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# Understanding the policy environment for immunization supply chains: Lessons learned from landscape analyses in Uganda and Senegal \*



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#### ABSTRACT

As immunization programs around the world undergo rapid change and expansion, supply chain and logistics systems have become strained, making it increasingly challenging for national public health systems to provide reliable, safe, and efficient access to vaccines. Governments and immunization partners have been aware of this problem for several years, and in 2010, the World Health Organization (WHO) launched the Effective Vaccine Management (EVM) process to help countries identify shortcomings in their immunization supply chains and develop plans for systematic improvement. EVM improvement plans now exist in all Gavi-eligible countries plus many middle- and upper-income countries; however, implementation has been slow and in many cases fraught with financial, managerial, structural, and political roadblocks. Recognizing that significant change of any kind requires a supportive policy environment and strong leadership, PATH began working in Uganda and Senegal to landscape the policy environment around immunization and identify relevant policies, administrative and technical roles and responsibilities, and other issues that may be affecting the supply chain for immunization.

The policy landscape assessments included a desk review and a series of structured, in-depth interviews with key international, national, and local stakeholders. The findings highlighted a number of critical issues and challenges in both countries that may be preventing supply chains from functioning optimally. These challenges include a need for better coordination and planning between immunization programs and supply chain managers; the need for sufficient, timely and reliable financing for all aspects of immunization programs; the need for high-level managers trained in immunization supply chain management; and an urgent need for better, more timely data for decision-making. Overcoming these challenges will require the involvement of high-level political actors—including ministers of health and finance, parliamentarians, and other officials who have the ability to approve and influence policy, personnel, and structural changes; ensure work plans are backed with adequate resources for implementation; and hold program managers accountable for achieving agreed indicators.

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#### 1. Introduction

While immunization programs and services have grown tremendously over the past decade and many more people around

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the world now have access to new and underused vaccines, lowand middle-income countries continue to struggle to safely and reliably deliver vaccines to health posts. Effective Vaccine Management (EVM) assessment scores remain suboptimal, particularly at the lowest level of the health system.

One reason is that programs consistently lack sufficient staff, resources, tools, and equipment they need to manage a complex supply chain for perishable, temperature-sensitive immunization

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products. Another is that programs are operating under a paradigm for supply chain management that was created 30–40 years ago when immunization programs were much simpler and less costly, when information traveled more slowly, and when newer refrigeration and temperature-monitoring technologies did not yet exist. Building next-generation supply chain systems, however, is not easy. It requires both resources and political will to embark on change and a lot of discussion and thinking about what changes to adopt, as well as when and how.

While national and global partners are working hard to build more high-level political will for next-generation supply chains, there remains a very wide gap between policy aspirations and the day-to-day realities of immunization program management. Closing this gap requires a better understanding of the political environment in which decisions about supply chains are made and an aptitude and desire to advocate for change.

In 2015, PATH conducted landscape assessments in Uganda and Senegal to identify policies, legislation, and plans that influence the way immunization supply chains are structured, funded, and managed in each country. In doing so, PATH was able to illuminate some of the key levers that can make it easier for immunization program staff to implement lasting change to the way supply chains function, and ultimately the way immunization programs perform.

Specifically, the landscape assessment helped immunization program managers and external partners:

- Better understand existing policies, decision-making mechanisms, and plans that influence the way immunization supply chains function.
- Identify areas where new policies, decision-making mechanisms, or plans related to the supply chain might benefit the immunization program.

Uganda and Senegal were selected for this work because both countries had recently completed EVM assessments and were in the process of developing comprehensive multiyear plans.

Both countries are led by ministers of health who understand the importance of supply chain performance in reaching coverage and equity goals, and both have made recent policy changes that have improved the way their immunization and health supply chains function

As shown in Figs. 4 and 5, EVM scores in both countries have improved over time, particularly at the national level; however, little to no improvement has been recorded at the health facility level. Certain areas of vaccine management—including maintenance, distribution, and information management—are low and, in some cases, declining.

Notably, both countries have integrated their immunization supply chain and logistics functions into broader pharmaceutical supply chains at the national level. This has led to improved vaccine management at the national level; however, it has also increased the complexity of policy discussions and decisions. Understanding how decisions are made and who is accountable for key supply chain functions has been a major focus of the policy landscaping study.

### 2. Methods

PATH's landscape analysis in each country began with a desk review of existing policies, guidelines, and plans that guide the immunization program, and the supply chain in particular. PATH also conducted a series of in-depth interviews with more than a dozen stakeholders in each country using a standard set of questions to systematically gather the required information. Stakeholders interviewed included representatives from:

- Ministry of Health (MOH)
- National immunization program
- District health offices
- Health centers
- WHO
- UNICEF
- Sabin Vaccine Institute
- Infectious Disease Research Collaboration
- Gavi, The Vaccine Alliance
- Clinton Health Access Initiative

To organize and analyze the findings from the desk review and stakeholder interviews, PATH identified key themes concerning the immunization supply chain. Table 1 outlines the content explored under each theme.

For each of the themes shown in Table 1, the landscape assessment team aimed to describe the existing situation, identify gaps, and provide recommendations for advocacy to strengthen the immunization supply chain.

#### 3. Results

#### 3.1. Supply chain operations, structure, and decision-making authority

The National Expanded Program for Immunization (EPI) in both Uganda and Senegal is a vertical program that sits within the MOH and is overseen by an EPI manager who is responsible for implementing immunization policy and overseeing all immunization services. According to country administrative data, immunization performance, often measured by coverage with the third dose of vaccines containing diphtheria-tetanus-pertussis (DTP3), is reported to be higher in Uganda (95% DTP3, 2014) than in Senegal (85% DTP3, 2014). Both countries have introduced several new vaccines since 2011 (see Fig. 1), which has significantly increased the cost of the immunization programs and more than doubled the volume of vaccines that must be tracked, properly stored, and delivered [Uganda EVM assessment, 2014].

Key supply chain system themes assessed during landscape assessments.

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Theme	Content
Supply chain operations, structure, and decision- making authority	Analyzed policies and guidelines that influence supply chain operations, structure, and decision-making. Also reviewed existing assessments of immunization supply chain performance, including recent Effective Vaccine Management assessments
Immunization commitments and plans	Analyzed policies that describe national or global commitments of the immunization program and describe specific plans for achieving those commitments, particularly as they relate to access, quality, timeliness, and other factors related to the supply chain. This included an analysis of EVM improvement plans and comprehensive multiyear plans (cMYPs) for immunization
Financing and funding flows	Identified the amount of funding allocated to immunization, the source of these funds, their reliability and adequacy to meet supply chain needs, and accountability mechanisms

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