

Outreach on Wheels

Case study on EPI Vaccinators Motorbikes Intervention

Title:	Improving Routine Immunization Service Delivery Through Enhanced Mobility Support
Program:	Pakistan Expanded Programme on Immunization (EPI)
Intervention:	Provision of Motorbikes to Frontline Vaccinators
Study Approach:	Mixed Method (Qualitative and Quantitative)
Geographic Area:	Union Council, RHC (Rural Health Centre) Tarlai, Islamabad
Partner Support	EPI, WHO and other stakeholders

Objective

To document the impact of providing motorbikes to frontline vaccinators for improving outreach efficiency, strengthening cold chain maintenance and enhancing routine immunization service delivery in hard-to-reach communities.

Summary

This pre- and post-intervention case study examines how providing motorbikes to frontline vaccinators transformed outreach services in hard-to-reach communities— strengthening efficiency, improving vaccine safety and reinforcing the commitment to ensure that no child is left behind. Data for this case study were collected through interviews with vaccinators and analysis of routine outreach records, comparing service delivery before and after the provision of motorbikes.

From Challenge to Change

On a typical day in the field under Pakistan's Expanded Programme on Immunization (EPI), vaccinators set out before the sun warms the dusty roads. They carry not only vaccine carriers and registers, but also the heavy responsibility of protecting children in communities that are often hard to reach and underserved. In these areas, vaccinators face the double challenge of reaching households while maintaining the cold chain to ensure vaccine potency.

Despite these challenges, vaccinators consistently aim to reach every child, minimizing missed doses. However, logistical and transport constraints often limit their efficiency. Cold chain

maintenance during long transit is a constant concern and delays can increase the risk of vaccine damage. Outreach sessions per week are fewer and the time spent traveling reduces the opportunity to engage fully with caregivers and communities.

With the introduction of motorbikes under EPI, vaccinators experienced a significant improvement in service delivery. Travel time to outreach sites decreased dramatically, with journeys that previously took up to two hours now averaging just 30 minutes. This allows vaccinators to conduct more sessions, reach households more efficiently and maintain vaccines within the recommended temperature range of +2°C to +8°C, reducing the likelihood of potency.

Mohammad Tariq, a senior vaccinator at RHC Tarlai revealed in the interview: *"Travelling long distances with vaccine carriers and registers in extreme heat or rain was never easy, but with the motorbike, our work has become much easier and more effective because it saves time."*



Cold chain maintenance showed notable improvement after the intervention. Previously, prolonged exposure during travel increased the risk of temperature excursions, occasionally causing vaccine damage and wastage. Faster transit times post-intervention reduce this risk substantially, supporting better vaccine potency and safer administration

Zeeshan Raza, Vaccinator revealed, *"Earlier, maintaining the cold chain during long journeys was a major challenge, especially in summer. Now, because we reach the sites much faster, vaccine safety has improved, although insulated storage on motorbikes would further strengthen this."* Cool packs are still used, but the shorter travel time makes them far more effective.



Following the intervention, a clear shift was observed in service delivery outcomes. Vaccinators reported a marked reduction in missed children and outreach sessions were conducted with improved organization and accountability. Unlike the pre-intervention phase (when vaccinators were working without the bikes and had to travel all on their own), there are no significant logistical or access-related limitations and missed doses are now actively addressed through timely catch-up vaccination, improving continuity of care and coverage.

Trust-building emerged as a critical factor in these improvements. Repeated household visits, respectful dialogue and clear explanations regarding vaccine schedules and potential side effects gradually strengthen caregiver confidence. The consistent presence of vaccinators, combined with their visible association with EPI-supported services, helps reduce hesitancy and misinformation. Over time, caregivers demonstrate greater willingness to participate in routine immunization sessions and show improved compliance with follow-up visits. Through this intervention, vaccinators were able to access and cover previously missed and underserved areas, ensuring broader immunization outreach.



Vaccinator Ali Raza stated, "For us, protecting children's health is a shared responsibility, and every child matters deeply." This statement captures the dedication and personal commitment of frontline workers beyond their formal duties.



Vaccinators also offered constructive recommendations for further strengthening the intervention. They suggested regular budget allocations for motorbike maintenance, proposing checks at least every three months, along with a dedicated petrol allowance to ensure uninterrupted outreach activities. Although travel time is reduced, continuing to use cool packs is still not ideal; integrating more robust cold chain solutions with motorbike transport could enhance vaccine safety further. Additionally, the involvement of trained social mobilizers during outreach sessions could improve awareness, particularly in areas with limited media access and support newly introduced vaccines such as HPV in debugging misinformation and providing right information.

Overall, this case study illustrates that even in settings where missed doses are limited, targeted programmatic support can lead to meaningful improvements. By addressing operational gaps, strengthening trust and reinforcing accountability within routine immunization services, EPI and WHO supported interventions such as provision of Honda 125 bikes to vaccinators by Government of Pakistan and WHO to ensure that no eligible child is left unvaccinated, demonstrating that with practical support, every child can be reached and no opportunity for vaccination is lost.
