

Northern Nigeria Vaccine Direct Delivery System

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Abstract : Background: In 2013, the Kano State Primary Health Care Management Board redesigned its Routine immunization supply chain from diffused pull to direct delivery push. It addressed issues around stockouts and reduced time spent by health facility staff collecting, and reporting on vaccine usage. The health care board sought the help of a 3PL for twice-monthly deliveries from its cold store to 484 facilities across 44 local governments. eHA's Health Delivery Systems group formed a 3PL to serve 326 of these new facilities in partnership with the State. We focused on designing and implementing a technology system throughout. Basic methodologies: GIS Mapping: - Planning the delivery of vaccines to hundreds of health facilities requires detailed route planning for delivery vehicles. Mapping the road networks across Kano and Bauchi with a custom routing tool provided information for the optimization of deliveries. Reducing the number of kilometers driven each round by 20%, - reducing cost and delivery time. Direct Delivery Information System: - Vaccine Direct Deliveries are facilitated through pre-round planning (driven by health facility database, extensive GIS, and inventory workflow rules), manager and driver control panel customizing delivery routines and reporting, progress dashboard, schedules/routes, packing lists, delivery reports, and driver data collection applications. Move: Last Mile Logistics Management System: - MOVE has improved vaccine supply information management to be timely, accurate and actionable. Provides stock management workflow support, alerts management for cold chain exceptions/stock outs, and on-device analytics for health and supply chain staff. Software was built to be offline-first with user-validated interface and experience. Deployed to hundreds of vaccine storage site the improved information tools helps facilitate the process of system redesign and change management. Findings: - Stock-outs reduced from 90% to 33% - Redesigned current health systems and managing vaccine supply for 68% of Kano's wards. - Near real time reporting and data availability to track stock. - Paperwork burdens of health staff have been dramatically reduced. - Medicine available when the community needs it. - Consistent vaccination dates for children under one to prevent polio, yellow fever, tetanus. - Higher immunization rates = Lower infection rates. - Hundreds of millions of Naira worth of vaccines successfully transported. - Fortnightly service to 326 facilities in 326 wards across 30 Local Government areas. - 6,031 cumulative deliveries. - Over 3.44 million doses transported. - Minimum travel distance covered in a round of delivery is 2000 kms & maximum of 6297 kms. - 153,409 kms travelled by 6 drivers. - 500 facilities in 326 wards. - Data captured and synchronized for the first time. - Data driven decision making now possible. Conclusion: eHA's Vaccine Direct delivery has met challenges in Kano and Bauchi State and provided a reliable delivery service of vaccinations that ensure t health facilities can run vaccination clinics for children under one. eHA uses innovative technology that delivers vaccines from Northern Nigerian zonal stores straight to healthcare facilities. Helped healthcare workers spend less time managing supplies and more time delivering care, and will be rolled out nationally across Nigeria.

Keywords : direct delivery information system, health delivery system, GIS mapping, Northern Nigeria, vaccines

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