LESSONS LEARNED

Regional Meeting to Share Lessons Learned to Improve Immunization Rates in Urban and Peri-urban Populations

Buenos Aires, Argentina
6–8 June 2018

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Pan American Health Organization
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REGIONAL OFFICE FOR THE Americas

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Contents

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INTRODUCTION

Source: Pan American Health Organization

INTRODUCTION

Immunization programs in the Americas have contributed to attainment of the Millennium Development Goals and are a key component in achieving the Sustainable Development Goals. During the period from 2011 to 2017, it was shown that since 2013, regional coverage for the third dose of the diphtheria-tetanus-pertussis-containing vaccine (DTP3) remained around 90%. It was also observed that approximately 50% of the Region's municipalities do not achieve more than 95% coverage. These problems are particularly relevant in large cities, due to high population density and the difficulty in establishing denominators that can be used to identify and correct problems in coverage rates.

In September 2015, the 54th Directing Council of the Pan American Health Organization (PAHO) approved the Regional Immunization Action Plan (RIAP) as a guiding framework for immunization in the Region of the Americas. The purpose of this plan, which is in line with the World Health Organization's Global Vaccine Action Plan (GVAP), is to continue to move forward and overcome immunization-related challenges currently faced by countries in the Region.

With this goal in mind, PAHO conducted a regional meeting in Buenos Aires, Argentina on 6-8 June 2018, to analyze and discuss vaccination strategies in urban and peri-urban areas and agree on national and regional interventions to address the identified problems. Representatives from 11 countries in Latin America and the Caribbean (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Haiti, Honduras, Mexico, Paraguay and Peru) participated in the meeting, where they exchanged opinions and shared experiences on the challenges, obstacles and possible solutions regarding the task of reaching higher vaccination coverage in the Region's urban areas. The meeting was developed by PAHO with financial support from the Global Alliance for Vaccines and Immunization (Gavi). It had 64 participants, as well as representatives from John Snow, Inc. (JSI), the United States Center for Disease Control and Prevention (CDC) and Gavi.

MEETING OBJECTIVES

A. General

Share lessons learned to improve immunization rates in urban and peri-urban populations and develop strategies for increasing vaccine access.

B. Specific

1. Review, share, and document experiences and strategies related to the vaccination of urban and peri-urban populations in the Region of the Americas.
2. Identify effective vaccination strategies especially targeted to populations in disadvantaged, poor areas in the Region of the Americas.

BACKGROUND

Since 2009 the world's population has been more urban than rural. Rapid urbanization is surpassing the public sector's ability to construct basic infrastructure and health service delivery systems. These trends are particularly significant for vaccine-preventable diseases, due to the high potential for transmission of these diseases in urban areas with highly concentrated populations. The traditional immunization model in rural areas therefore needs to be adapted to this demographic reality.[1]

A study published by the United Nations Children's Fund (UNICEF) in 2016[2] estimated the urban population in Latin America and the Caribbean (LAC) to be 496 million inhabitants (79% of the total population). According to these estimates, 21% of the urban population was living in shantytowns. This points to significant differences in health and living conditions in the cities, and the importance of having disaggregated data. Gavi estimates that 40% of children with suboptimal immunization are in urban areas. According to Gavi data, immunization coverage in rural areas tends to be lower than in urban areas, except for 12 of the countries that it supports, including four in LAC: Bolivia, Cuba, Guyana, and Honduras, where urban coverage is lower.

The complexities of vaccination in urban areas go beyond just an increase in population density. A pioneering analysis published by the World Health Organization (WHO)[3] describes the factors that should be considered in decisions to implement different strategies in urban and rural areas:

- Social interaction in urban areas differs from that in rural areas due to the lack of areas where people congregate, fewer extended family connections, and more women working outside the home. This affects the flow of information with health services and makes the use of mass media more significant.
- The involvement of the private sector and municipalities is more important in urban areas.
- Unlike in rural areas, locating and monitoring every child in urban areas is difficult. Better outcomes in urban areas are achieved when extended hours of care are offered to increase coverage.
- Due to high population density and pockets of unimmunized people, transmission rates are higher in urban areas. As a result, an outbreak must be interrupted through higher vaccination coverage in urban areas than in rural, which requires a higher investment in human and financial resources.
- Furthermore, school attendance is higher in urban areas, which facilitates immunization in the schools. Homeless children could be immunized in shelters or community cafeterias.

1 Nelson KN, Wallace AS, Sodha SV, Daniels D, Dietz V. Assessing strategies for increasing urban routine immunization coverage of childhood vaccines in low and middle-income countries: a systematic review of peer-reviewed literature. *Vaccine* 2016;34(46):5495-5503. Available at: http://dx.doi.org/10.1016/j.vaccine.2016.09.038

2 Crocker-Buque T, Mindra G, Duncan R. Immunization, urbanization and slums: a review of evidence. New York: United Nations Children's Fund (UNICEF); 2016. [Working paper; UNICEF Health Section, Program Division, October 2016].

3 Atkinson SJ, Cheyne J. Immunization in urban areas: issues and strategies. *Bulletin of the World Health Organization* 1994;72(2):183-194.

Other studies conducted in Africa and Asia provide additional information:

- A study in Gambia showed that the high vaccination rates in rural areas are associated with community social networks. This social capital weakens in urban areas, particularly for women who recently migrated from rural areas.[4] This emphasizes the importance of the media in urban areas.
- A study in China demonstrated that migration from rural areas to the cities has a profound impact on disease distribution, including vaccine-preventable diseases. The study recommends the design and implementation of strategies especially targeted to migrant populations.[5]
- A study in Benin reports that one of the main reasons for objection to vaccination in urban areas of Benin is the incorrect interpretation of religious beliefs, which underscores the importance of communicating with religious leaders.[6]

A consultative meeting held June 2017 in Arlington, Virginia (United States) on strategies to improve immunization in poor urban areas identified the need to link immunization to other urban health strategies, promote the collection of disaggregated data, expand the involvement of local actors and donors, and document best practices.[7]

Despite the abundance of clear recommendations for addressing immunization problems in cities, a recent review of published studies[8] concludes that few studies have focused on the problems of vaccination in cities and that as a result, there is no evidence of its sustainability, expansion, and cost-effectiveness. Interventions simultaneously designed to improve supply (availability of vaccines and vaccinators, extended hours) and demand (education of mothers and parents) may ensure better outcomes.[9]

4 Cassell JA, Leach M, Fairhead JR, Small M, Mercer CH. The social shaping of childhood vaccination practice in rural and urban Gambia. *Health Policy and Planning* 2006;21(5)373-391. https://doi.org/10.1093/heapol/czl020

5 United Nations Research Institute for Social Development (UNRISD). The influence of migration on the burden of and response to infectious disease threats in China: a theoretically informed review. 2013. Geneva; UNRISD [Working Paper No. 2013-3]. https://www.econstor.eu/bitstream/10419/148728/1/861114426.pdf

6 Fourn L, Haddad S, Fournier P, Gansey R. Determinants of parents' reticence toward vaccination in urban areas in Benin (West Africa). *BMC International Health and Human Rights* 2009;9(Suppl 1):S14.

7 Partners consultative meeting on strategies to improve immunization uptake and use in urban poor. 1–2 June 2017, Arlington VA. Hosted by John Snow, Inc. (JSI).

8 Nelson KN, Wallace AS, Sodha SV, Daniels D, Dietz V. Assessing strategies for increasing urban routine immunization coverage of childhood vaccines in low and middle-income countries: a systematic review of peer-reviewed literature. *Vaccine* 2016;34(46):5495-5503. http://dx.doi.org/10.1016/j.vaccine.2016.09.038

9 Jarrett BA, Mindra G, Duncan R. Country urbanization profiles: a review of national health or immunization policies and immunization strategies. New York: UNICEF; 2017. [UNICEF Discussion Paper, Health Section, Program Division, June 2017].

2

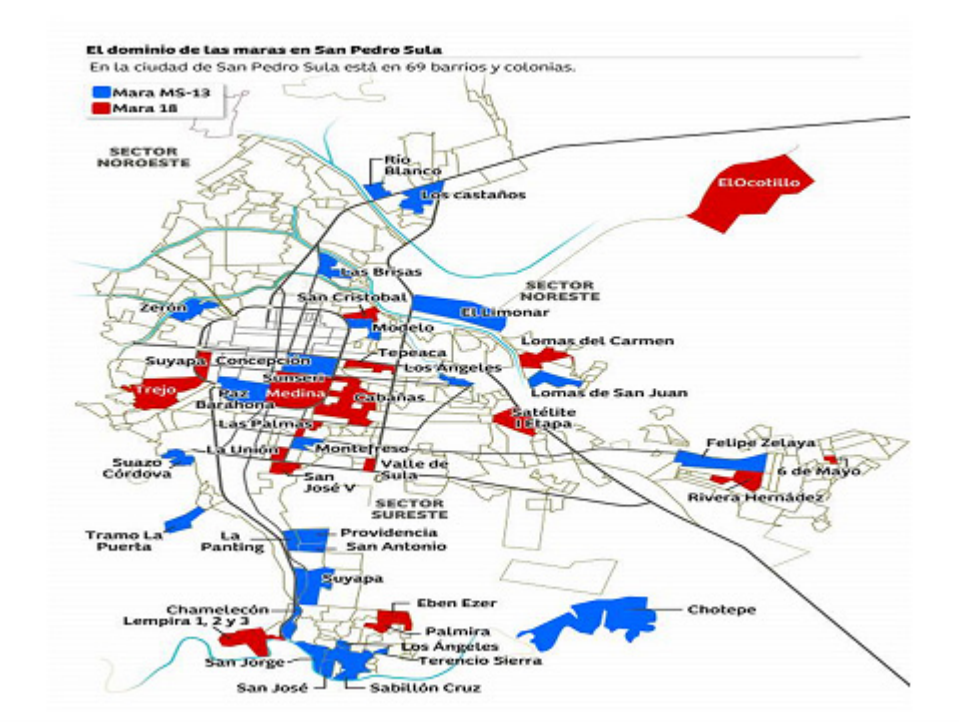
ANALYSIS OF THE SITUATION IN THE AMERICAS

IDENTIFICATION OF TARGET POPULATIONS

In the large cities of LAC, population groups that face various barriers to accessing vaccination services have been identified. The representatives of the countries present at the meeting[10] identified six groups:

1. **Population living in bedroom communities:** This population lives in the outskirts of large metropolises and commutes daily into the city for work. Because of this travel, it is hard for parents and children to be vaccinated in the places where they live and/or work. This problem is particularly acute in Buenos Aires (Argentina) and São Paulo (Brazil). In La Paz and El Alto (Bolivia), there is a weekend exodus from the city to the country. In Buenos Aires, 30% of people who have been vaccinated do not live in that city.
2. **Population in violent areas:** Several cities of LAC are among the most violent in the world, including Caracas, San Pedro Sula, Mexican cities along the United States border, and the capital cities of Guatemala, El Salvador, and Honduras. In Honduras, for example, 85% of municipalities record cases of violence, but the problem is worse in cities with high population density. Vaccination of the urban population living in violent areas (so called "red zones") is particularly difficult when it comes to ensuring the safety of door-to-door vaccinators and because violence restricts people's access to urban services. The exact geographic location and description of the causes and consequences of violence must be determined to develop alternative vaccination interventions, with a different approach in areas where street crime and youth gangs (maras) are found. In San Pedro Sula, for example, accurate urban maps that identify gang territories have been developed (Figure 1).

FIGURE 1. **MAP OF GANGS IN SAN PEDRO SULA, HONDURAS**



Source: Secretary of Health of Honduras

10 Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Haiti, Honduras, Mexico, Paraguay and Peru.

3. **Population influenced by anti-vaccine groups:** In several countries of LAC, including the ones represented at the meeting, anti-vaccine groups have gained strength. Their influence among the population that hears their messages is significant. The influenced population, unlike other identified vulnerable groups, is not geographically concentrated, which makes the response more difficult. Anti-vaccine movements are particularly strong in Buenos Aires (Argentina), Santiago (Chile), and the major cities of Brazil. In Santiago the dissemination of anti-vaccine messages is significant through social networks. Particularly influential are public figures (artists, politicians, etc.) who, although not openly involved in anti-vaccination campaigns, make occasional comments that are irresponsibly disseminated by the media.
4. **Populations that face cultural barriers:** These populations include indigenous populations that migrate to the cities and migrants from other countries that have language and cultural barriers, such as the Syrian residents of São Paulo (Brazil) and Haitian immigrants in Santiago (Chile). Tijuana (Mexico) and other cities along the United States border have a high proportion of Central Americans and people from other countries who want to migrate to the United States. In addition to obstacles stemming from illegal immigration, these groups face cultural and even language barriers in the delivery of health services.
5. **Migrant population:** Migration between neighboring countries of LAC is not a recent phenomenon. Buenos Aires (Argentina), for example, is the target of so-called silent immigration, which has accumulated over several years and now accounts for a significant number of undocumented immigrants. This phenomenon, however, has recently become a bigger issue due to the migration of Venezuelans to neighboring countries. Although Venezuelans are migrating to most countries of LAC, their numbers are particularly high in Colombia, which has recorded the regular or irregular immigration of approximately 2 million Venezuelans. The impact on public health facilities in the host countries is significant, because of the precarious current condition of curative and preventive services in Venezuela. In the case of vaccine-preventable diseases, this has specifically involved migration from one country, Venezuela, where a measles epidemic has been declared, to countries that had not previously reported indigenous cases prior to migration. Colombia has reported cases of measles in this migrant population, but few indigenous cases thanks to high vaccination coverage rates. The genotyping of measles cases in Brazil suggests that the imported cases originated in other countries besides Venezuela (cases in São Paulo with presence of D8 related to travel to Lebanon; Rio Grande do Sul with presence of B3 related to travel to Europe).[11]

   On the border between Venezuela and Colombia, actions have been taken to contain epidemics. The vast majority of Venezuelan migrants have begun or completed vaccination schedules. Some will eventually move to the large cities in search of job opportunities, where they may have access to free vaccination services. Fear of deportation limits the demand for these services. It is estimated that 25% of Venezuelan children are not vaccinated due to the parents' fear of being deported.

   In Peru, there has been significant migration from rural areas to Lima. This population uses health services less because the people are unaware of where they are located and the services they provide.
6. **Population with other access barriers:** There are population pockets with various problems in accessing vaccination services in the major cities of LAC. These populations include prisoners, the institutionalized children of incarcerated mothers, and homeless children. Lower vaccination coverage rates among the economically most privileged class and problems in accessing vaccination services in the slums have been reported in Brazil's largest cities. In all cities of the countries represented at the meeting there are populations in poverty belts who are isolated due to the lack or high cost of transportation services.

   Although these vulnerable groups have been conceptually identified, they have not been systematically profiled. In most of the countries represented at the meeting, the exact number of individuals comprising these groups, as well as their areas of geographic concentration and the beliefs and practices that may create barriers to vaccination, are unknown.

11 http://portalarquivos2.saude.gov.br/images/pdf/2018/agosto/29/Informe-Sarampo-n20.pdf

IDENTIFICATION OF ESSENTIAL DATA

National immunization information systems vary in the countries represented at the meeting, and at times even within the municipalities and cities in those countries. The basic data and indicators used in national reports and sent to international organizations are standardized and similar between countries, but the sources and collection, processing, and analysis systems differ. Table 1 shows the characteristics of some information systems to illustrate these differences.

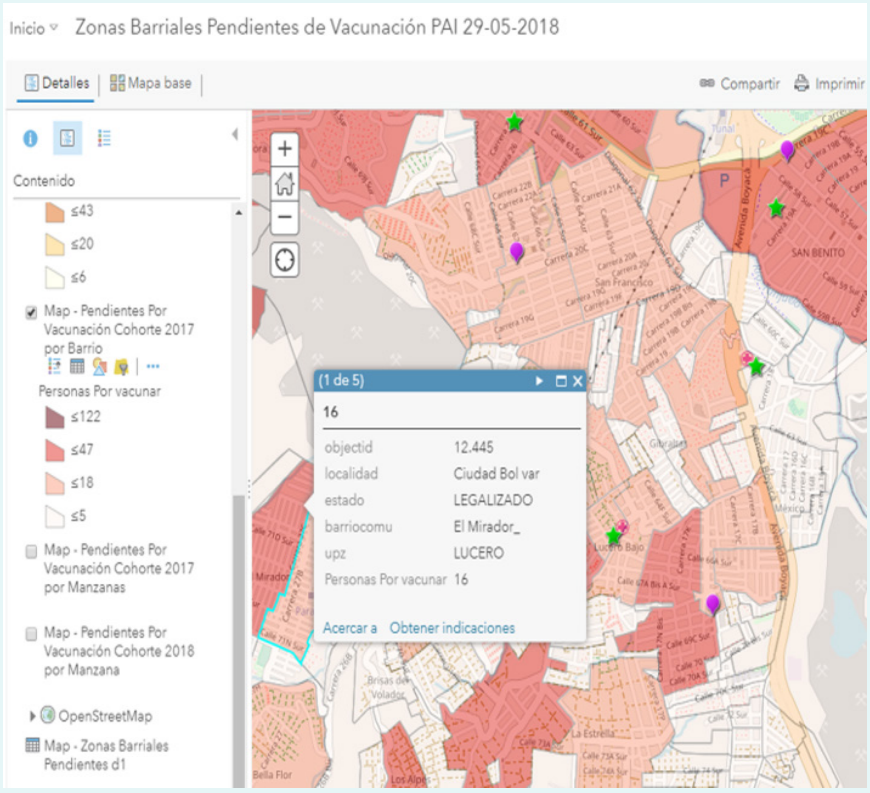
TABLE 1. CHARACTERISTICS OF IMMUNIZATION INFORMATION SYSTEMS

Country	Data and source		Finer level of geographical disaggregation	Processing and analysis
	Numerator	Denominator		
Argentina (Buenos Aires)	Vaccinations – public sector and social security funds	Census data and projections	Municipality	Nominal electronic immunization registry (EIR). Manual registries and central databases for aggregation.
Brazil	Vaccinations – public sector	Census data and projections	Municipality	EIR. Manual registries and central databases for aggregation.
Chile	Vaccinations – public and private sector registered electronically in terminals of vaccination centers	Census data and projections	Municipality. Georeferenced information enables identification of vaccinated and unvaccinated people and vaccination centers.	EIR. Online electronic application. Manual registry where there is no internet, for later entry.
Colombia (Bogotá)	Vaccinations – public and private sector registered electronically in terminals of vaccination centers	Certificate of live birth captured in maternity centers	Block/house. Georeferenced information enables identification of vaccinated and unvaccinated people and vaccination centers.	EIR. Manual registry where there is no internet, for later entry.
Ecuador	Vaccinations – public sector	Census data and projections	Municipality	Non-nominal. Manual registries and central databases for aggregation.
Honduras	Vaccinations – public sector	Census data and projections	Municipality	EIR. Manual registries and central databases for aggregation.
Peru	Vaccinations – public sector	Birth registration data in civil registry	Municipality	EIR. Manual registries and central databases for aggregation.

In general, and based on what was discussed by the working groups, the denominators based on birth records provide more accurate indicators than those based on censuses and projections. This requires maintaining an extensive network of reporting institutions in the public and private sector. Colombia uses these registries, and in addition to date of birth, includes addresses, telephone numbers, and other parent contact data, which facilitates closer monitoring in the cities. The indicators reported by Peru also use information from birth records as denominators, but there is no subsequent correlation between the record and the vaccinated (or unvaccinated) individual. Mexico, with the support of the Carlos Slim Foundation, is introducing a digital immunization schedule that records the vaccination status of children in an integrated national database.[12]

With few exceptions, these systems do not provide information that would make it possible to describe and design differentiated strategies for vulnerable groups in large cities, which were identified in the previous section. The city of Bogotá (Colombia) has a highly reliable and accurate online nominal information system that has been developed since 2005.[13] This system registers and monitors foreigners and has led to an increase in coverage rates in the Venezuelan migrant population (Figure 2). In Peru the immigration registry includes an individual's vaccination status, but this is not correlated with vaccination databases. In San Pedro Sula and Tegucigalpa (Honduras), there are maps showing red zones, but there is no nominal registry system for the children who live in them. In Brazil and Chile, the names of foreigners are entered in a registry, but they do not have standard identification documents.

FIGURE 2. **"PENDING VACCINATION" BASE MAP PREPARED BY EPI 2.0**



Source: Secretary of Health of Bogota, Colombia

12 More information: http://fundacioncarlosslim.org/cartilla-electronica-vacunacion/
13 Link to home page: http://appb.saludcapital.gov.co/pai/inicio/login.aspx

In the cities where vulnerable populations have low vaccination rates, it may be necessary to include vulnerability variables in basic and aggregated national registries: nationality, language, residence, workplace, and immigration status. Immunization program databases can be cross-referenced with other social program databases to supplement the information. Quantitative data could be supplemented by qualitative information that shows the reasons for refusing a vaccine, among other problems. In La Paz and El Alto in Bolivia, for example, the reasons for not receiving the human papillomavirus (HPV) vaccine are being recorded. In the absence of a reliable nominal registry database, the collection and analysis of this information must be done manually in the neighborhoods and communes where vaccination takes place, using primary sources of information (immunization certificates and cards) and indicators that are useful for making local decisions.

WORKING WITH PARTNERS

The delivery of vaccination services is highly dependent on the contribution of countless partners, although there are differences between partners in rural and urban areas. For example, while mothers, public services, and community leaders play the most relevant role in rural areas, in urban areas employers, private health providers, and the media must be considered. Unlike in rural areas, big city shopping centers are places where people commonly congregate.

The most relevant partners in the cities differ among the countries represented at the meeting, as far as how they address the vulnerable groups. In the cities of La Paz and El Alto in Bolivia, immunization is coordinated with the social security funds to achieve higher coverage rates among residents in bedroom communities; in Buenos Aires (Argentina) journalists and the scientific community play an essential role in increasing coverage in populations influenced by anti-vaccine groups; cities in Brazil are assisted by the fire department and the army for vaccination activities in violent neighborhoods, while in Tegucigalpa and San Pedro Sula (Honduras), negotiating with community leaders and gang leaders is preferred. Mexico has improved vaccination coverage rates in border cities through partnerships with medical associations and private providers; in Santiago (Chile) Haitian migrants that speak Spanish are hired to convey information in French; in Bogotá (Colombia) the immunization of Venezuelan migrants has been supported by taxi drivers, communication companies, and private institutional health service providers (IHSPs). Other countries represented at the meeting, such as Ecuador, also have vaccine-preventable disease eradication committees, whose members include private suppliers, the education sector, social security, and law enforcement agencies.

CASE: **VACCINATION AGAINST HPV IN BOLIVIA**

The introduction of the HPV vaccine in La Paz and El Alto (Bolivia) has to be coordinated with several actors. Only 51% of the population is covered by the Ministry of Public Health, which means that it was essential to work with social security funds and private providers to achieve high coverage rates. A multisectoral committee was organized with the participation of schools and institutes in order to refer schoolgirls to vaccination posts. Ministry physicians, who work in the communities, played an important role in the identification and referral of girls who do not attend school, and the media and community grassroots organizations supported social mobilization. Social participation in Bolivia has a constitutional basis, which contributes to the success of initiatives that are based on community mobilization.

IDENTIFICATION OF STRATEGIES

During the meeting, panels were organized with representatives of the disease control programs of cooperation agencies and representatives of countries that spoke on their experiences with vaccination (see agenda in Annex 2). The experience with the mass administration of drugs for lymphatic filariasis in Guyana, as well as the experience with controlling tuberculosis in the large cities of LAC, highlighted the need for initial epidemiological mapping to document the extent and location of the problem and formulating micro-plans that specifically address the target population. Implementation should follow an inter-programmatic and intersectoral approach and be supported by the main media sources in cities, where verbal communication between neighbors is limited. The interventions, particularly those that are innovative in nature, should be subject to monitoring and evaluation to correct courses of action in subsequent rounds.

In the discussion that followed the presentations, the representatives of the invited countries gave examples of interventions that are being implemented in the large cities.

- **Communication:** In Bogotá (Colombia) nominal registries include contact information, which is used to schedule personalized calls to the parents of unvaccinated children. This strategy has been accompanied by use of the media to identify the migrant population and promote vaccination services. The measles epidemic in Venezuela was included in messages communicated to the public by the media and in social networks. Given the target population, HPV vaccination in Chile has been supported by messages disseminated in scientific journals and social networks (Twitter and Facebook). The information included in the nominal registry system helps monitor the girls (and their parents) who initially refused the HPV vaccine, which resulted in them changing their mind in up to 30% of the cases.

- **Adaptation of vaccination services to the vulnerable population:** Traditional vaccination services have been adapted in some countries to meet the needs of vulnerable groups in the large cities. In the bedroom communities of Argentina and Brazil, the hours when vaccination is offered have been expanded, and includes weekends. Mobile units that support national vaccination weeks have been organized in cities along the United States–Mexico border, and in Colombia special vaccination campaigns are being conducted for Venezuelans in the areas where they are concentrated.
- **Targeting of vulnerable populations:** In Honduras a violence observatory has been organized, and up-to-date maps of red zones are being developed in conjunction with the responsible security institutions. In Colombia, the information included in nominal registries is used to determine the geographic location of the migrant population for referral to vaccination services. In Haiti, microplanning at the local level facilitates the design of interventions that are more specifically adapted to the community's needs.
- **Cooperation from *nontraditional* partners:** As mentioned in previous sections, the success of vaccination activities in large cities depends on partnerships with nontraditional actors. Honduras has hired vaccinators who live in and/or health professionals who are known in problematic neighborhoods to facilitate access and increase coverage. In Santiago (Chile), Haitian migrants that speak Spanish have been hired to facilitate communication with newly arrived fellow countrymen. In Mexico, national vaccination weeks have been organized throughout the country, with simultaneous actions to prevent vaccine-preventable diseases, diarrheal diseases, and acute respiratory infections, and to reduce nutritional deficiencies. Interventions such as these not only need to be coordinated with the health sector, but with other public institutions and the private sector.

In addition to these already implemented strategies, the working groups organized during the meeting identified other strategies for approaching vulnerable populations in the large cities which, although not fully implemented, merit consideration when designing approach strategies.

TABLE 2. VACCINATION STRATEGIES THAT COULD BE CONSIDERED IN THE LARGE CITIES OF LAC

Vulnerable populations	Strategies
Residents of bedroom communities	• Vaccination during evening hours • Vaccination in 24-hour services • Vaccination in the workplace • Vaccination at job fairs • Personal appointments coordinated with company employers (with children accompanied if their mothers work) • Transportation incentives • Vaccination at weekend markets • Use of electronic family file for monitoring • Vaccination during lunch hours

Vulnerable populations	Strategies
Residents in violent areas	• Educating community leaders and gangs • Joint work with the police • Coordination with NGOs or workers who already live in risk areas • Vaccination in public places • Training in negotiation and crisis situations for vaccinators • Conciliation meeting including gang leaders • Identification of incarcerated leaders to raise awareness of family and fellow gang members • Georeferencing
Influenced by anti-vaccine groups	• Communication activities at schools • Partnership with the media • Identifying and profiling anti-vaccine groups for persuasion work • Determining if vaccination is required by law (and use of compulsory vaccination, if necessary) • Partnerships with traditional medicine • Partnerships with scientific community • Working in social networks to promote vaccination and refute anti-vaccine messages • Training for journalists • Mobile app with information on vaccination • Partnerships with famous people to promote vaccination • Legal action against anti-vaccine groups • Communication protocols for addressing anti-vaccine groups • Workshops defending vaccines
Migrants	• Accurate profiling of migrant populations: where they live and work • Identification and training of spokespersons within the same group • On-site vaccination at places where migrant population congregates • Coordination with embassies and international agencies • Use of social networks to identify barriers and disseminate messages • Implementation of non-financial incentives • Promotion of vaccination in the migrants' language • Contacts with the government where the migrants are coming from • Training for staff on how to approach migrant population • Coordination with evangelical churches to identify migrants and disseminate messages • Use of mobile technology (Google Translate) as support in communications with foreigners • Georeferencing

Vulnerable populations	Strategies
Other barriers to access	• Transfers contingent on completed vaccination schedules • Participatory management meetings with vulnerable groups to identify social gaps (health, etc.) • Activities to share experiences of other similar groups • Anthropological analyses • Scholarships for people in vulnerable groups • Promotion strategies with adapted materials in native language • Include health in academic curriculum • Street clinics • Vaccination in civil registry offices • Vaccination integrated with other health services • Vaccination prizes/penalties for unvaccinated people • Vaccination linked to (or required for) public administrative procedures • Vaccination information on mobile apps

3

NATIONAL AND REGIONAL VACCINATION APPROACHES IN THE LARGE CITIES OF LAC

During the meeting's last session, participants worked in groups by country and identified the interventions that could be implemented to improve vaccination coverage rates in the large cities of LAC.

- Mexico, for example, proposed communication campaigns in the border cities to inform migrants that vaccination services are offered at no cost.
- Chile proposed coordination activities with the civil registry office for better identification of migrants and management of the institutional vaccination budget.
- Haiti would like to include higher education students to support vaccination campaigns. Other countries proposed more integrated actions, while focusing on vulnerable populations (older adults and indigenous peoples in the mountains and Amazon region).

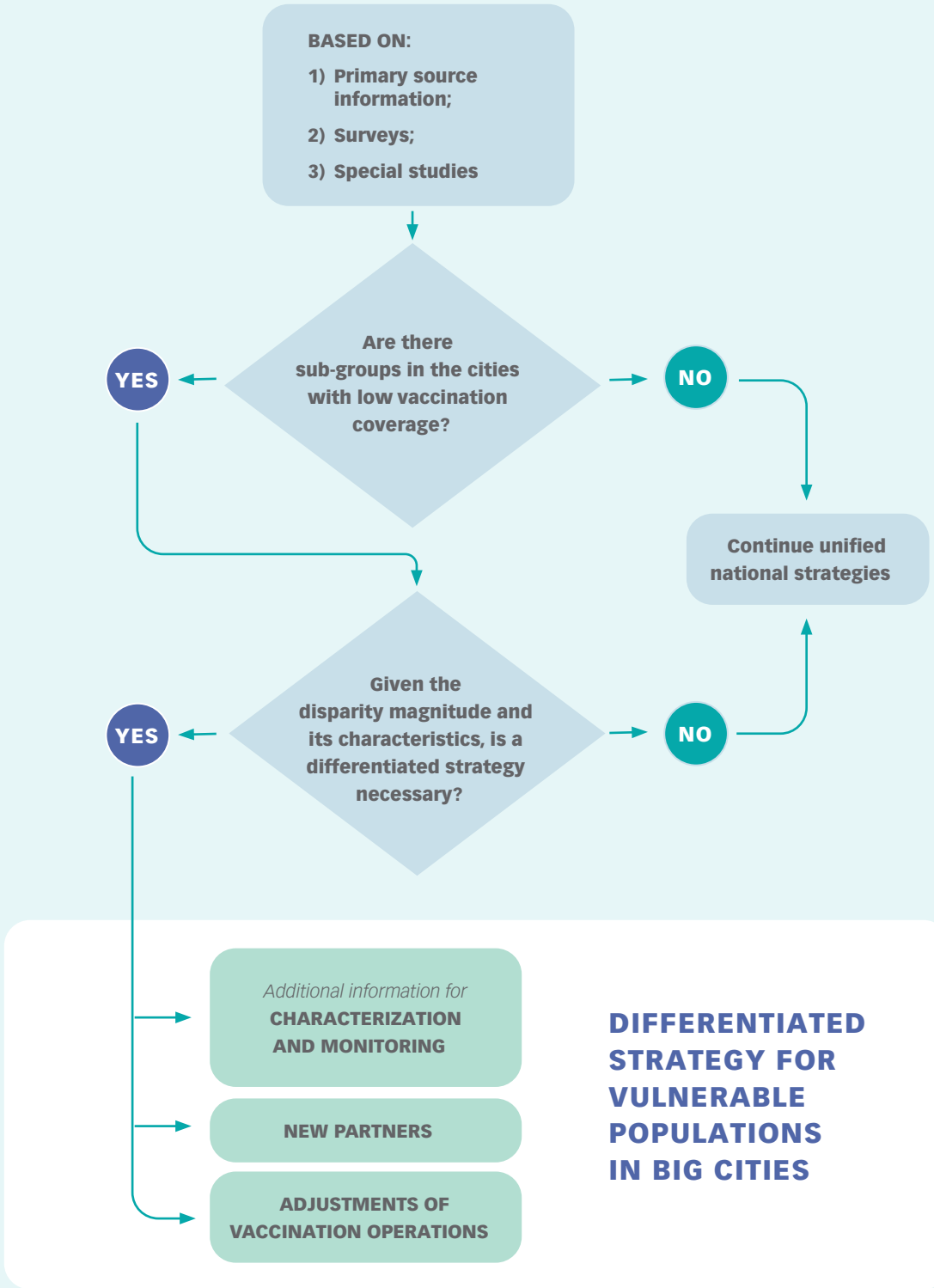
In general, the proposed interventions involve an expansion or reinforcement of normal immunization program activities and the implementation of innovative activities. In both cases, the approach will require more resources than has normally been allocated to immunization programs in the standard budget. The participants said that specific demands to reduce vaccination inequities in the large cities coincide with reductions in available staff, a lack of motivation, and lack of a budget increase for normal operations.

To address these challenges, a staged approach is needed based on currently available information in the countries to document if subgroups do in fact exist in the cities with low vaccination coverage. Should a preliminary analysis show that there are no significant gaps or that given the characteristics of the vulnerable group, closing these gaps does not warrant using a different approach, the national immunization program will only have to continue its regular operations (Figure 3). If, on the other hand, the magnitude of the gap is significant, and the characteristics of vulnerable groups do warrant a different approach from what is offered through the regular program operations, the identified intervention should be appropriately systematized, planned, budgeted, implemented, and evaluated.

The initial systematization may consider the topics that served as a framework for organizing this meeting:

- **Information for profiling and monitoring:** Collecting, processing, and analyzing existing data or additional information to be compiled as part of the new intervention will show: *how many there are, where they are located, what their barriers to access are,* as well as coverage indicators (specific to this subgroup).
- **Adjustment in program operations:** Details of activities, tasks, who is responsible, resources, and implementation modality: a) included in regular program operations; or b) associated vertical model.
- **Partners:** Identification of partners that will participate in implementation and the specific activities that will be assigned to them.

FIGURE 3. **DECISION TREE FOR IDENTIFYING AND IMPLEMENTING DIFFERENT STRATEGIES TO ADDRESS VACCINATION GAPS IN LARGE CITIES**



4

NEXT STEPS

Using the proposed approach, cities with clearly identified vulnerable groups and different approach strategies can be identified, although they are not fully systematized: Venezuelan migrants in Bogotá and populations living in the red zones of San Pedro Sula and Tegucigalpa, for example. Following this meeting, the experiences in these countries should be documented in simple case studies to: 1) systematize the interventions currently in progress and, on that basis, develop standardized procedures; and 2) share the experiences and results with other countries.

For those cities that have not identified vaccination coverage gaps between subgroups or implemented differentiated interventions, rapid studies should be conducted based on available information from secondary sources. Quantitative information can be supplemented by qualitative data (focus groups, anthropological observations) that show the causes of the barriers to accessing vaccination services. If these studies reveal significant inequities that could be remedied through differentiated interventions, the countries will develop specifically designed intervention proposals, based on the items suggested in the previous section.

A follow-up meeting could have the following objectives:

- Share and discuss the case studies of cities with advanced experiences;
- Present and analyze documented inequities in cities in which inequities among population subgroups are presumed to exist;
- Present and discuss the proposed activities to address the documented inequities.

This course of action will be supported by PAHO and other donors with the following technical assistance resources:

- Development of a proposed protocol to systematize case studies;
- Development of a proposed study protocol to evaluate gaps in vaccination coverage in vulnerable urban groups;
- Technical assistance for systematizing case studies, documenting coverage gaps, and developing intervention proposals;
- Organization of a regional meeting to present case studies and gap assessments and proposed interventions.

Participants from the Regional Meeting to Share Lessons Learned to Improve Immunization Rates in Urban and Peri-urban Populations.
Source: PAHO/WHO.

5

ANNEXES

ANNEX 1: LIST OF PARTICIPANTS

Participant name	Country/ organization
Alejandra Marcos	Argentina
Cristian Biscayart	Argentina
Lucconi Grisolia	Argentina
Mariana Dunaiewsky	Argentina
Patricia Torrilla	Argentina
Rosana Noemi Bossio	Argentina
Sandra Marcela Belfiore	Argentina
Boris Chang Cheng	Bolivia
Maria Rene Arevalo de Rojas	Bolivia
Marioly Reyes	Bolivia
Rosio Gemio	Bolivia
Susana Solano Romero	Bolivia
Maria Cristina Ferreira Lemos	Brazil
Maria Lígia Bacciotte Ramos Nerger	Brazil
Marta Helena Paiva Dantas	Brazil
Nubia Araujo	Brazil
Valter Montes de Almeida	Brazil
Carolina Andrea Arellano Falcon	Chile
Daniela Espinoza	Chile
Ivonne Delgado Frías	Chile
Monica Cecilia Hernandez Reyes	Chile
Paola Sepúlveda Alarcón	Chile
Diego Alejandro García Londoño	Colombia
María Consuelo Arteaga Mejía	Colombia
Norma Constanza Hernández Melo	Colombia
Patricia Arce Guzmán	Colombia
William Eduardo Gómez Ramírez	Colombia
Carmen Vasquez	Ecuador
Gissela Isabel Bedoya Delgado	Ecuador

Participant name	Country/ organization
Miryan María Palacios Zumba	Ecuador
Verónica Irene Segovia Unda	Ecuador
Jeanne Kettie Paul	Haiti
Marie Rose Bonnet	Haiti
Paule Andrée Louis Byron	Haiti
Elizabeth Arias	Honduras
Glenda Mondragon	Honduras
Ida Berenice Molina	Honduras
Sara Sierra	Honduras
Silva Lopez	Honduras
Blanca Guadalupe Evangelista Torres	Mexico
Cesar Misael Gomez Altamirano	Mexico
Antolina Colman	Paraguay
Edith Servian	Paraguay
Ana María de la Fuente Verde	Peru
Lilia Haydee Vega Anchante	Peru
María Elena Martínez Barrera	Peru
Maria Susana Panero	U.S. Centers for Disease Control and Prevention
Colin Paterson	External consultant
Daniella Figueroa-Downing	Gavi
Michel Othepa	JSI
Emilia Cain	PAHO/Mexico
Mirta Magariños	PAHO/ Argentina
Viviana Andrea Calderón Ramírez	PAHO/ Colombia
Maria Soledad Urrutia	PAHO/WDC
Robin Mowson	PAHO/WDC
Marcela Contreras	PAHO/WDC
Martha Velandia	PAHO/WDC

Regional Meeting to Share Lessons Learned to Improve Immunization Rates in Urban and Peri-urban Populations

Buenos Aires, 6–8 June 2018

BACKGROUND

Immunization programs in the Americas contributed to attainment of the Millennium Development Goals and will be a key component for achieving the Sustainable Development Goals. However, during the period from 2011 to 2017 it was shown that regional coverage for DTP3 fell from 94% in 2011 to 91% in 2015. It was also observed that approximately 50% of the region's municipalities do not achieve more than 95% coverage. The problems are particularly relevant in large cities due to high population density and the difficulty of establishing denominators that can be used to identify and correct problems in coverage rates.

In September 2015, the 54th Directing Council of the Pan American Health Organization (PAHO) approved the Regional Immunization Action Plan (RIAP) as the guiding framework for immunization in the Region of the Americas. The purpose of this plan, which is in line with the World Health Organization's Global Vaccine Action Plan (GVAP), is to continue to move forward and overcome the immunization-related challenges currently faced by countries in the Region.

With this goal in mind, PAHO will conduct a regional meeting to analyze and discuss vaccination strategies in urban and peri-urban areas and agree on national and regional interventions to address the identified problems.

GENERAL OBJECTIVE

Share lessons learned in order to improve immunization rates in urban and peri-urban populations and develop strategies for increasing vaccine access and use.

SPECIFIC OBJECTIVES

1. Review, share, and document experiences and strategies related to vaccination in urban and peri-urban populations of the Region of the Americas.
2. Identify effective vaccination strategies especially targeted to populations in disadvantaged poor areas in the Region of the Americas.

AGENDA

DAY 1

Time	Activity	Responsible Party	Methodology
7:30-8:50	Registration		
9:00-9:10	Welcome	PAHO PWR Argentina	
9:10-9:20	Opening session	Ministry of Health Argentina	
9:20-9:30	Presentation on safety	Safety Coordinator, United Nations	
9:30-9:40	Meeting methodology	Marcela Contreras, PAHO/WDC	
9:40-10:00	Global update on urban immunization trends	Gavi	

10:00-10:20	Regional update on urban immunization trends	Dr. Cuauhtémoc Ruiz-Matus, PAHO/WDC	
10:20-10:40	Participant comments		
10:40-11:00	Break		
Session 1. **Identifying target populations**			
Time	Activity	Responsible Party	Methodology
11:00-11:15	Presentation: Colombia	Moderator and facilitator: Marcela Contreras	Oral presentation following the suggested oral presentation guidelines. Session 1. Following group discussion guidelines. Session 1.
11:15-11:30	Presentation: Honduras		
11:30-12:30	Working group session		
12:30-1:30	Lunch		
1:30-2:30	Group presentations	Moderator and facilitator: Marcela Contreras	Following group presentation guidelines. Session 1
2:30-3:00	Plenary discussion		
3:00-3:20	Break		
Session 2. **Identifying essential data**			
Time	Activity	Responsible Party	Methodology
3:20-3:35	Presentation: Bogotá, Colombia	Moderator and facilitator: Martha Velandia	Oral presentation following the suggested oral presentation guidelines. Session 2. Following group presentation guidelines. Session 2.
3:35-3:50	Presentation: City of Buenos Aires, Argentina		
3:50-4:05	Presentation: Peru		
4:05-5:05	Working group session	Moderator and facilitator: Martha Velandia	
5:05-6:05	Group presentations		
6:05-6:35	Plenary discussion		

DAY 2

Session 3. **Working with partners**			
Time	Activity	Responsible Party	Methodology
8:30-8:45	Presentation: Haiti	Moderator and facilitator: Marcela Contreras	Oral presentation following suggested oral presentation guidelines. Session 3
8:45-9:00	Presentation: Bolivia		
9:00-9:15	Presentation: Ecuador		
9:15-10:15	Working group session		
10:15-10:30	Break		
10:30-11:30	Group presentations	Moderator and facilitator: Marcela Contreras	Following group presentation guidelines. Session 3
11:30-12:00	Plenary discussion		
Session 4. **Identifying integrated strategies**			
Time	Activity	Responsible Party	Methodology
12:00-12:35	Country panel • São Paulo • Rio de Janeiro • Chile • Mexico • Paraguay	Moderator and facilitator: Martha Velandia	Presentation, following presentation guidelines Session 4. Seven (7) minutes per participant.

12:35-1:35	Lunch		
1:35-2:00	Plenary discussion		
2:00-3:00	• Panel of experts from other public health programs • Large cities tuberculosis initiative • Lymphatic filariasis program/ Guyana • Strengthening health services to improve the coverage of public health interventions in large cities	Moderator and facilitator: Martha Saboya	Oral presentation following presentation guidelines. Session 4. Ten (10) minutes per participant.
3:00-3:30	Plenary discussion		
3:30-3:50	Break		
Session 5. **Next steps**			
3:50-4:50	Country working group session	Moderator and facilitator: Marcela Contreras	Following group presentation guidelines. Session 5

DAY 3

Time	Activity	Responsible	Methodology
9:00-10:30	Presentation of country working group session	Moderator and facilitator: Marcela Contreras	Following group presentation guidelines. Session 5
10:30-10:45	Break		
10:45-12:00	Plenary discussion and group consensus-building	Moderator and facilitator: Marcela Contreras	With the support of Mentimeter®
12:00-1:00	Commitments	Martha Velandia	
	Closing session		

Session 1: Identifying target populations

SUGGESTED GUIDELINES FOR ORAL PRESENTATIONS

Countries

- Colombia: Identifying target population in immigrant groups
- Honduras: Identifying target population in areas with social instability

Session objectives

1. Share and discuss strategies to identify and profile target populations in urban areas
2. Identify barriers to vaccination in different target urban populations
3. Identify strategies to better identify and profile those population groups

Suggested guidelines for oral presentations

Each presentation will last 15 minutes. The following sequence of slides is suggested for country/city presentations.

Title	Contents	Comments
Introduction (1 slide)	Name of country (and city, if applicable). Name of speaker/s. Position.	
Description of target populations (2 slides)	Name and description of the populations, demographic and social characteristics, geographic location.	Type (migrants, red zones, etc.); location on map, if possible, number of residents (children to be vaccinated).
Barriers to vaccination (2 slides)	Specific barriers to improving access for these population groups (geography, violence, immigrant status).	Comparative vaccination coverage rates, if possible; what are the specific barriers to: a) identifying and profiling the groups; and b) improving vaccination coverage.
Identification and profiling strategies (2 slides)	Strategies used by the country to better identify and profile these populations.	What strategies the country has implemented or plans to implement to improve identification and profiling. Brief description of illustrative experience, if any.

Session 1: Identifying target populations

GROUP DISCUSSION GUIDELINES

1. Each group will appoint a rapporteur and secretary who will compile the consensuses in a PowerPoint presentation.
2. Suggested guiding questions for discussion are:
   Are there target population groups with specific problems in accessing vaccination in the represented countries?
   Have these populations been sufficiently identified and profiled?
   What successful strategies have been used to identify and profile them?
3. Based on the discussions and group consensus, the rapporteur will prepare and present the following slides at the plenary session:

Title	Contents	Comments
Introduction (1 slide)	Group number. Represented countries.	
Identification of target populations (1 slide)	Table with 3 columns: 1) Country; 2) Target population (name); 3) Profile and barriers to access.	Example: Brazil, Garimpos, approximately xx children of vaccination age; vaccinators and interviewers cannot enter.
Identification and profiling strategies	Table with 2 columns: 1) Country; 2) Illustrative strategy.	Example: Surveys and censuses conducted by gangs.

Session 2: Identifying essential data

SUGGESTED GUIDELINES FOR ORAL PRESENTATIONS

Countries/cities:

- Bogotá, Colombia: Use of the nominal registry system to improve the analysis of vaccination and define vaccination strategies in urban areas.
- City of Buenos Aires, Argentina: Use of the nominal registry system to improve the analysis of vaccination and define vaccination strategies in urban areas.
- Peru: Use of the registry to identify the entire population.

Session objectives

1. Identify the information required to improve the analysis of vaccination in urban areas.
2. Identify strategies and sources of information to obtain disaggregated data based on the target population.
3. Identify the most useful computer tools to improve the processing and analysis of vaccination data in urban areas.

Suggested guidelines for oral presentations

Each presentation will last 15 minutes. The following sequence of slides is suggested for the country/ city presentations:

Title	Contents	Comments
Introduction (1 slide)	Name of country (and city, if applicable). Name of speaker/s. Position.	
Required information (1 slide)	Variables and indicators [in your city] that are required in order to have disaggregated information in urban areas.	In addition to the standard information that is collected, are other data, variables, and indicators in urban areas required? Which ones?
Available information (1 slide)	Information that is available and information gaps.	If applicable, what information is actually available? What is the gap between the information needed and the information currently available?
Strategies for collecting essential data (1 slide)	Strategies already in use (illustrative example) or planned to obtain essential data.	How does your city intend to bridge these information gaps? If an intervention has already been or is currently being implemented, briefly describe it.
Computer tools (1 slide)	Tools already in use or planned for information processing and analysis.	What computer tools would make it possible to process and analyze the information in a more streamlined and accurate manner? If any tools are already being used or are in the process of being implemented, briefly describe them.

Session 2: Identifying essential data

GROUP DISCUSSION GUIDE

1. Each group will appoint a rapporteur and secretary who will compile the consensuses in a PowerPoint presentation.
2. Suggested guiding questions for discussion are:
   a. In the represented countries that have identified data (in addition to what was already presented), what would make it possible to have more accurate disaggregated information in urban areas?
   b. Of the required data, what information is actually being collected and reported?
   c. Does the group have illustrative examples of strategies for obtaining the required data and tools for more streamlined and accurate processing of information?
   d. What information is used the most to improve vaccination in areas of the large cities?
3. Based on the discussions and group consensus, the rapporteur will prepare and present the following slides at the plenary session:

Title	Contents	Comments
Introduction (1 slide)	Group number. Represented countries.	
Required and collected data (1 slide)	Table with 2 entries: in "y," name of countries; in "x," required data (group consensus); in the cells, a check next to the data that are actually being collected and reported.	This is different data from what is usually collected and used in vaccination.
Strategies to obtain and process data (1 slide)	One or two illustrative experiences of data collected for urban populations and innovative tools for processing and analyzing it.	These are different experiences with data collection and tools from what is usually used in vaccination.

Session 3: Working with civil society partners/agents

SUGGESTED GUIDELINES FOR ORAL PRESENTATIONS

Countries/cities:

- Bolivia: Experience working with partners, including the community, to increase vaccination coverage in large cities.
- Haiti: Experience working with partners, including the community, to increase vaccination coverage in large cities.
- Ecuador: Experience working on the integration of health services to ensure vaccination coverage in large cities.

Session objectives

1. Identify the distinctive characteristics of community and civil society participation in rural versus urban vaccination services.
2. Identify the civil society partners/agents that currently support vaccination in urban areas.
3. Identify the civil society partners/agents that are not currently involved in vaccination in urban areas but could potentially provide effective support.
4. Reach a consensus on better strategies to involve new civil society partners/agents.

Suggested guidelines for oral presentations

Each presentation will last 15 minutes. The following sequence of slides is suggested for the country/city presentations.

Title	Contents	Comments
Introduction (1 slide)	Name of country (and city, if applicable). Name of speaker/s. Position.	
How the participation of community and civil society differs (1 slide)	Double-entry table showing similarities and differences between community and civil society participation in urban areas (column 1) and rural areas (column 2).	Particular emphasis on differences. For example: available hours; activities; majority participation by men or women, etc.
Partners that support vaccination (1 slide)	Double entry table with the name of the partner and the activities it performs.	In addition to name, identify if the partner is: a public, private, or private nonprofit institution (NGO).
Partners that could be mobilized (1 slide)	Table with 3 columns: 1) Name of the partner; 2) Activity it could support; 3) Strategy for getting the partner involved.	

Session 3: Working with civil society partners/agents

GROUP DISCUSSION GUIDELINES

1. Each group will appoint a rapporteur and secretary who will compile the consensuses in a PowerPoint presentation.
2. Suggested guiding questions for discussion are:
   a. In the represented countries, are there differences between community participation and civil society participation in urban and rural areas? Where is it most effective?
   b. Which partners currently support vaccination in urban areas in the represented countries?
   c. What partners could potentially do it, and what strategy could be used to get them involved?
3. Based on the discussions and group consensus, the rapporteur will prepare and present the following slides at the plenary session:

Title	Contents	Comments
Introduction (1 slide)	Group number. Represented countries.	
Differences between community participation and civil society participation in urban areas (1 slide)	Identification of the characteristics that differentiate their participation in urban and rural areas.	Only one list of the main differences (no more than 5-8).
Partners involved in vaccination in urban areas (1 slide)	Table with 4 columns: 1) Generic name of the current or potential partner; 2) Does it currently participate? (yes/no); 3) Activity it supports or could support; 4) Strategy to keep their support or get them involved.	Examples of a generic name (to avoid differences between countries): catholic church; student groups; elementary school teachers, etc.

Session 4: Identifying integrated strategies

SUGGESTED GUIDELINES FOR ORAL PRESENTATIONS

Countries/cities:

- São Paulo and Rio de Janeiro (Brazil): Experience working with yellow fever vaccination in large cities.
- Chile: Experience working with HPV vaccination in large cities.
- Mexico: Experience working with children's health weeks in large cities.
- Paraguay: Inter-programmatic work experience in large cities.

Session objectives

1. Based on the contributions made in previous sessions and by the panelists in this session, identify integrated strategies to improve vaccination in urban areas.
2. Determine if the identified integrated strategies are applicable to the institutional and social context of the countries or cities represented.

Suggested guidelines for oral presentations – countries panel

Each panelist's presentation will last 7 minutes. The following sequence of slides is suggested for the country/city presentations:

Title	Contents	Observations
Introduction (1 slide)	Name of country (and city, if applicable). Name of speaker/s. Position.	
Summary of the experience (2 slides)	Summary of the integrated experience[14] with the requested vaccination.	
Facilitators/Obstacles (2 slides)	What conditions were conducive to implementation? What conditions hindered it? What were the outcomes?	

Countries panel discussion

- Which of the experiences mentioned during the meeting do you think could be effective in your country/city? What conditions would be conducive to or would hinder their implementation?

14 That considers the identification and profiling of populations, inclusion of other partners, etc.

Session 4: Identifying integrated strategies

SUGGESTED GUIDELINES FOR ORAL PRESENTATIONS – OTHER PUBLIC HEALTH PROGRAMS PANEL

The following content is recommended for the program presentations. Each presenter has 15 minutes.

Title	Contents	Comments
Tuberculosis initiative in large cities	Challenges and lessons learned from the tuberculosis initiative in large cities	Please give a summary of the experience and emphasize the following: What conditions were conducive to implementation? What conditions hindered it? What were the outcomes?
Implementation of mass treatment of lymphatic filariasis in Georgetown (Guyana)	Challenges and lessons learned from implementation of the mass treatment of lymphatic filariasis in Georgetown (Guyana)	Please give a summary of the experience and emphasize the following: What conditions were conducive to implementation? What conditions hindered it? What were the outcomes?
Strengthening of health services to improve the coverage of public health interventions in large cities	How to strengthen health services to improve the coverage of public health interventions in large cities	Please emphasize the following: What conditions from health services are conducive to the implementation of public health interventions in large cities? What conditions hinder it? How can these challenges be addressed?

Panel discussion by experts from other public health programs

- What strategy has been used by the public health program where you work to improve service delivery in urban areas?
- How is that strategy different from the one used in rural areas?
- What aspects do you think could be applicable to improve vaccination in urban areas?

Session 5: Next steps

SESSION OBJECTIVES

1. Based on the input provided in the previous sessions, identify the main problems facing vaccination in urban areas in your country/city.
2. Determine the strategies that would help address the aforementioned problems in your country/city and the national resources that would be required.
3. Suggest areas that could be supported by regional technical cooperation to improve vaccination in urban areas.

Group discussion guidelines

1. Working groups in each country will be organized.
2. Each group will appoint a rapporteur who will compile the consensuses in a PowerPoint presentation, following the guidelines listed below.

Title	Contents
Introduction (1 slide)	Name of country. Names of participants.
Priority intervention areas (problems)	No more than 5 intervention areas
Next steps	See below

Intervention area (problem)	Strategy[15]	National resources required to implement it	Areas for regional technical cooperation support
1			
2			
3			
4			
5			

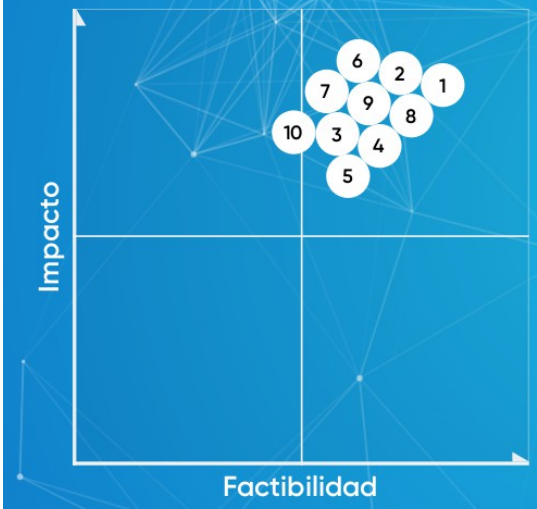
15 Depending on the problem, the strategies could be implemented at the district/municipality, subnational, or national level.

ANNEX 3: RESULTS OF GROUP CONSENSUS REACHED BY VOTE[16]

16 Most of the responses from the surveys came from Spanish-speaking countries, which is why the larger words appear in Spanish.

Impacto y factibilidad de intervenciones nacionales

Mentimeter

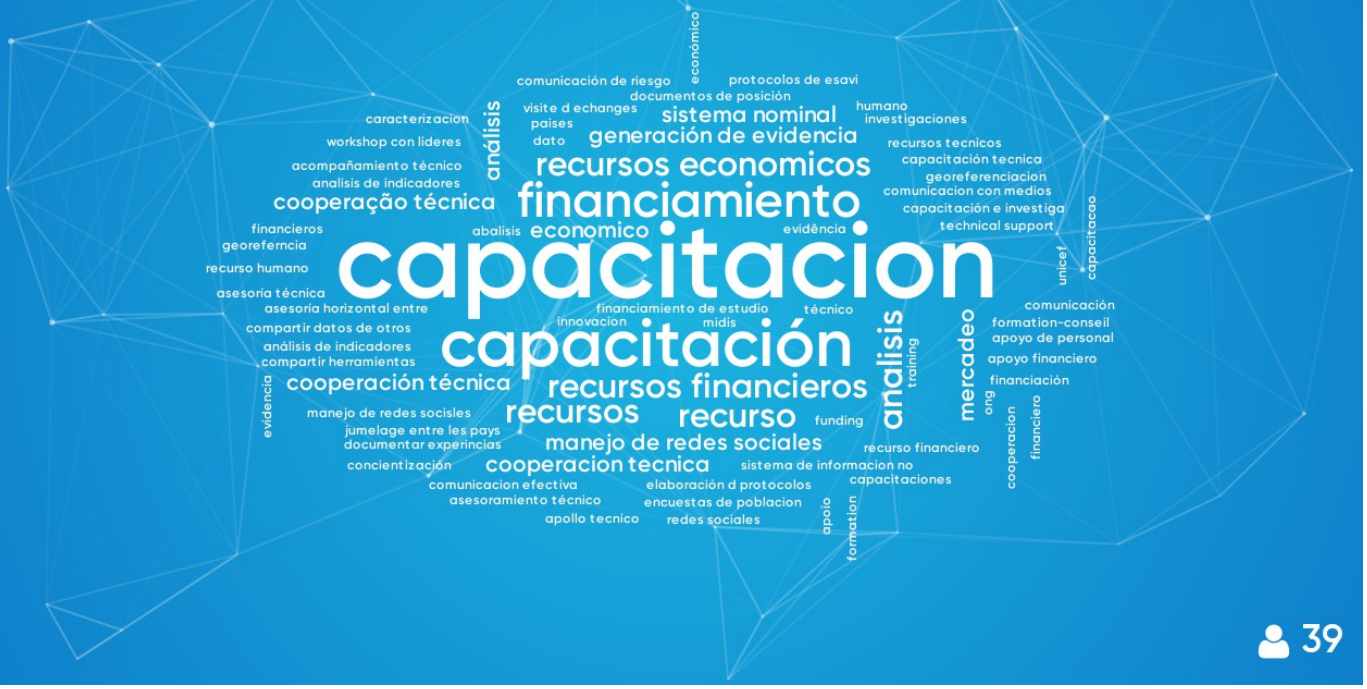


1. Participacion comunitaria
2. Fortalecimiento de sistemas de informacion
3. Mercadeo/Comunicacion social
4. Aumento de oferta de servicio (Ampliacion de horarios de atencion)
5. Estudios cualitativos
6. Ferias de salud
7. Georeferenciarlos/mapa de la poblacion
8. Capacitacion a los equipos de salud
9. Negociacion con los lideres de grupos
10. Acciones legales o regulaciones

40

Apoyo de la OPS y otros socios

Mentimeter



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