



# A MOVING WAREHOUSE DELIVERS VACCINES AND ESSENTIAL HEALTH SUPPLIES IN SENEGAL

OPTIMIZE



**In March 2011, the Government of Senegal began using a “moving warehouse” to transport vaccines and vaccine supplies from regional stores directly to 110 district stores and health posts on a monthly basis in the Saint-Louis region.**

**This photo set explains how the moving warehouse works and shares results from an Optimize-supported pilot demonstration of the moving warehouse from 2010 to 2012.**

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The photo set is based on an article published in the July 2012 edition of the *Op.ti.mize* electronic newsletter. You can view an archive of all newsletters here: [www.path.org/projects/project-optimize-newsletter](http://www.path.org/projects/project-optimize-newsletter)

For more information on project Optimize:  
[www.path.org/projects/project-optimize](http://www.path.org/projects/project-optimize)  
[www.who.int/immunization\\_delivery/optimize](http://www.who.int/immunization_delivery/optimize)

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1.

## **BEFORE: Health workers collected vaccines from the district store**

Before the moving warehouse was in place, staff from health posts in the Saint-Louis region collected supplies from the regional store using ambulances, motorcycles, or public transport when available.

Photo: PATH/  
Robin Bellik





2.

## BEFORE: Problems with the collection system

This collection system resulted in incomplete order fulfillment at both regional and district levels, leading to stockouts or frequent trips to the regional level for last-minute supplies. The nurses who collected vaccines from the regional stores often had to close health posts while they were gone.

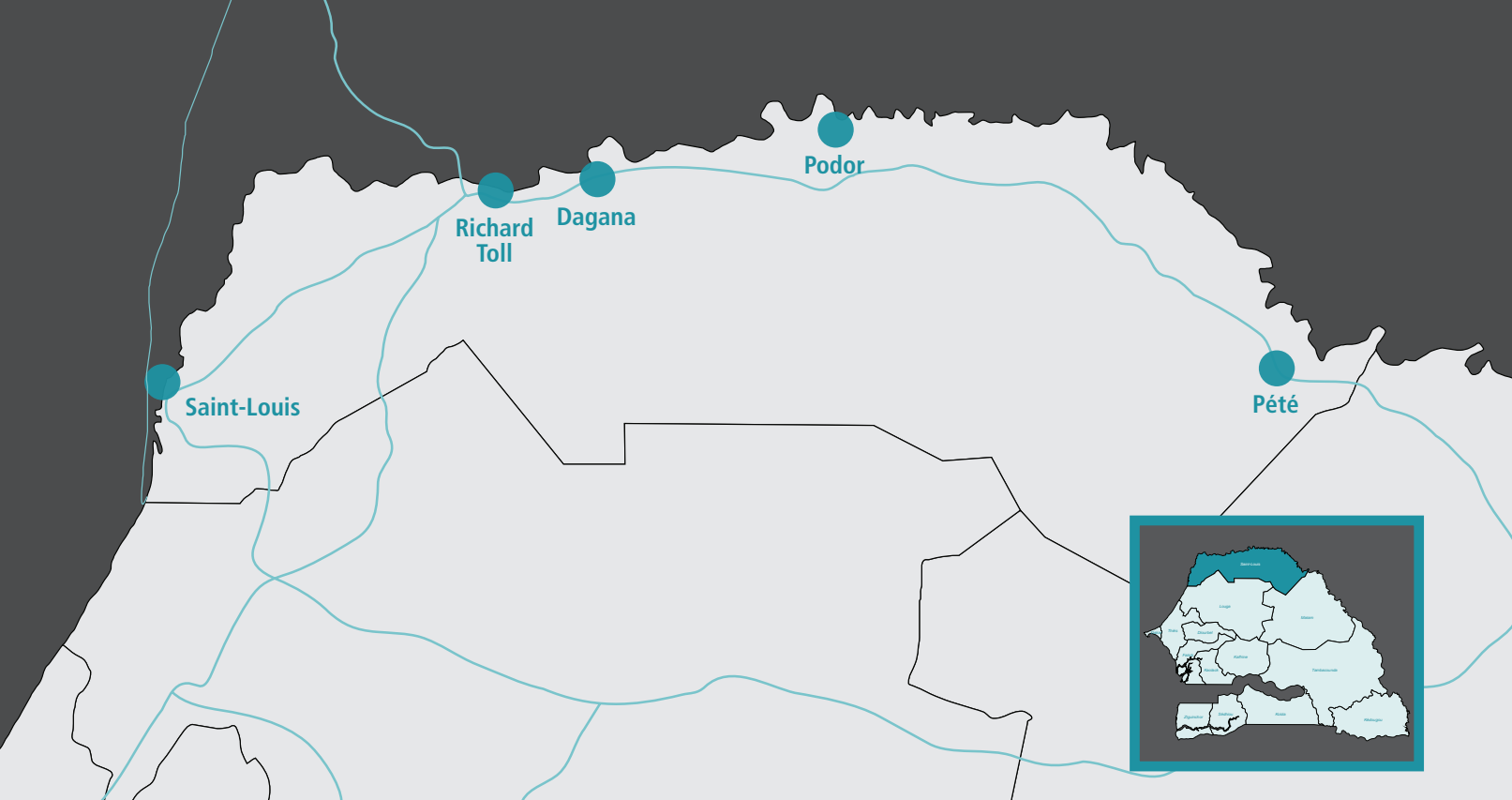


3.

### **AFTER: Moving warehouse distributes vaccines**

Health workers in the Saint-Louis region no longer need to travel to collect vaccines and supplies.

Photo: PATH/  
Juliette Arnaud



4.

### **AFTER: Three delivery circuits cover the Saint-Louis region**

The first circuit covers the district of Saint-Louis and takes two days to complete. The second circuit to Richard Toll and Dagana districts takes three days. The third circuit covers the more remote districts of Podor and Pété and can take up to a week.



5.

## AFTER: New cooling equipment used in the moving warehouse

During each delivery circuit, vaccines are stored in large 130-L storage containers with a holdover time of 2.5 days at 43°C or smaller 4-L containers with a hold-over time of 4.5 days at 43°C.



6.

### **AFTER: Temperatures are carefully monitored throughout the journey**

To ensure that proper temperatures are maintained throughout the journey, the truck is equipped with temperature monitors to record and alert of temperature extremes.





7.

## **AFTER: Stocks and temperatures are tracked in a computerized information system**

Both moving warehouse trucks are equipped with a computer and a wireless Internet connection, enabling staff to access and update information on vaccine stock and share data with district management teams and regional and national storage facilities.

Photo: PATH/  
Fatou Kandé



8.

## AFTER: More regular supervision and training

Moving warehouse staff provide supervision and training, collect safety boxes, and identify and address cold chain equipment maintenance issues.

Photo: PATH/  
Fatou Kandé



9.

## AFTER: Topping up vaccines and supplies

During each delivery stop, moving warehouse staff record current stock levels and consumption data and resupply vaccine stock.

Photo: PATH/  
Fatou Kandé





10.

## AFTER: Distributing supplies for vaccine campaigns

The moving warehouse has recently been used to distribute vaccine supplies for mass campaigns and national immunization days.

Photo: PATH/  
Fatou Kandé



VACCINE SUPPLIES	TOTAL DELIVERED IN 2012
Doses of vaccine	<b>270,990</b>
Injection syringes	<b>6,831</b>
Dilution syringes	<b>168,507</b>
Vials of diluent	<b>4,049</b>
Safety boxes	<b>1,564</b>



11.

## AFTER: Getting vaccines where and when they are needed

In 2012, almost 300,000 doses of vaccines and corresponding injection supplies were delivered using the moving warehouse system.

Photo: PATH/  
Fatou Kandé



REPRODUCTIVE HEALTH PRODUCTS	TOTAL DELIVERED 2012
Condom female	80
Condom male	6,927
Contraceptive injection (e.g., Depo-Provera® injection)	15,079
Diaphragm	1,055
Intrauterine device	181
Levonorgestrel implant	312
Mini pill (progestin-only oral contraceptive)	6,237
Monophasic combined oral contraceptive	19,269
Standard days method	201

12.

## AFTER: Integrating reproductive health supplies in the moving warehouse

In March 2012, the moving warehouse began delivering reproductive health supplies in addition to vaccines and vaccine supplies.

Photo: PATH/  
Fatou Kandé

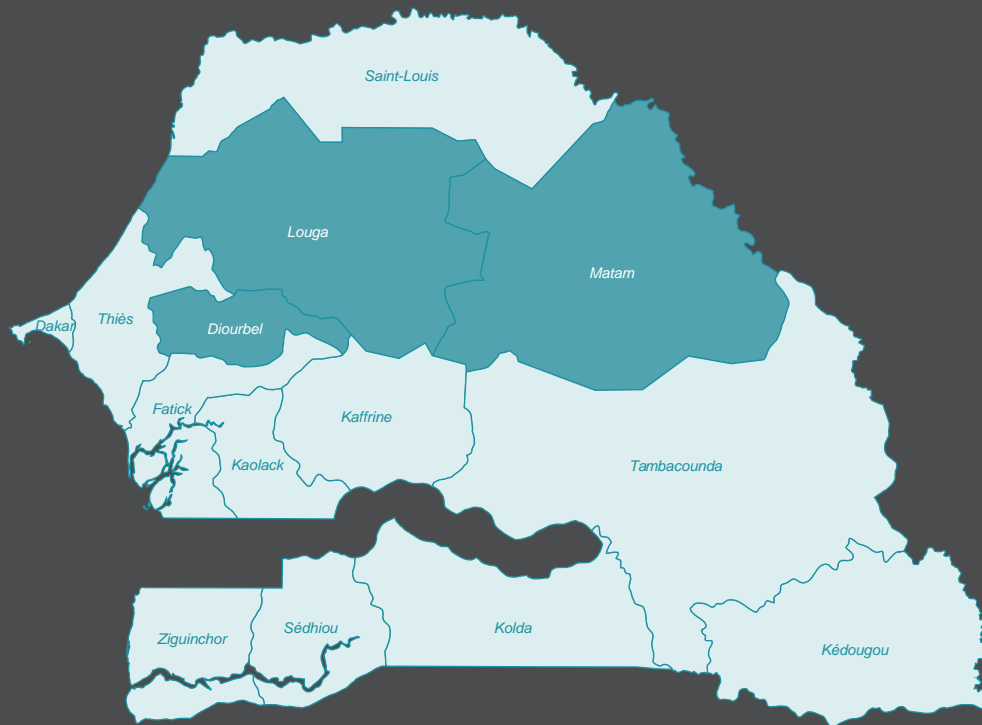


13.

### **AFTER: Integrating other drugs and supplies in the moving warehouse**

In June 2012, the moving warehouse began delivering malaria, tuberculosis, and AIDS control drugs and supplies to the region, further reducing the cost per dose or unit delivered.

Photo: PATH/  
David Jacobs



14.

## **NEXT: Prospects for replicating the moving warehouse model in Senegal**

Other Senegalese regions have expressed interest in the moving warehouse. Three regions, Louga, Diourbel, and Matam, are all making plans to establish their own moving warehouses.





## **NEXT: New barriers to overcome**

**15.**

Two key barriers need to be overcome before the moving warehouse becomes a permanent feature in Senegal's vaccine supply chain. First, the logistics management information system software needs to be upgraded so it can track vaccine supplies along with supplies from other programs. Second, despite overall efficiencies gained with the moving warehouse, costs have shifted from the district and health facility level to the regional level, requiring a new funding strategy to sustain operations.

Photo: PATH/  
Juliette Amaud



16.

## AFTER: A model worth replicating

The moving warehouse has been a very popular and well-accepted innovation in the Saint-Louis region, and the government is working hard to keep it moving forward.

Photo: PATH/  
Juliette Arnaud





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Cover Photo: PATH/Juliette Arnaud

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This work was funded in whole or part by a grant from the Bill & Melinda Gates Foundation. The views expressed herein are solely those of the authors and do not necessarily reflect the views of the Foundation.

Published April 2013.