



Immunization in the Democratic Republic of the Congo

**Landscape Analysis and
Policy Recommendations**

SEPTEMBER 2016



ACKNOWLEDGMENTS

PATH acknowledges the efforts of key stakeholders who contributed enormously to the development of this document. Special thanks go to the following government institutions for taking the time to share useful information on immunization in the Democratic Republic of the Congo: Ministry of Finance, Ministry of Budget, and the Ministry of Health's Expanded Program on Immunization and Department of Research and Planning. We also extend our sincere thanks to partner organizations—especially Gavi, the Vaccine Alliance; World Health Organization; UNICEF; Sabin Vaccine Institute; Red Cross; and local civil society platform Soins de Santé Primaires en Milieu Rural et Urbain/Primary Health Care in Rural and Urban Areas—for committing time and providing information to enrich this landscape assessment of the immunization policy environment in the Democratic Republic of the Congo.

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Suggested citation: PATH. *Immunization in the Democratic Republic of the Congo: Landscape Analysis and Policy Recommendations*. Seattle: PATH; 2016.

Cover photo: PATH/Felix Masi

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ABBREVIATIONS

cMYP	Comprehensive Multi-Year Plan for Immunization
DRC	Democratic Republic of the Congo
DTP3	Diphtheria Tetanus Pertussis
EPI	Expanded Program on Immunization
EVM	Effective Vaccine Management
GVAP	Global Vaccine Action Plan
HSS	Health Systems Strengthening
ICC	Interagency Coordination Committee
LMIS	logistics management information system
MOH	Ministry of Health
NHDP	National Health Development Plan
REPACAV	Réseau des Parlementaires Congolais pour l'Appui à la Vaccination/ Parliamentarian Network for Immunization Financing
UNICEF	United Nations Children's Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

During the past 25 years, the Democratic Republic of the Congo (DRC) has made progress in improving the health of women and children. Thanks to government commitments and many policies that prioritize maternal, newborn, and child health, mortality rates have declined and more people are accessing important health services, including immunization. However, many Congolese families still lack access to high-quality essential health services that could prevent and treat major causes of death. Inadequate resources for health remain one of the largest obstacles to further mortality reductions. In 2013, the health budget represented only 3.5 percent of total gross domestic product, and disbursement delays and competing priorities often affect the coverage, consistency, and quality of services (World Health Organization Global Health Data Repository, available at www.who.int/gho/database/en/).

In early 2016, PATH undertook a landscape analysis to better understand the policy environment for immunization in the DRC and to identify opportunities where stronger leadership, improved coordination, and policy change could result in higher routine immunization coverage. Immunization remains one of the most critical public health interventions for mothers, newborns and children in the DRC. The analysis included policy reviews as well as interviews with stakeholders and decision-makers who govern immunization in the DRC. The report examines the

main immunization challenges related to vaccine management and delivery and delays in domestic financing commitments. To ensure all women and children have equitable access to immunization programs, PATH offers the following recommendations:

- Hold local and national government officials accountable for delivering on the construction of three warehouses.
- Implement a logistics management information system (LMIS) to improve the quantification, procurement, and delivery of vaccines from the national to provincial to health zone levels.
- Enact legislation to make domestic financing for immunization a required expenditure in the national budget.
- Disseminate immunization policies to newly elected provincial authorities to ensure policy uptake and implementation.
- Improve health care worker hiring, skills, and retention through regular trainings and opportunities for advancement.
- Develop a policy framework to clarify roles and responsibilities among national, provincial, and health zone authorities.

Actions to implement these recommendations will help to increase access to immunization and create a brighter future for women, newborns, and children in the DRC.

INTRODUCTION

Located in the center of Africa, the DRC extends across an area of 2,345,409 km squared, about two-thirds the size of Western Europe (Figure 1). With a population of 77 million people, the country is geographically and culturally diverse, with large numbers of remote, virtually inaccessible communities. Following decades of conflict, the DRC has made significant progress in rebuilding its collapsed health care system. Immunization is a key political priority, with commitments to strengthen immunization programs and increase financing emanating from the highest levels of the government.

At the African Ministerial Conference in February 2016, DRC's Minister of Health Félix Kabange Numbi Mukwampa, endorsed the resulting declaration on universal access to immunization as a cornerstone for health and development in the DRC. More specifically, the government committed to improving access to immunization to reduce child mortality and morbidity; increasing and sustaining domestic investments and funding allocations; and achieving high-quality

FIGURE 1. The DRC covers an area two-thirds the size of Western Europe.



surveillance for targeted vaccine-preventable diseases in the DRC. These commitments build on the 2011–2020 Global Vaccine Action Plan (GVAP), in which the DRC has pledged to increase national and provincial vaccine coverage rates.

These commitments reinforce national policies that prioritize universal access to essential vaccines. The country's National Health Development Plan recognizes immunization as a critical part of health programs. The Health Systems Strengthening Strategy focuses on improving the skills of health care workers to safely administer vaccines and collect coverage data. However, these global commitments and national policies have not led to the resources and systems needed to reach the DRC's most vulnerable communities.

The DRC's national health budget is equivalent to US\$70 million—among the smallest in the world, leaving basic health services inaccessible for most, and contributing to poor health, including fewer than half of children aged 12 to 23 months receiving vaccinations, and one out of seven dying from vaccine-preventable diseases before age five. (DRC Comprehensive Multi-Year Plan, 2015–2019).

The country's health system is largely donor dependent; in 2012, the government supplied only 8 percent of the country's immunization budget (Gavi DRC co-financing information sheet, February 2016; available at www.gavi.org/country/drc/). Despite doubling budget allocations during the past four years, current resources do not meet the needs for vaccine delivery across the country. Further, the allocated funds are often compromised by delays in disbursements. In 2015, for example, the government committed \$8.37 million to finance immunization services but disbursed only \$2.37 million (28 percent). The government's commitment for 2016 increased to \$10 million to accommodate the introduction of new vaccines, but has not yet released funds for 2016 as of mid-year.

As part of a 2006 constitutional mandate, the DRC government decentralized in 2015, giving unprecedented decision-making authority to newly appointed provincial government officials and further complicating the provision of health care services and resource allocations. Many provinces are in the process of establishing government structures, including the provincial assembly, governor, minister of health, and other key decision-makers. In this time of political uncertainty, policies and budgets for vaccine procurement and delivery remain unclear, and many of the DRC's women, newborns, and children remain unable to access immunization services.

PURPOSE AND METHODS OF THE POLICY LANDSCAPING STUDY

The purpose of this landscaping analysis is to better understand the immunization policy environment in the

DRC and identify the policies, laws, ministerial orders, directives, and other regulations that govern routine immunization. The analysis included a desk review of key policies and guidelines related to immunization coverage and financing and key informant interviews with representatives from the Ministry of Health (MOH); the Expanded Program on Immunization (EPI) at the national, provincial, and health facility levels; UNICEF; World Health Organization (WHO); Gavi, the Vaccine Alliance; Sabin Vaccine Institute; and health development partners in the DRC. This report identifies challenges and offers recommendations to improve vaccine delivery, financing, and coverage to ultimately improve health outcomes for families and communities in the DRC.

POLICY ENVIRONMENT FOR IMMUNIZATION

National immunization policies and plans

As in many countries, the DRC has a plethora of policies and plans that govern the health sector, and immunization specifically. These policies and plans provide a roadmap for national and provincial governments to develop and implement immunization services for all women, newborns, and children. Some of the most important policies for immunization are detailed in Table 1.

Key stakeholders in the immunization program

Even the most robust policy space relies on key partners and coalitions to ensure that policies are implemented and result in good health outcomes. The DRC is no exception; there is a strong contingent of government leaders and stakeholders who work to oversee and improve immunization access and delivery. Table 2 identifies some of the most influential leaders and stakeholders.

IMMUNIZATION IN THE DEMOCRATIC REPUBLIC OF THE CONGO

Overview

The immunization program is led by the EPI at the central level. Every five years, the EPI develops an outlook called the Comprehensive Multi-Year Plan (cMYP) that includes an estimation of vaccine needs, cold chain supplies, and other immunization-related equipment necessary to sustain the immunization program for the designated timeframe. The EPI works with its local counterparts to quantify vaccine needs for each of the 516 health zones. This information is then shared with UNICEF, which procures traditional vaccines and immunization supplies (e.g. syringes, vaccine carriers, and cold boxes to store

TABLE 1. National policies and plans that guide immunization activities in the DRC.

PLAN, POLICY, OR STRATEGY	CONTENT
Annual Operating Plan	The EPI prepares an annual operational work plan each year to guide and inform immunization activities at the national and provincial levels.
Health Systems Strengthening (HSS) Strategy	The HSS Strategy focuses on building the capacity of health workers to administer vaccines, adhere to injection safety procedures, and collect surveillance data. It also seeks to improve the efficiency of cold chain equipment so that women and children can access high-quality immunization programs in their communities.
National Health Development Plan (NHDP) 2016–2020	This plan aims to improve the quality and accessibility of health services and outlines objectives for achieving universal health coverage. The NHDP seeks to increase the national child immunization rate from 45.5 to 80 percent, with increased prioritization for zones with the hardest to reach communities.
National Economic Growth and Poverty Reduction Strategy	Through increased investments in health, the government aims to spur economic growth and reduce inequality among women and children. The plan contains immunization coverage targets similar to those in the NHDP.
Comprehensive Multi-Year Plan (cMYP) 2015–2019	As the EPI's five-year strategy, this plan outlines specific benchmarks to achieve by 2019, including vaccine coverage rates, introduction of new vaccines, management of logistics and equipment, development of staff capacity, and reduction of specific disease burdens. The cMYP also prioritizes advocacy for increased resource mobilization for vaccine programs.
Effective Vaccine Management (EVM) Improvement Plan	The EVM Improvement Plan outlines key actions the government will adopt to strengthen the immunization supply chain, including implementing a cold chain temperature monitoring system and vaccine inventory protocols. This plan is informed by the recommendations set forth in the WHO/UNICEF EVM assessment document.

TABLE 2. Key stakeholders involved in immunization in the DRC.

ENTITY	RESPONSIBILITIES
Expanded Program on Immunization (EPI), Ministry of Health	At the national level, the EPI oversees all immunization activities; it is responsible for strengthening routine immunization, delivering community mobilization campaigns for immunization, improving vaccine-preventable disease surveillance, and introducing new vaccines. The EPI also governs program coordination and management, cold chain maintenance, and procurement and delivery of traditional vaccines.
Ministry of Finance (MOF) and Ministry of Budget (MOB)	The MOB prepares and signs off on all government budgets, including the health budget. The MOF oversees the disbursement of all funds, including those for immunization.
Immunization Advocacy and Communications Task force	Led by the EPI, this task force seeks to efficiently use vaccine resources and reduce duplication among immunization partners. The task force coordinates activities related to the introduction of new vaccines, addresses challenges, and identifies areas for increased collaboration.
Interagency Coordination Committee (ICC) on Child Health	Chaired by the Minister of Health, the Child Health ICC includes strategic partners such as Gavi, UNICEF, WHO, Minister of Education, Minister of Finance, Minister of Budget, and civil society organizations. The ICC advises the Ministry of Health on all child health policies and is central to decision-making processes.
Parliamentarian Network for Immunization Financing (REPACAV)	This network holds the Minister of Budget and Minister of Finance accountable for timely disbursements of immunization funds. The group builds support for vaccination programs among decision-makers at the national, provincial, and local levels.
Health Technical Working Group	This working group, chaired by the Secretary General of Health, includes government representatives, bilateral and multilateral donors, civil society organizations, and implementing partners working to provide technical guidance to the Ministry of Health. The group also develops key documents to monitor immunization performance against national and international indicators.

and transport vaccines), and Gavi, which purchases new vaccines (see text box for vaccines included).

Vaccines used in the DRC

Traditional vaccines (UNICEF)

- Bacillus Calmette-Guérin (for tuberculosis)
- Diphtheria, tetanus, and pertussis (DTP)
- Hepatitis B
- Polio
- Varicella (for chickenpox)
- Tetanus

New vaccines (Gavi)

- Pentavalent
- Pneumococcal
- Yellow fever

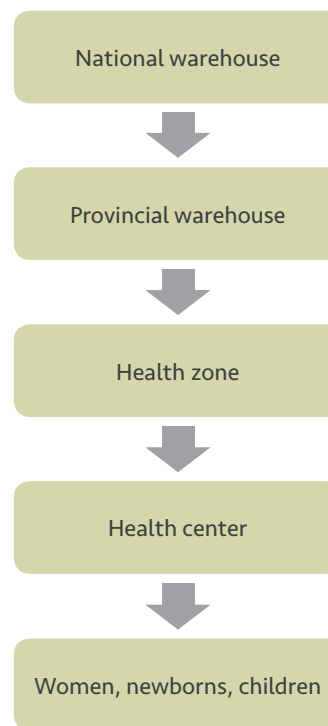
Given the vast number of remote communities in rural provinces, vaccine quantification is overwhelmingly difficult in the DRC. Additionally, the country lacks a strong monitoring or data system, which further adds to the disconnect between actual needs and the request shared with UNICEF and Gavi. Often, entire communities are not considered, broken and outdated equipment is not counted, and the subsequent procurements and distributions fall short of providing access to immunization for all women, newborns, and children.

Storage and distribution

According to the National Health Development Plan (NHDP), the EPI’s central warehouse in Kinshasa distributes vaccines and other immunization supplies, including syringes, vaccine carriers, cold boxes, and fuel for refrigerators, to the warehouses at the provincial level. From the provincial warehouse, the vaccines and corresponding supplies are delivered to the health zones by air, boat, car, or motorcycle. At this point, EPI managers at the health zones transfer the vaccines to the 8,830 individual health centers, where they can be administered by health workers (Figure 2).

Although the distribution process is clearly outlined in policy, poor infrastructure, limited resources, and a lack of trained staff often mean that the number of viable vaccines reaching the health center is a fraction of those that left the central warehouse. This wastage is not only a poor use of resources but also means that imperfect quantification needs are further compromised by vaccines that cannot be used.

FIGURE 2. Levels of the immunization supply chain.



To maintain a consistent stock of vaccines at all levels, the central-level warehouse, managed by the EPI, ideally has a six-month supply of vaccines, while the provincial warehouse should have a three-month supply, and the health zones and health centers each should have a one-month supply. However, faulty warehouse infrastructure—as well as a lack of consistent electricity, especially in the health zones and health centers—makes it difficult to ensure this supply. Warehouses often lack the required temperature monitoring devices and cold chain equipment to preserve the potency of vaccines.

In 2011, the percentage of cold chain equipment that was high quality and operating optimally reached 61 percent, but that figure declined to 56 percent by 2014 (Comprehensive Multi-Year Plan for Immunization 2015-2019). The decrease is in large part due to equipment that was not properly maintained and could not be repaired. As part of the NHDP, the MOH is slated to develop a policy to outline maintenance of equipment for the central, provincial, and local warehouses. Until this policy is developed, resourced and implemented, the challenges will remain.

In light of these constraints, and recognizing the importance of improving access to high-quality vaccines, the EPI is in the process of decentralizing its warehouses. New warehouses will be constructed in Haut Katanga, Kasai, and Tshopo provinces so that health zones and health centers are no longer reliant only on one warehouse in Kinshasa.

New warehouses, closer to the health zones, will eliminate one layer of transport, thereby partially easing the process vaccines undergo to reach the DRC's children.

Data collection

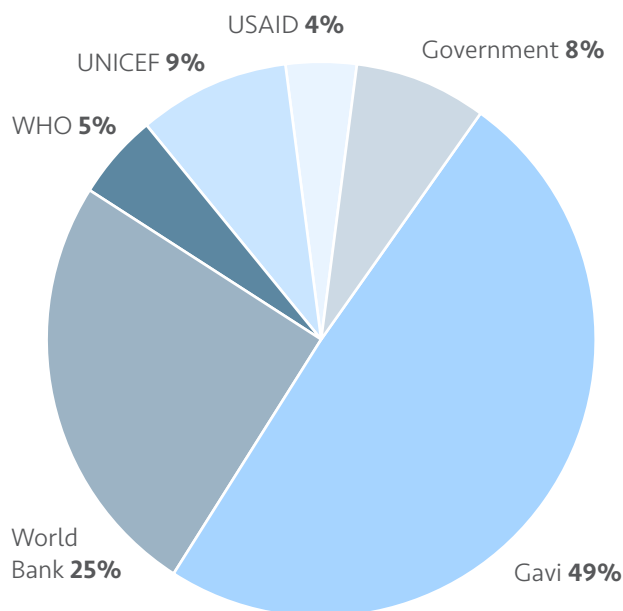
At the national level, a computerized information management system exists to enable the EPI to monitor vital vaccine information, including the quantity and type of vaccines received from UNICEF and Gavi, quantities of vaccines to be distributed to a specific location, expiration date of each vaccine, and operational status of cold chain equipment used to store the vaccines.

Health zones and health centers, however, do not have a computerized data management system; once a vaccine leaves the central warehouse, there is no electronic way to track it. At the provincial, health zone, and health center levels, warehouse and facility staff must manually record updates on vaccine stocks and immunization equipment. Ideally this happens on the standard EPI reporting template, but all too often critical data are captured on a sheet of paper, and easily lost, damaged, or destroyed. The inconsistent data on vaccine stocks and cold chain equipment malfunctions make requests for procurement or equipment repair unreliable and difficult to communicate, resulting in too few viable vaccines reaching health centers and ultimately women, newborns, and children.

Domestic resource mobilization: Financial and human resources

Despite robust policies and the government's commitment to improving vaccine coverage, the immunization program remains largely donor dependent. Gavi and the World Bank provide about three-fourths of immunization funding in the DRC (Figure 3).

FIGURE 3. Immunization funding in the DRC.

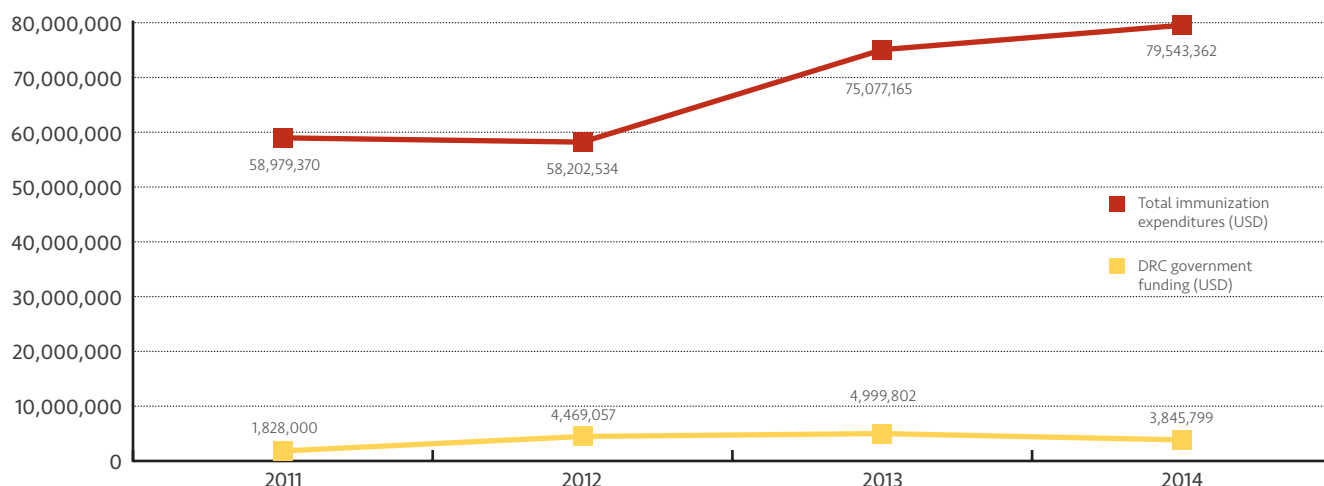


Source: Gavi Tailored Approach for the DRC, 2013-2017.

Although government expenditures for routine immunization have increased in recent years, the increase has not kept pace with total system costs (Figure 4). Also, total funding remains inadequate for the equitable distribution of high-quality vaccines.

According to Congolese law, 40 percent of national tax revenues are to be sent to provincial governments for the

FIGURE 4. Trends in Immunization financing in the DRC, 2011-2014.





PATH/Felix Masi

financing of public services, including immunization. However, this law has not been implemented, leaving many provinces, especially newly created ones, unable to locate the funds necessary for cold chain equipment, fuel, and other vaccine delivery expenditures. As a result of funding shortfalls at both the national and provincial level, vaccine stockouts are widespread, and equipment cannot be repaired in a timely manner. Forty percent of health zones and 32 percent of health centers have discontinued immunization services due to logistical challenges and equipment failures resulting from lack of funds (*Gavi Tailored Approach for the DRC, 2013–2017*, pages 19 and 20).

Staff capacity

In addition to the resource constraints and infrastructure challenges, recruiting, training, and maintaining skilled health workers and supply chain technical advisors remains a consistent problem. High turnover rates among supply chain staff are in large part due to poor remuneration and lack of supervision, affecting performance at both provincial and health facility levels. In the absence of quality-assured training opportunities, very few immunization supply chain personnel have the skills necessary to carry out their roles and responsibilities.

The government has acknowledged the challenge and is committed to addressing these human resource gaps. The Ministry of Health will request additional resources from

the Ministry of Budget to increase the salaries of health workers by 20 percent (*National Health Development Plan*, page 59). Also, the DRC government has plans to offer a relocation allowance for health staff working in specified areas in order to attract and retain more qualified and committed health personnel to rural communities.

Roles and responsibilities

Decentralization has put into place new leaders who are not familiar with health policies and planning documents, particularly those for immunization. These new leaders may not prioritize immunization as some of their predecessors had done. Newly elected provincial authorities have oversight of the delivery and distribution of vaccines in their communities and should be familiar with key policy documents that define their roles and responsibilities for vaccine delivery, including the allocation of resources. However, policies and corresponding directives tend to circulate at the central level without being clearly disseminated and articulated to subnational-level leaders and stakeholders. Communities suffer from uninformed leaders who are not allocating required resources or providing support to immunization programs. National, provincial, and health zone officials must all be aware of what aspects of vaccine delivery they oversee and fund, and where another decision-maker will provide support.

RECOMMENDATIONS

Based on the DRC's global and national commitments to improving vaccine coverage, a number of opportunities exist to overcome some of the challenges that are disrupting vaccine access. Taken forward, the recommendations outlined below will help strengthen the vaccine procurement and delivery system, thereby improving the health outcomes of DRC's families and communities.

- **Hold the government accountable for delivering on its promise to construct three warehouses.** The creation of 15 new provinces is straining an already limited and weak warehouse management system. The government must urgently prioritize the construction of three additional warehouses in Haut Katanga, Kasai, and Tshopo provinces to reduce the burden on the Kinshasa warehouse and store vaccines closer to the end user. This will improve access to and delivery of vaccines and eventually create more equitable distribution of vaccines.
- **Implement a logistics management information system countrywide.** The NHDP calls for developing an LMIS to collect real-time data on vaccine inventory, thereby preventing stockouts, and addressing storage and warehousing challenges. Data on vaccine stock levels, equipment malfunctions, and cold chain temperatures will help stakeholders rapidly assess and address any problems that may arise. Moreover, an efficient LMIS will aid in quantification and help ensure immunization supplies are sent where they are needed most, reducing wastage and improving health outcomes for children in the DRC.
- **Enact legislation to make immunization a required expenditure in the national budget.** The government's immunization budget is considered discretionary, allowing for little accountability or recourse when leaders default on their funding commitments. Legally requiring immunization allocations to be disbursed holds the Ministries of Finance and Budget accountable for providing the funds to procure vaccines, make supply chain improvements, and purchase new cold chain equipment as well as recruit, train, and retain high-performing health care workers and supply chain technicians. Further, this designation will allow for easier monitoring and tracking of what and how funds are allocated.
- **Improve motivation and retention of health workers and supply chain technicians.** Health workers and supply chain technicians play a pivotal role in the immunization program. They ensure communities receive their vaccinations on a regular basis and inform caregivers of the importance of routine immunization programs. However, to effectively carry out their responsibilities, health

workers should receive ongoing trainings and opportunities for advancement to boost motivation and staff retention. The EPI and MOH should work together to circulate a memo committing to investments in capacity-development opportunities. This commitment should ensure guidelines and training manuals are updated and easily accessible so that health personnel are equipped with appropriate tools to effectively operate cold chain equipment and collect data on vaccine stocks and consumption levels. The immunization program will only be as strong as the health care workers and technicians supporting the system.

- **Disseminate national health and immunization policies to provincial leaders.** Each leader at the national, provincial, and zonal level must be able to refer to annual operating plans, the cMYP, EVM, and other governing health policies to make informed decisions. Better understanding of policies will equip leaders to make the best decisions for their constituents and advocate for their communities when problems arise. Leaders must be briefed on relevant policies as well as understand their role in implementing or enacting the policy.
- **Develop a framework to define and clarify immunization roles and responsibilities.** EPI officials should develop a clear framework to define and clarify immunization-related roles and responsibilities among national, provincial, and health zone authorities. The framework should include who is responsible for vaccine financing, procurement, and maintenance of cold chain equipment, as well as the recruitment, training, and retention of health care workers. The framework must clearly define where responsibilities start and stop, and who is accountable when issues arise. A clear framework for who must make certain decisions will help ease the confusion between various leaders and overcome the paralysis that results when no one makes a decision.

CONCLUSION

To honor their global and national commitments to DRC's families and communities, it is crucial that the government continue to prioritize equitable and expanded immunization coverage across the country. Government leaders and national stakeholders must commit to a stronger, clearer policy environment that meets the needs of the DRC's people. Robust health policies, adequate financial resources, and delivering on commitments will improve the accessibility and availability of high-quality, lifesaving immunization services, thereby creating a brighter future for the DRC's women, newborns, and children.



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