Integrating Drones into Immunization Supply Chains

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Integrating Drones into Immunization Supply Chains: DRC Case Study

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NGCA (Next-Generation Supply Chains)

Started in Equateur Province as a partnership with the DRC Ministry of Health (National & Provincial) and VillageReach to improve the supply chain and product availability

Empowered human resources

Direct delivery of health products

Access and use of data

Equateur Province
Population 2.6 M
Area > 100,000 km²
Integrating drones into the NGCA Initiative

Multi-sectoral collaboration
between the DRC MoH, CAA, VillageReach, Gavi and Swoop Aero

Demonstrated two-way transport
of immunization and other medical commodities using drones

Built commitment for Phase 2 scale-up
among stakeholders from all levels
Journey to introduce drones
Phase 1 began with a multi-pronged approach:

- Governance
- Aviation & Health Regulations
- Technology
- Acceptability

Evidence Generation
Governance

- National Drones for Health Commission & Provincial Working Group formed
- Authorities involved in drone flights and activities
- Learning visits to other countries with UAV projects
- Go/No-Go decision framework developed for scale-up
- Country decision to expand intervention
Aviation & Health Regulations

- Civil Aviation approved drone partner
- Approvals for drone import and use
- Flight routes approved
- Direct coordination of flights by Civil Aviation & Air Traffic Control
- Emergency and communications protocols
- Standard procedures followed for resupply, transport and reporting via drone
Pre and post-flight stakeholder perceptions study with MoH

- Found low level of familiarity but high acceptability of the technology

Multi-pronged community sensitization strategy and public communications campaign

- Babies publicly immunized with drone-delivered vaccines

- High-level and local ceremonies during drone flights
Global request for proposals for drone partner selection

Weeks of preparations and stakeholder coordination prior to flights

Test flights conducted before official demonstration flights

EPI and health center staff trained on drone operations

Preliminary assessment of local capacity
Evidence Generation

- 50 flights traveling over 2000 km in the air, in 5 days
- 80 km round-trips, at 115 km/hr, reduced transport time from 3 hrs to ~ 20 min
- 25 kg of vaccines, syringes delivered for 5 rural health areas to immunize 470 children, plus medicines
- Cold chain maintained & reverse logistics demonstrated with lab samples, reports, letters, etc.
- No safety or product concerns, two drones flew at same time on opposite routes
- Quick adoption by local EPI and health staff
Plans for Scale-up and Integration
How do we get from introduction to integration?

**Phase 2:**
Routine use & validation

- Planned for 2020

**12 months of integrated deliveries to 25 remote areas in Equateur province**
- Strengthen enabling environment and build local capacity
- System (re)design
- New flight approvals, import, evaluation strategy, sensitizations
- Generate evidence on performance and costs
- Develop business plan for scale up and sustainability

**Phase 3:**
Expanding impact

- Planned for 2021 & beyond

**Expansion beyond Equateur province**
- Additional provinces, settings, health commodities, and use cases
- Coalition of partners (public-private partnership)
- Data on health and economic impact
**It takes a village... Acknowledgments and thanks**

**DRC Ministry of Public Health**

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