

Our work and capabilities in Senegal

Overview

PATH envisions a world in which all countries have supply chains that connect people with the practices and information they need so that lifesaving drugs, vaccines, and commodities are available on time, in sufficient quantity, and at a reasonable cost to everyone who needs them. For more than 35 years, we have collaborated with a variety of international and in-country public- and private-sector stakeholders to:

- Deploy information and communications technology solutions that make it easier to assess and use data in decision-making.
- Advance novel cold chain equipment to safely and cost-effectively store and transport temperature-sensitive products—even in remote areas lacking consistent access to electricity.
- Improve product presentations and packaging to decrease volumes for transport and disposal, bundle essential product components, and reduce product loss.
- Provide technical assistance to help ministries of health identify and test appropriate solutions from local or global sources, set policies, and bring their voices to global health discussions.
- Advise the private sector on improved handling of vaccine and temperature-sensitive pharmaceuticals and influence public policy on private health care regulation.

PATH in Senegal

Operating in Senegal since 2001, with staff located in offices throughout the country, PATH builds on strong relationships and project work with partners to develop, introduce, and scale up technology and system



Photo: Fatou Kandé

innovations that reduce the burden of infectious and neglected tropical diseases; improve reproductive, maternal, and child health and nutrition; expand access to safe water, sanitation, and hygiene; strengthen health systems; and empower communities.

We also have a proven track record in mobilizing stakeholders and supporting the Senegal Ministry of Health and Social Action (MOHSA) in its efforts at all levels to improve the efficiency and effectiveness of the country's medical supply system.

Supply system design

From 2009 to 2013, our collaboration with the World Health Organization (WHO) under project Optimize resulted in a centralized and integrated supply chain for vaccines, drugs, and other health supplies in the north region of Senegal. It also helped demonstrate a moving warehouse¹ distribution model that has since improved the availability of these products in district health facilities. Following these successes, the moving warehouse concept was transferred to Pharmacie Nationale d'Approvisionnement (PNA), which subsequently extended the model to other regions.

¹ A system of medical supply that involves delivery to each facility (rather than collection by health workers) and includes supportive supervision as well as stock replenishment.

Evaluation of equipment and interventions

Starting in 2013, PATH has deployed and evaluated innovative cold chain equipment in various districts in Senegal:

- From 2013 to 2015, a novel long-term passive device developed by Global Good, called Arktek™, demonstrated its ability to maintain required cold chain temperatures for more than a month at a time, using ice as the only cooling mechanism.
- PATH evaluated another long-term passive device from UK-based manufacturer Sure Chill in 2016.
- In 2019, PATH began evaluating solar refrigerators with energy harvest controls, a new feature on some vaccine refrigerators that uses excess solar energy to power small devices in health centers when it is not needed for powering the refrigerator.

These studies evaluate technical performance of new cold chain equipment under real-use scenarios and collect information from users about acceptability and ease of use. Results of these studies contribute to dossiers submitted to WHO as part of the prequalification process for new equipment under the Performance, Quality, and Safety program.

In 2018, PATH began work with the MOHSA, the civil aviation agency, and the district of Foundiougne to establish a system of delivering essential medicines to health centers using drones, including transporting laboratory samples to and from health centers isolated on islands. The project was paused due to technical challenges, but significant progress was made with health and political stakeholders in the district, and the project still has the potential to test the feasibility of this novel delivery mode.

Health systems research

Our staff in Senegal are experienced health system researchers with deep understanding of local contexts. Examples of our work in this area include:

- In 2017, as part of the Dose Per Container Partnership, PATH conducted formative research using qualitative and quantitative methods to understand the relationships between vaccine packaging—specifically the number of doses per container—and immunization systems, including operational costs, timely coverage, safety, product costs/wastage, and policy/correct use. Findings from this study, conducted in Senegal and other countries,

are influencing discussions at the global level about vaccine product attribute decisions.

- Research conducted in 2019 in Senegal contributed to the Vaccine Innovation Prioritisation Strategy work, a partnership between Gavi, WHO, the United Nations Children's Fund, the Bill & Melinda Gates Foundation, and PATH. In Senegal, PATH collected information from decision-makers and frontline health workers on nine vaccine innovations. This research contributed to the final prioritization of microarray patch delivery devices, heat-stable and controlled temperature chain qualified vaccine formulations, and barcodes for vaccines. These innovations will now benefit from coordinated efforts to support their advancement.
- Also in 2019, PATH conducted a temperature monitoring study in private pharmacies in two urban districts in Senegal. While purpose-built vaccine refrigerators and regular temperature monitoring are used in public health facilities to help ensure safe temperatures for vaccines, private pharmacies often use regular refrigerators and lack temperature-monitoring guidelines. The study found that providing temperature-monitoring equipment and raising awareness among staff about the importance of temperature control can make a positive impact on observed vaccine storage temperatures.

Health systems strengthening

Leveraging the expertise that PATH has built around vaccine management, PATH organized workshops in 2019 for chief pharmacists within the Regional Pharmacies Stores about cold chain management. This paves the way for integration of vaccine and essential drugs supply chains and strengthens management of temperature-sensitive medicines. Chief pharmacists from all the 14 regions of the country were included in this training.

PATH has worked to support the MOHSA to develop and execute critical maintenance and repair activities for vaccine refrigerators and temperature-monitoring equipment to help ensure continuity of secure storage for vaccines throughout the country. Most recent regions targeted for these activities were Diourbel, Kedougou, Louga, Saint Louis, and Thies.

As a subgrantee of Abt Associates on the US Agency for International Development (USAID) Senegal Health System Strengthening project in 2016, PATH worked to strengthen the procurement system at all levels, including the development and establishment of an improved procurement and stock management information system.

Our efforts informed effective and efficient program policies, planning, and budgeting at the central level of the MOHSA and contributed to strategic planning by the PNA.

The No Empty Shelves project funded by Novo Nordisk worked to gather evidence and mobilize the noncommunicable disease (NCD) and broader global health programs to improve the availability of essential medicines and technologies for NCDs in low-resource settings. PATH worked in five regions: Dakar, Kaolack, Saint Louis, Tambacounda, and Ziguinchor to collect information on the prices and availability of essential diabetes medicines and technologies. This information was used to help optimize the availability of essential medicines and technologies in Senegal and ultimately to inform global efforts to address a key target of the WHO Global Action Plan: to achieve 80 percent availability of affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities.

Advocacy

PATH staff in Senegal are contributing to advocacy efforts that encourage countries to make meaningful time and resource investments that improve their immunization supply chain systems. The project is working at global and regional levels to create a stronger enabling environment for supply chain strengthening and optimization.

To better understand the policy environment in Senegal and define key ways in which PATH can help strengthen political commitments for supply chain improvements, we conducted a thorough landscape of current policy as well as the funding needs and constraints related to supply chain issues in the country. Lessons learned from the landscape analysis were used to define a specific scope of work in Senegal to advocate for greater political commitment for supply chain goals.

Supporters

Collaborations across all sectors are integral to our strategy for demonstrating impact and taking innovations to scale. Key project supporters in Senegal have included the Senegal Ministry of Health and Social Action, Direction de la Prévention, Direction de la Pharmacie et du Médicament, the Pharmacie Nationale d'Approvisionnement, the World Health Organization, the United Nations Children's Fund, and Abt Associates.

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Contact information

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PATH is a global organization that works to eliminate health inequities by bringing together institutions, businesses, investors, and individuals to solve the world's most pressing health challenges. With expertise in science, market development, technology, advocacy, and dozens of other specialties, PATH develops and scales solutions—including vaccines, drugs, devices, diagnostics, and innovative approaches to strengthening health systems worldwide.

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