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2023 Nairobi, Kenya
Private Sector Partnerships for Agile Lab Sample Transport Programs

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VillageReach DRC

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Agenda

- Context
- Motivation
- Methodology
- Results
- Conclusion
- Discussion

[Photo courtesy of R4H Malawi]
Polio Lab Sample Transport in 15 Countries

Following national assessments in 2022, we are implementing customized programs in 15 countries at high risk for polio outbreaks, aiming to improve the speed and quality of polio sample transportation from communities/health facilities to national/international laboratories – as part of accelerated efforts to eradicate polio and strengthen lab specimen referral systems for all infectious diseases.

Visit the Program website to read our Country stories & view the short film “72 hours” released on World Polio Day 2023.
Motivation

Polio samples are analyzed only at national/int’l labs

Baseline data (2021)

11a. Number of days from AFP sample collection to receipt by polio lab

11b. Average number of days from ES sample collection to receipt by polio lab
Following national debriefs of the assessment results, a key proposed intervention was the use of commercial transporters, recommended in 9 of the 15 countries at various levels of the health system.

This recommendation was made for systems where:

• Significant timeliness & quality issues were found
• Health workers were personally transporting polio samples from health facilities to national/provincial level, leaving their post behind for long periods of time
• Private sector couriers operate nationally or in specific regions and have the ability to transport samples safely and quickly on demand
• Significant data availability challenges existed

Interventions were customized by country.
### On-Demand Transport System by Country (1)

<table>
<thead>
<tr>
<th>Country</th>
<th>Transport companies</th>
<th>Transport Type</th>
<th>Start Date</th>
<th>Trip Segment</th>
<th># of people with samples transported</th>
<th>Technical Assistance: VillageReach &amp; Partners</th>
</tr>
</thead>
</table>
| **DRC**  | **12+ transporters:** SFJ Investissement (HK), La Concorde, Quin-Dieu-Merci, Malo-Banza, Ilu-Salem (HL), Logistique Express, UNHAS flights (TGA), AKA-Freet, GABY-Trans (SKR), CARITAS, AMEF, Swoop Aero (EQT), GABY-Lupanda (LBA), Bonsisa (MND) | - Moto-taxis  
- Minivans  
- Boats  
- Drones  
- Planes | Sep 2022 | **Health Facility → (Health Zone) → Provincial EPI**  
Haut Lomami, since mid-Aug:  
Health Facility → Provincial EPI → National Lab (Kinshasa) by airplane  
+ any other lab samples available in health facilities are picked up at same time | **1950**  
(avg. 146 per month-2023) | - Supported development of tools, contracts, and SOPs  
- Biosafety training for transporters  
- Monthly payment of transporters + Health worker reimbursement  
- Quarterly evaluation of transporters  
- Real-time sample tracking (GPS location + temp) |
| **GUINEA** | - Drivers unions  
- Moto-taxi drivers  
- UNHAS flights for 2 provinces 2X per week  
- Air Senegal to Dakar | - Moto-taxis  
- Minivans  
- Boats  
- Planes | Nov 2022 | **Health Facility → Health District → Conakry**  
WHO supports flights to Dakar  
+ polio ES samples | **315**  
(avg. 42 per month) | - 42 contracts reviewed  
- FHI 360 tracks samples & pays transporters  
- 454 transporters and HWs trained on biosafety |
| **CHAD**  | - 10 public transport unions  
- 21 moto-taxi unions | - Moto-taxis  
- Buses  
- Boats | Nov 2022 | **Health Facility → N’Djamena Bus Station → MoH**  
WHO transports to Yaoundé Lab | **1246**  
(avg. 125 per month) | - 33 contracts developed  
- Transporter biosafety training  
- ASRADD pays transporters  
- Sample trackers |
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>NIGER</td>
<td>Moto-taxi unions - Niger Poste</td>
<td>Moto-taxis - Minibus</td>
<td>Jan 2023</td>
<td>Health Facility → Health District → Capital Niamey</td>
<td>446 (avg. 50 per month) + ES samples</td>
<td>- 1341 contracts reviewed between moto-taxis &amp; HFs</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>WHO supports flights to Accra</td>
<td></td>
<td>- Davycas organized trainings on biosafety, pays transporters</td>
</tr>
<tr>
<td>MOZAMBIQUE</td>
<td>AFRICA GLOBAL LOGISTICS (AGL) manages local transporters in all 11 provinces – we added immediate, on demand polio sample transport</td>
<td>Cars - Motorcycles - Boats - Planes - Drones were used in an INS study in Inhambane until Apr’23</td>
<td>Nov 2022</td>
<td>North/Central: Health Facility → Provincial office + flights to Maputo Southern: From Health Facility → Maputo FAMED WHO supports flights to Jo’burg</td>
<td>276 (avg. 25 per month)</td>
<td>-Supported development of sample transportation SOPs - Trainings on biosafety for transporters and all 11 provinces’ surveillance officers &amp; lab technicians - Payment of transporters - HFs call national health call center AloVida for transport - Real-time sample trackers</td>
</tr>
<tr>
<td>MALAWI</td>
<td>Riders for Health (R4H) and SPEED Courier - Swoop Aero operates drones in Southern region</td>
<td>Motorcycles - Bicycle taxis - Vans - Drones in ~ 70 hard-to-reach areas</td>
<td>Nov 2022</td>
<td>Health Facility → Health District → Lilongwe EPI</td>
<td>131 (avg. 13 per month) + ES samples</td>
<td>-Developed contracts, SOPs &amp; introduced USSD sample notification system &amp; real-time sample trackers -Trained transporters &amp; all HFs on biosafety &amp; data</td>
</tr>
</tbody>
</table>
## Transport System by Country (3)

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</tr>
</thead>
<tbody>
<tr>
<td><strong>NIGERIA</strong></td>
<td>- R4H Nigeria contracted to conduct <strong>on demand</strong> sample transportation in 20 Local Government Areas (in 4 States) selected for <strong>pilot project</strong></td>
<td>-Motorcycles -Ground vehicles</td>
<td>June 2023</td>
<td>Health Facility → Capital State Level → National Polio Lab in Maiduguri or Ibanda</td>
<td>97 (avg. 27 per month) + ES samples</td>
<td>- Supported development of contracts and SOPs for sample transportation - CFHI trained transporters - Temp monitoring devices for all States</td>
</tr>
<tr>
<td><strong>TANZANIA</strong></td>
<td>- EMS (postal service) contracted to transport <strong>on-demand</strong> AFP sample for <strong>Tabora region pilot</strong></td>
<td>-Trucks -Motorcycles -Buses</td>
<td>July 2023</td>
<td>HWs transport from Health Facility to Regional level EMS from Regional → National level (Dar) WHO supports transport to Uganda</td>
<td>20 (avg. 5 per month)</td>
<td>-Supported development of contract and SOPs for sample transportation - <strong>CIHEB</strong> trained private courier &amp; makes payments</td>
</tr>
<tr>
<td><strong>KENYA</strong></td>
<td>- G4S transports polio samples countrywide</td>
<td>- All ground vehicles</td>
<td>2022</td>
<td>Health Facility → sub-county / county → National Lab, Nairobi</td>
<td>G4S contract with MoH precedes this project</td>
<td>- Discussions ongoing for county (local) govt’s to own contracts with private transporter</td>
</tr>
</tbody>
</table>
Results
Guinea: 2-day target to national capital

Using daily transport (minibuses, etc.) **between all districts and Conakry**, the national level target of 2 days has nearly been met, averaging 2.6 days for May-Jul ’23, with 77% of samples achieving the 2-day target (goal: 80%).

In the 5 (out of 8) regions where local moto-taxi drivers were added **between health facilities & district towns**, transport time has already achieved the 2-day target through the national level in 2023.
Mozambique: 2-day target to national capital

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.
### DRC: 3-day target to national lab, with 2-day target up to provincial capitals

#### Avg # days (Collection->Lab)

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<tbody>
<tr>
<td>Equateur</td>
<td>11,3</td>
<td>9,1</td>
<td>8,8</td>
<td>9,1</td>
<td>8,5</td>
</tr>
<tr>
<td>Haut-Katanga</td>
<td>12,6</td>
<td>8,9</td>
<td>8,0</td>
<td>8,9</td>
<td>9,2</td>
</tr>
<tr>
<td>Haut-Lomami</td>
<td>15,0</td>
<td>12,7</td>
<td>8,9</td>
<td>12,4</td>
<td>11,5</td>
</tr>
<tr>
<td>Lualaba</td>
<td>32,6</td>
<td>15,5</td>
<td>11,4</td>
<td>15,9</td>
<td>16,4</td>
</tr>
<tr>
<td>Maindombe</td>
<td>10,2</td>
<td>9,7</td>
<td>14,3</td>
<td>10,2</td>
<td>10,7</td>
</tr>
<tr>
<td>Sankuru</td>
<td>23,1</td>
<td>15,6</td>
<td>14,8</td>
<td>19,2</td>
<td>21,7</td>
</tr>
<tr>
<td>Tanganyika</td>
<td>19,1</td>
<td>14,5</td>
<td>8,6</td>
<td>13,8</td>
<td>12,7</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td><strong>17,3</strong></td>
<td><strong>13,0</strong></td>
<td><strong>9,6</strong></td>
<td><strong>12,4</strong></td>
<td><strong>12,3</strong></td>
</tr>
<tr>
<td><strong>DRC</strong></td>
<td><strong>13,9</strong></td>
<td><strong>17,4</strong></td>
<td><strong>13,8</strong></td>
<td><strong>15,0</strong></td>
<td><strong>13,8</strong></td>
</tr>
</tbody>
</table>

Average # of days from sample collection (community/health facility) to **provincial capitals/transit points**

- **Equateur**: -1.9 days (69% achieving 2-day target)
- **Haut Katanga**: -0.9 days (60% achieving 2-day target)
- **Haut Lomami**: -1.3 days (47% achieving 2-day target)
- **Tanganyika**: -4.6 days (27% achieving 2-day target)
Conclusion

Initial results of private sector transportation of polio lab sample transport has shown great potential, though some challenges remain, especially for countries still at high risk of polio outbreaks:

✓ DRC, Guinea, Niger, Chad, Mozambique + Angola will continue the project through end 2024

Successes:

● Improved timeliness of sample transport with maintained sample quality helps speed up lab test results and address outbreaks sooner
● Professionalization of private transporters by training on biosafety, standard operating procedures (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 often 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
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

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