to ensure sufficient supplies of essential personal protective equipment (PPE). |

Summary

The national deployment plan is a document that compiles strategies for the deployment, implementation, and monitoring of the COVID-19 vaccine(s). This plan is prepared by the authorities responsible for the country’s vaccination strategy.

Preparation for the COVID-19 vaccine rollout
On 16 November 2020, WHO issued interim guidance to assist governments in developing and updating their national COVID-19 vaccine deployment and vaccination plans. Later, in collaboration with other strategic partners, WHO developed the COVID-19 Vaccine Introduction Readiness Assessment Tool (VIRAT). Simultaneously, the World Bank developed the Vaccine Readiness Assessment Framework (VRAF) to help countries obtain detailed information on the gaps and associated costs and help countries program financial
VIRAT-VRAF 2.0 was a self-assessment tool that helped monitor progress in preparing for the COVID-19 vaccine rollout. It was used to establish a roadmap based on the identification of gaps and to prioritize actions to ensure that the immunization program was ready for the introduction of the vaccine.

Methodology
VIRAT-VRAF 2.0 included an Excel template for countries to fill out each month, which was translated into Spanish, French, and Portuguese and distributed to all the countries. Training sessions were provided on how to fill out the forms. At the regional level, a dashboard was developed to display progress at the global and individual level, and to highlight the areas where greater technical cooperation was required. The dashboard was accessible through the PAHO website. The tool was presented to the Region’s Technical Advisory Group (TAG) on Vaccine-Preventable Diseases and to the countries’ immunization program managers.

Programmatic areas
VIRAT-VRAF 2.0 was used to assess the country’s readiness to implement COVID-19 vaccines by considering ten programmatic areas (management, structure, advocacy, and resources; ethical values-informed national vaccination strategy; legal and regulatory framework facilitating vaccine deployment; implementing strategies for delivering immunization services; vaccine and supply chain management; human resources and security; vaccination data and information management; vaccine safety monitoring; safe injection and waste management; and generating demand, community participation, and communication). These areas were monitored using 50 indicators that provided a functional assessment of country readiness in addition to identifying areas in need of strengthening.

WHO core indicators for monitoring COVID-19 readiness
WHO established nine core indicators to track the country’s and the Region’s progress towards the COVID-19 vaccination rollout. Each indicator was measured against four benchmarks: not started; in progress - early stage; in progress - maturity stage; and completed.

1. National coordinating body. This indicator identifies whether countries have a national coordinating committee for the COVID-19 vaccine rollout. This committee may be assigned to an existing committee or a new one, and should have terms of reference, roles, responsibilities, and regular meetings. The body and its leadership should be accountable and functional.

2. Evidence review. This indicator identifies whether the National Immunization Technical Advisory Group (NITAG) or equivalent advisory body, including working groups within the NITAG, is responsible for reviewing the evidence to make a recommendation on COVID-19 vaccination.

2a. Primary target groups. Evaluates whether the NITAG or equivalent advisory body recommendation includes identification of the primary target group(s) for the COVID-19 vaccine.

3. Cold chain capacity assessment. This indicator seeks to identify whether the cold chain capacity has been assessed and determined to be sufficient.

4. Vaccine public trust and demand. This indicator seeks to identify whether there is a plan to generate public trust and demand for the COVID-19 vaccine.

5. Planning for training. Aims to identify which countries have a well-defined and established training plan. To make the rollout successful, training should focus on personnel safety and safe injection and, where possible, use online training tools.

6. Regulatory pathway. This indicator is intended to confirm that there is a regulatory pathway for the approval of COVID-19 vaccines (i.e., emergency use authorization, exceptional approval, or an approval facility based on the use or recognition of decisions of other regulatory authority-ties, expedited procedures, fast track, etc.).

7. National deployment plan review. Assesses whether the national deployment plan developed by the country has been reviewed by partners external to the WHO/United Nations Children’s Fund (UNICEF) country office.

8. COVAX letter of agreement. Assesses whether the country has submitted a letter of agreement to the COVAX facility. As of 13 April 2020, 190 countries are participating in the COVAX facility.

Results
In the Region of the Americas, 33 countries and 2 territories conducted the assessment with the VIRAT-VRAF 2.0 tool. As the preparation for the COVID-19 vaccine rollout was a dynamic process, 21 countries have updated their information more than once (Figure 2).

Results by area
Figure 3 shows a summary of the preparedness of countries in the different areas. As of 30 March 2021, according to the self-assessment carried out by the countries, the programmatic areas with the greatest strengths in the Region of the Americas were the availability of immunization service delivery modalities and the existence of a legal and regulatory framework to facilitate the vaccine rollout. The programmatic areas with a lower percentage of completion, but a high percentage of maturity-stage progress were: an evidence-informed and ethical values-based national vaccination strategy; and immunization data and information management. The areas with the greatest weaknesses were: human resources and safety, and generation of demand, community participation, and communication.

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Guatemala shares its experience with VIRAT-VIRAF 2.0

How did the VIRAT-VIRAF 2.0 tool help Guatemala prepare for the COVID-19 vaccine rollout?

- It served as a guide for setting up working groups in an intersectoral committee and orienting some activities.
- The general topics were helpful in the creation of working groups.
- It was implemented as a tool to be completed on a weekly basis and provided an overview of progress at weekly meetings.
- It was routinely completed by including it as an agenda item in weekly meetings of the national COVID-19 vaccination committee.
- Some activities included in the tool did not fit precisely within the scope of a specific department of the Ministry; however, adaptations were made, and the tool was completed four times.
- It was a useful emergency tool, especially in the context of the pandemic.
- The Excel format was user-friendly, and everyone was able to use it. It might be more useful for the country to have an online platform where users could select the level of progress and view the status of vaccine rollout preparedness.

Figure 4 shows how, in approximately four months, the countries of the Region prepared for the rollout of the new COVID-19 vaccine, moving from “not started” (red) to “completed” (green). This graph illustrates the enormous effort made by the countries of the Region to confront and contain the global pandemic.
Figure 4: Progress in COVID-19 vaccine introduction readiness in the countries of the Region through the VIRAT-VRAF 2.0 tool

Discussion
Preparing for COVID-19 vaccination has been an unprecedented learning experience in the Region of the Americas. Getting ready to introduce a vaccine that did not exist, without knowing the stages of the process, routes of administration, cold chain, or possible adverse events required the countries’ immunization programs—in operation for nearly 40 years—to demonstrate their ability to work under pressure, harmonizing the ideas of groups within and outside the ministries to succeed in developing plans for the COVID-19 vaccine rollout. And in record time!

It did not start from scratch. The programs in the Region of the Americas have experience carrying out large-scale vaccination campaigns, vaccinating adults, dealing with outbreaks, and introducing new vaccines. This accumulated experience facilitated the preparation and development of the plans and their implementation. However, regardless of the maturity of the country’s immunization program, the successful rollout of the COVID-19 vaccine depended on preparedness; having a tool like VIRAT-VRAF 2.0 helped countries to organize their efforts. As evidenced by the results of this self-assessment using VIRAT-VRAF 2.0, most countries were prepared in the priority areas for the introduction of the vaccine and for the continued provision of safe vaccination to their populations. From PAHO’s perspective, VIRAT-VRAF 2.0 made it possible to systematically monitor and establish regional progress and highlight the areas where greater technical cooperation was required.

One advantage the countries underscored was that using VIRAT-VRAF 2.0 provided a meeting point among agency heads to complete the assessment, generating a group work dynamic. However, its use was not without difficulties, as there were several versions of the tool—first VIRAT.1, then VIRAT-VRAF 2.0—which made it difficult for users to fill out the forms, and some activities had to be adapted to the realities of the countries.

Countries should continue to strengthen all components of their immunization programs—primarily cold chains, information systems, security systems, vaccine surveillance and monitoring, and communication and community engagement—and manage the sustainability of the changes and improvements made to contain the COVID-19 pandemic.

Collaborations between organizations, partners, governments, ministries, and philanthropists can foster equity and justice, especially in situations of global crisis. This experience should continue to be applied to address other public health and global health challenges.

Why Should We All Get a COVID-19 Vaccine?
Almost three million people worldwide have died of COVID-19 since the pandemic started. The severity of COVID-19 and the difficulty to curb the pandemic using public health measures have led to a global race to conduct research to find vaccines capable of preventing this disease. In record time—yet building on knowledge developed over a decade—different efficacious COVID-19 vaccines have been discovered.

COVID-19 vaccination is the most effective way to prevent the harms caused by the pandemic. COVID-19 vaccines are safe and highly effective at preventing severe disease and death from COVID-19. Therefore, we all ought to get vaccinated to protect ourselves. We should also get vaccinated to benefit our communities. The pandemic has overwhelmed our health systems. Health care professionals and health care services have been devoted to meeting the urgent needs posed by COVID-19. As a result, many other health needs are not being adequately met during the pandemic: Hospitals have often reached capacity, health care professionals are experiencing burnout, and patients are postponing care for chronic conditions and sometimes also going without proper care for acute conditions. The health toll of the pandemic is notably higher than the deaths and severe disease directly caused by COVID-19; it includes death and disease from other reasons that could have been prevented, had our systems not been overwhelmed dealing with COVID-19.

If fewer people need medical care or hospitalizations from COVID-19, our health systems will be able to address the many other healthcare issues that affect our communities, which have not received appropriate attention during the pandemic. By getting vaccinated against COVID-19 we reduce the burden currently experienced by the health systems and thus make it possible for them to meet the many other health needs of our communities. Therefore, COVID-19 vaccination does not only protect our health, but it also promotes the health of our communities.

Yet we know that COVID-19 does not cause only death and disease. Its impact transcends the realm of health. COVID-19 has also caused poverty, unemployment, and social suffering. It has devastated our economies, which often relied on activities that could not be carried out safely during the pandemic. This socioeconomic crisis is in turn bad for our health. Hunger and malnutrition cause death and disease. And weaker economies lead to weaker health systems—less able to meet health needs—and ultimately to worse health for all.

COVID-19 vaccines allow us to gradually open up the economy, and to go back to social interactions that are crucial for our wellbeing. If a high number of people are vaccinated against COVID-19, we will be able to safely carry out activities that we had to suspend or limit drastically. And the reactivation of the economy will prevent further negative health outcomes. Therefore, a concern with the socioeconomic wellbeing of our communities, along with their impending health, gives us another reason to get vaccinated against COVID-19.

As of April 2021, we do not have sufficient evidence on the impact of COVID-19 vaccines on the transmission of SARS-CoV-2, although it is mounting quickly and can provide an additional powerful argument for everybody to get a COVID-19 vaccine. As of now, we have no shortage of moral arguments to get vaccinated against COVID-19.

Health emergencies test our capacity to come together and act collectively to achieve a goal that cannot be achieved without concerted action. They test our commitment to stand for each other and act, not just for our own good, but also for the health and wellbeing of our fellow citizens and communities. We all have the moral duty to get a COVID-19 vaccine, as soon as it is available to us, and do our part to end the pandemic. Acting on this moral duty should empower us individually and collectively: Our actions matter and winning the fight against COVID-19 depends on everyone.

Contributed by: Carla Saenz, Regional Bioethics Advisor, Department of Health Systems and Services, PAHO.
Regional Workshop on the Use of K1 Auto-Disable (AD) Syringes

Due to the global shortage of syringes in the COVID-19 pandemic, the Pan American Health Organization (PAHO) Revolving Fund is procuring K1 auto-disable (AD) syringes. On 27 and 28 April 2021, two workshops were held with authorities from ministries of health in Latin American and Caribbean countries to educate health workers in the Region of the Americas on the technology of these syringes. The workshops were intended to:

1. Provide background information on the COVID-19 vaccines being used in the Region, and how the COVID-19 vaccination process is going
2. Train health workers in the Region in the use of K1 AD syringes as an approach to the global syringe shortage
3. Establish a platform for country immunization programs to replicate training at all levels

The workshops served as a model for national immunization programs in the Region to replicate training and lessons learned at all levels in their countries. The 2-hour workshops began with an update on vaccine deployment and COVID-19 vaccination activities in the Region, followed by a presentation on the characteristics and handling of COVID-19 vaccines, and best practices for safe injection. A representative of the Revolving Fund addressed the status of the global market for syringes for the administration of COVID-19 vaccines and provided an update on the purchase of syringes through the Fund. At the end of the presentations, workshop participants were given the opportunity to have questions answered by the speakers.

The next section of the workshops discussed the transition to the use of AD and K1 syringes. It included demonstration sessions and videos on how to use these syringes and ended with another question-and-answer session for the participants.

Sub-regional ESAVI Surveillance Capacity Building Training Workshops

PAHO’s vaccine safety team, in the context of the construction of the regional system for the surveillance of events supposedly attributable to vaccination or immunization (ESAVI), developed a series of workshops as part of the regional strategy for strengthening ESAVI surveillance all over the Region. The specific topics developed were 1) ESAVI detection and notification, 2) investigation, 3) causality assessment, and 4) data management and analysis.

During the first two weeks, selected participants from all countries were appointed as facilitators and were trained with pilot materials. The workshop agenda included one or two presentations with theoretical concepts and then 2-hour working group sessions where participants had to discuss real and fictional case studies focused on COVID-19 vaccines. During those two weeks, the same 4-day workshop was developed in three different languages (Spanish, English, and Portuguese). Subsequently in June, the workshop was done in French for Haiti.

Feedback from participants to improve the general workshop structure and content was obtained. With the improved materials and a team of selected facilitators, a 4-week round of workshops was developed with national authorities from all countries in the Region, except the United States and Canada.

Three hundred and forty-seven people of average participated in the workshops with an average connection time of 208 minutes. The subregion with the highest attendance (mean: 108 people) was the Andean region (Colombia, Perú, Venezuela, Bolivia, and Ecuador) (Table 1).

Many interesting discussions on safety topics related to COVID-19 vaccines were raised and general recommendations for vaccine safety monitoring were conveyed. Dr. Madhava Rambalakrishnan from the vaccine safety team at WHO-HQ joined us in this effort and participated during the investigation and causality assessment sessions. The steps to follow are to replicate these workshops at the national level to multiply knowledge in all health services.

PAHO Offers Virtual Course on COVID-19 Vaccine Rollout

The Comprehensive Family Immunization (IM) Unit of the Family, Health Promotion, and Life Course (FPL) Department of the Pan American Health Organization (PAHO) published a free access virtual self-study course, open to the public, and with no time limits for completion, called Introducing COVID-19 vaccination: Guidance for determining priority groups and micro-planning - 2021. This course provides tools for planning the introduction of COVID-19 vaccines, prioritizing the population groups to be vaccinated, and developing micro-planning at the operational level. The course is aimed at health professionals and public health workers, vaccinators, health facility managers, and immunization program directors and managers, among others.

Details about this course can be found below and the link to take the course is http://bit.ly/CVOPASIntroducciondelaVacunaCOVID-19. At this time, the course is only available in Spanish, but it will soon also be available in English, Portuguese, and French.

Table 1. Summary of Attendance for Workshops on Building ESAVI Surveillance Capacity, PAHO Region, April-May 2021

<table>
<thead>
<tr>
<th>Region</th>
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<td>Participants</td>
<td>Average connection time (min)</td>
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<td>404</td>
<td>198</td>
<td>382</td>
<td>206</td>
<td>315</td>
</tr>
</tbody>
</table>

Data source: Zoom™ statistics report.
Our countries have cold chain capacities that can efficiently handle vaccines requiring storage temperatures between two ranges:  
- between 2°C and 8°C (e.g., seasonal influenza, DTP, and pentavalent vaccines).  
- -15°C to -25°C (for storing vaccines such as yellow fever, measles, BCG, and OPV).

The real logistical challenge is to store and distribute the vaccines that require a ULT cold chain. Cold chain infrastructure for ULT vaccines is virtually non-existent in all countries of the world, except for those with experience in the use and distribution of the Ebola vaccine. Most health workers are unfamiliar with vaccine management in this temperature range.

Requirements for ULT vaccine storage and transport at the national level

There are two main options for storing the COVID-19 vaccine at ULT:

1. Use of ULT freezers, which can store large amounts of vaccines (40K to 320K doses, based on the size of the equipment). These freezers have strict performance requirements. They need a highly stable electrical power source, with a backup generator, installed in a temperature-controlled room (below 27°C and 50% humidity). They also require the use of personal protective equipment (PPE) to handle the products moving into and out of the ULT freezer.

2. Use of thermal containers that can be used with dry ice or phase change material (PCM) packs for temporary storage and/or distribution of vaccines.¹¹  
   Thermal containers recently developed by the manufacturer of the ULT vaccine, can be used for temporary storage for up to 30 days if they are refilled with dry ice every five days. Each thermal container can store approximately 5,900 doses of vaccine. Handling dry ice requires basic PPE (cryogenic gloves, goggles, face shield) to prevent contact burns.  
   Transporting ULT vaccines also requires the use of special cold packs that use PCM¹² (or refrigerant), or next-generation insulated containers (isothermal packaging, Arktek long-term cold storage containers).¹³

What are the options for implementing a cold chain with temperatures between -60°C and -80°C in Latin America and the Caribbean?

A centralized vaccine delivery model would be a single site that serves as a primary immunization point and storage location. Another model is the decentralized strategy, i.e., delivery of vaccines to multiple storage centers that serve as vaccine administration points. This would allow a sizable amount of vaccine to be delivered using a ULT cold chain. Vaccine administration at secondary locations besides the main vaccination center can scale up the deployment of ULT equipment and immunization management. However, this decentralized strategy demands near-perfect operations management to implement the activities outlined in each national vaccine deployment plan by region or district. A temperature excursion (storage temperatures outside the manufacturer’s recommended ranges) can affect the vaccine and cause it to lose its potency, with the possible risk of rendering hundreds of doses unusable and undermining the objectives of the immunization program.

The countries of Latin America and the Caribbean have extensive experience in carrying out vaccination campaigns. The Region has implemented successful vaccination campaigns that have helped to eradicate polio and eliminate measles. Today, countries can rely on different tools developed by WHO to facilitate efficient cold chain and supply chain management and thus win the logistical race toward mass vaccination of their populations. Activities carried out to prepare for the arrival of vaccines include analyzing gaps in the cold chain, estimating vaccine storage and distribution capacities, mapping the available supply, procuring or leasing equipment (freezers, vaccine carriers), and national dry ice production capacity, among others.

Contributed by: Laureen Montes, Inter-American Development Bank, and Nora Lucia Rodríguez, Pan American Health Organization.

¹¹ Dry ice, also known as carbon dioxide (CO₂). It is used as a coolant for items that must remain cold or frozen during transport, such as biological samples, vaccines, or food.  
¹² Phase change material (PCM) are known for their ability to store or release energy in transition between solid (frozen) and liquid (melted) states. To cool passive containers to ULT, a special phase change material is used.  