Utilization of Local Private Transporters for Improved Lab Sample Transport

Photo Credit: Riders for Health, Malawi

INTRODUCTION

Polio, a crippling and potentially fatal infectious disease, remains a threat to global health. To accelerate polio eradication efforts, we are implementing customized programs in 15 countries at high risk for outbreaks[1]. These programs aim to improve the speed and quality of polio sample transportation from communities and health facilities to national and international laboratories.

METHODOLOGY

The decision to utilize commercial transporters was primarily driven by the following factors:

- Polio lab sample timeliness & quality concerns
- Inefficient utilization of health workers for transport
- Availability of reliable commercial couriers
- Data gaps and challenges: Insufficient data on sample transport processes hampered effective monitoring and evaluation of the system.

Country-specific interventions were co-created with the Ministries of Health and WHO, and tailored to the unique challenges and opportunities identified in each setting:

- On-demand sample transport by local transporters
- Development of standard operating procedures (SOPs)
- Biosafety training for health workers and transporters
- Real-time GPS sample tracking & temperature monitoring
- Focus on data quality (Chain of custody & Case investigation forms)

On-Demand Transport System in 9 Countries *(3 highlighted below)*

Over the past year, local private transporters have moved over 4500 acute flaccid paralysis (AFP) samples across 9 countries, plus Environmental Surveillance (ES) and other outbreak-prone disease samples (i.e. measles, yellow fever, Ebola), maintaining high sample quality

	Transport companies	Transport Type	Start Date	Trip Segment	No. of people with samples transported
Guinea	Drivers unions, Moto-taxi drivers, UNHAS flights for 2 provinces 2X per week, Air Senegal to Dakar	Moto-taxis, Minivans, Boats and Planes	**November 2022**	Health Facility → Health District → Conakry *WHO supports flights to Dakar*	315 (avg. 42 per month)
Democratic Republic of Congo (DRC)	12 transport companies manage local transporters in 7 provinces	Motorcycles, Minivans, Boats, Drones and Planes	**September 2022**	Health Facility → (Health Zone) → Provincial EPI; Haut Lomami, since mid-Aug: Health Facility → Provincial EPI → National Lab (Kinshasa)	1950 (avg. 146 per month)
Mozambique	AFRICA GLOBAL LOGISTICS (AGL) manages local transporters in all 11 provinces	Motorcycles, Cars, Planes; Drones were used in an INS study	**November 2022**	North/Central: Health Facility → Provincial office (+ flights to Maputo) Southern: From Health Facility → Maputo *WHO supports flights to Jo'burg*	276 (avg. 25 per month)

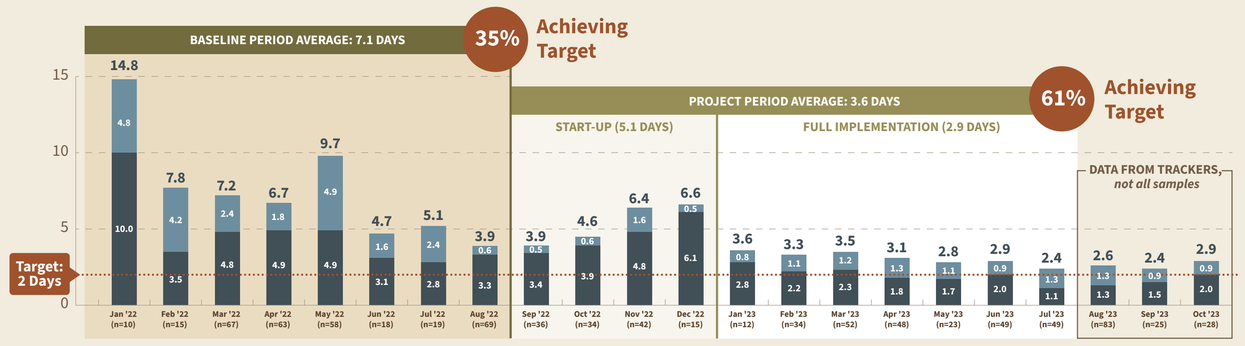
RESULTS

Urgency: Polio samples must reach national/international lab within **3 days** (72 hours) after being collected

Guinea

AFP Sample Transport: By Month

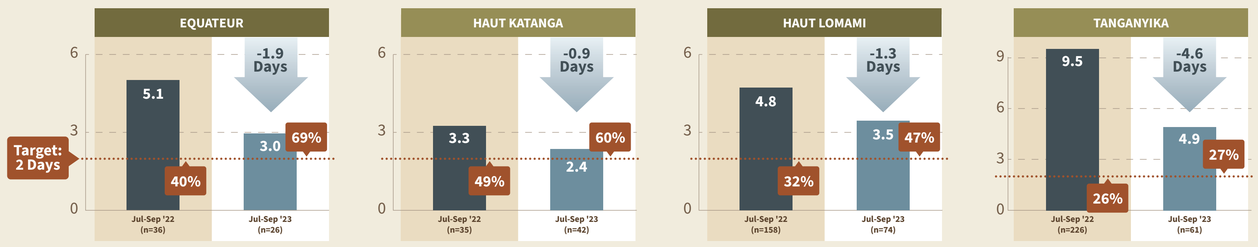
Average # of days from collection (community/health facility) to **Conakry**



DRC

AFP Sample Transport: Per Province

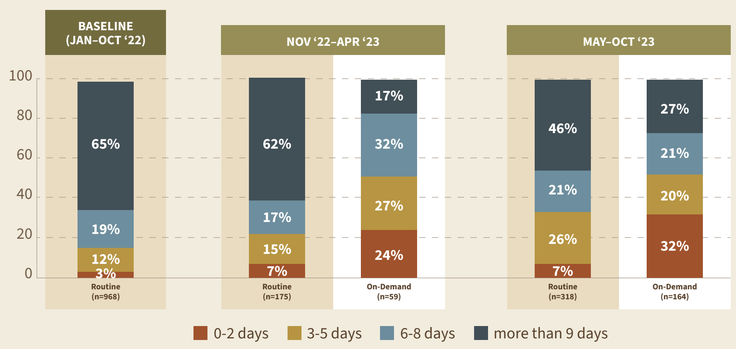
Average # of days from sample collection (community/health facility) to **provincial EPI offices**



Mozambique

AFP Sample Transport: Routine & On-Demand

Average # of days from sample collection to reception at **Faculty of Medicine (Maputo)**



On-demand *transport by AGL (VillageReach funding) achieves the 2-day national target more frequently than AGL* ***scheduled*** *transport, but the two systems complement each other & perform better than at baseline.*

Photo Credit: Patrice Tshekoya, VillageReach, DRC

Successes:

- Improved timeliness of sample transport helps speed up lab test results and address outbreaks sooner
- Professionalization of private transporters by training on biosafety, SOPs for sample transport and data collection/chain of custody helps to maintain sample quality
- Performance-based contracts with transporters increase sample transport timeliness
- Health workers no longer need to leave their posts to transport samples, or if they do, they don't have to travel as far, which keeps critical (and limited) health human resources where needed
- Availability of data during transit (sample trackers) helps to proactively solve transport bottlenecks

Challenges:

- Low sample volumes for polio make it difficult to negotiate with private transporters to get good rates, given the long-distance to reach health facilities and the urgency of transport
- Even when samples arrive quickly at national level, export & int'l transport to Polio lab abroad within 24 hours is very challenging to achieve due to flight irregularities, bureaucratic processes to validate forms and other unforeseen circumstances

Photo Credit: Luciana Maxim, VillageReach, Guinea

RECOMMENDATIONS

For successful implementation, we recommend an optimal mix of (community) health workers and private transporters to support Governments to:

Introduce fast, on-demand lab sample transport to strengthen routine disease surveillance & contain outbreaks as soon as they occur

Professionalize private transporters by providing guidelines on proper packaging, handling, sample delivery times and data for accountability

Establish or improve monitoring and reporting mechanisms to evaluate the performance of private transporters and ensure the traceability and temperature of polio samples in almost real-time by using tracking devices such as **Tec4Med**[2]

The **Outsourced Transport Resource Center**[3] is available to help with the selection of private transporters that meet the necessary qualifications and safety standards.

1 www.villagereach.org/project/polio-laboratory-sample-transport/
2 www.tec4med.com
3 www.villagereach.org/project/otrc

AUTHOR BIO

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Yves Rolland Kouabenan is a public health specialist and an experienced monitoring and evaluation professional. He has over 10 years of experience in program management and data analysis in the non-profit sector. Yves Rolland holds a Master's degree in Biostatistics from Aix-Marseille University.

Yves Rolland has worked on several public health programs, with his recent focus being on preventing vaccine-preventable diseases such as poliomyelitis and COVID-19. He has also been working on strengthening monitoring and evaluation systems in many countries to provide high-quality data that supports decision-making.

Currently, Yves Rolland works as the Monitoring and Evaluation Manager at VillageReach, overseeing African French-speaking countries. Through his work, he has developed strong public health program management and data analysis skills.

Before joining VillageReach, Yves Rolland worked as a Monitoring and Evaluation advisor with the International Center for Training and Education Center for Health under the PEPFAR-CDC-funded HIV/AIDS program in Cote d'Ivoire. His passion for reducing health disparities in vulnerable communities is evident in the work he has done over the years.

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