Human resources for health
In collaboration with Sabin Vaccine Institute

Scaling up innovative training platforms for routine immunisation

Reaching zero-dose children – those who have not received any routine vaccines – represents a critical global health challenge. In low- and middle-income countries, insufficient access to training for healthcare workers remains a primary barrier to identifying and reaching zero-dose children, who often live in urban slums, remote provinces and humanitarian zones. Addressing this gap requires comprehensive capacity strengthening across the health workforce. This brief examines evidence-based approaches to scaling innovative training programmes for Ministry of Health/Expanded Programme on Immunization teams at national and subnational levels, supply chain workforce, health professionals, community health workers (CHWs) and community health actors.

Accredited Social Health Activists (ASHAs) participate in a Khushi Baby (Happy Baby) training to use the Integrated Community Health digital platform.

Training challenges

The following challenges demonstrate documented gaps in current health worker education systems, particularly in community health competencies. These gaps require systematic reforms in health worker education and workforce development strategies.

Limited reach of conventional facility-based training programmes affects workforce distribution.

Research found traditional nursing education models emphasise hospital-based care, leaving graduates unprepared for community roles. World Health Organization (WHO) data shows over 70% of nursing programmes globally focus on acute care settings.

Insufficient community engagement and social mobilisation skills create competency gaps.

Research demonstrated that clinically trained nurses lack competencies in community organising and population health approaches. Fewer than 40% of nursing curricula include substantial community engagement components.

Culturally inappropriate training materials and methodologies reduce programme effectiveness.

Evidence shows culturally adapted training materials improved learning outcomes by 35–45% compared to generic approaches, as standardised materials fail to address local health beliefs and communication patterns.

Inadequate preparation for addressing vaccine hesitancy and misinformation became evident during during the COVID-19 pandemic.

Survey data from multiple countries shows healthcare workers, including nurses, report feeling unprepared to address vaccine concerns effectively.

Large trainings that remove health workers from their daily responsibilities create service delivery gaps.

These approaches fail to integrate learning with ongoing work responsibilities and limit the practical application of new skills in real workplace settings.

Key success factors for scaling up training programmes

Digital integration and accessibility

Programmes leverage appropriate technology whilst ensuring accessibility in low-resource settings. Solar charging, offline functionality and multi-language support enable sustainable implementation.

Community-centred approach

Training recognises CHWs and nurses as community connectors, not merely service providers. Curricula prioritise social mobilisation, community engagement and addressing local immunisation barriers.

Continuous support systems

One-time training events deliver limited sustained impact. Models incorporate ongoing mentorship, refresher training and peer support networks to maintain knowledge and motivation.

Integration with health systems

Standalone immunisation training achieves limited impact compared to programmes integrated with broader health system strengthening. Models align with national health workforce and primary health care plans and system priorities.

Training models that work

The following models work best when aligned with national systems and integrated into competency-based training strategies that address local context, language needs, and existing health system structures.

Training model	Description
WHO's competency-based training for health workers	WHO's model focuses on observable skills and knowledge application rather than time-based completion. Ethiopia's Health Extension Programme uses competency-based curricula for Health Extension Workers delivering immunisation services, with clear skill assessments and certification. Rwanda implemented competency-based training for community health co-operatives in vaccination campaigns, demonstrating improved performance outcomes.
Digital and mobile learning platforms	UNICEF's RapidPro platform operates across 50+ countries for health worker training and communication. Nigeria uses it for training immunisation staff on cold chain management and adverse event reporting. India's DHIS2 Academy provides online immunisation data management modules. Johns Hopkins University's myLearning 2.0 platform delivers bite-sized learning modules via mobile devices in Ghana and United Republic of Tanzania, showing measurable knowledge improvements.
Blended learning approaches	WHO's Immunization in Practice (IIP) modules combine online theoretical components with hands-on practical sessions. Kenya and Bangladesh adapted these for immunisation training programmes. The approach typically comprises 70% online/digital content with 30% face-to-face practical application and mentoring.
Simulation-based training	Low-cost simulation models for vaccine administration, cold chain management, and emergency response demonstrate strong evidence in Ghana and Malawi. These use locally manufactured training aids and standardised scenarios to build practical competencies without risking vaccine supplies or patient safety.
Mentorship and supportive supervision models	The Gavi Strategic Training Executive Programme (STEP 2.0) strengthens strengthens immunisation supply chain leadership through mentorship, coaching, and hands-on projects. Participants tackle real challenges, like reducing vaccine stock-outs, while paired with experienced mentors. For example, a person from Zambia implemented a cold chain tracking system, improving timely deliveries and staff performance.

Recommendations for scaling-up training programmes

Scaling requires technological innovation combined with community engagement, cultural responsiveness, and robust health system integration. As low- and middle-income countries pursue immunisation targets, investing in comprehensive, evidence-based training programmes for health workers provides a critical pathway to reaching vulnerable children and achieving Universal Health Coverage.

Immediate actions (0–12 months)

Governments and partners prioritise mapping existing training infrastructure and identifying high-performing programmes for rapid adaptation. Investment in technology platforms functioning across diverse geographic and connectivity contexts.

Medium-term development (1–3 years)

Establish regional training hubs serving multiple countries with similar contexts. Align competency frameworks with national standards whilst maintaining local adaptation flexibility. Develop clear transition plans for sustainable financing, reducing donor dependence.

Long-term sustainability (3–5 years)

Embed innovative training approaches into pre-service health worker education and integrate CHW programmes with health systems. Establish quality assurance mechanisms and develop local capacity for programme management. Collaborate with local training institutions for sustainability.

Credit: Gavi/2025/Jjumba Martin

A health worker in Uganda explains the malaria vaccine's four-dose schedule (6, 7, 8 and 9 months of age) to a mother.

This product was produced by the Zero-Dose Story Generation Consortium, led by Sabin Vaccine Institute. Sabin is a leading advocate for expanding vaccine access and uptake globally, advancing vaccine research and development, and amplifying vaccine knowledge and innovation.

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