



WHAT WORKS?

Promising Practices in International Development

## What Works in Immunization?

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It is hard to imagine a more effective method than vaccination for keeping children healthy. Not only do vaccines save lives in huge numbers, they are also cost-effective, relatively easy to deliver and in most cases, vaccines provide lifelong protection.

I am going to talk about some of successes in immunization by focusing on the *World Health Organization's Extended Immunization Program* and a successful country response to it.

The *World Health Organization* (WHO) established the *Expanded Program on Immunization* (EPI) in 1974 to increase the uptake of routine childhood vaccines across the world. This program was one of WHO great successes. Coverage rates of EPI vaccines climbed rapidly from less than 5% to over 80% in many low and low middle-income countries. By the 1980s, coverage of EPI vaccines in the global south was similar to, or even better than that achieved in many parts of the global north, where the infectious diseases were not seen as a significant threat.

Vaccination require high levels of coverage. When enough people are immunized within a given community, diseases cannot spread. Measles require 95 percent coverage to provide this benefit. The recommendation for most other childhood vaccines 80-85 %.

The health benefits of immunization therefor are to a large degree dependent on achieving relatively high coverage among cohort, over cohort of children. For this to happen EPI developed an immunization system or structure.

**Firstly, national immunization programs** can only function when specific set of inputs; vaccines are available on a reliable basis. Many vaccines require multiple doses for maximum effectiveness. EPI developed vaccine schedules to achieve maximum effectiveness using required and recommended vaccines, while minimizing the number of health care system interactions.

**Secondly, all vaccines are thermally unstable.** Close to all vaccines needs to be stored in fridges, cages and boxes that can maintain a stable temperature. To ensure this the EPI developed cold-chain management routines. The cold-chain is the spine of any immunization system. The cold-chain is a concrete chain of immunization depots, buildings, refrigerators freezers, coolers and diesel aggregates that branch out from the national, regional to local communities where the actual vaccination takes place. These can be fixed immunization points - or door-to-door immunization services.

**Thirdly, at the periphery of the cold chain** vaccines are distributed to small clinics in insulated coolers packed in dry ice. When vaccine failure is detected the cause is often to be found in the breakage of the cold-chain, a power-cut, a break-down of a car, a road

over-flooded. The further out in the periphery of the cold chain you come the more vulnerable the cold chain

**Fourthly, individual vaccine needs to reach each child in relation to each child's** individual vaccine schedule dependent on the date of birth. To ensure this the EPI developed the vaccination card, or health-card stipulating the schedule for each individual child.

**Lastly, educating a new cadre specifically trained for vaccine services.**

In its simplicity, an immunization system is also complex, and there is still great variation in coverage between countries and within countries as countries grapple with donor dependencies and tough priorities within weak health systems.

Also, immunization is preventive medicine and in countries where disease-burden is high there is active and political demand for curative treatment, not preventive healthcare as immunization.

Malawi is a puzzle or a paradox in this regard. Let me give you a few facts:

1. UNDP has ranked Malawi 171 out of 181 countries on the Human Development Index. Life expectancy is only 54 years. The HIV and Aids prevalence is high, so is malnutrition with a stunting rate as high as 40%.
2. The health system is extremely weak, moving in and out of crisis as donors frequently hold back funds due to corruption charges.
3. Human resources for health is desperately lacking with a 74 % vacancy for nurses. Access to health services is limited only 46 % of the population live within 5 km of a health facility.

Despite its many challenges, Malawi has managed to sustain an impressive immunization coverage. In 2015, the Malawian government proudly reported in its Millennium Development Goals end-line report, that they had made significant progress in reducing the child mortality rate. Indeed, close to the target set. The Malawian government attributed progress exactly to access to immunization.

**So, what is it Malawi has done? It has managed to sustain its old EPI program**

The Malawian Immunization program was established in 1979 as part of the WHO EPI programme *with the vision to keep Malawian children free from vaccine preventable diseases*. Ten years after the country attained the universal immunization goal when it reached an average coverage of 80% and above, for all antigens. High immunization coverage is continually sustained.

When we asked the head of the EPI programme what can explain the Malawi success, she explained “we work with the communities, so that communities actively demand vaccination services.

So, what is it the EPI officers then did?

**Firstly, they placed immunization within existing knowledge** and perceptions of diseases. In communities where child mortality is high, protecting children becomes a major concern. The identity of Motherhood in Malawi as in many other countries is intimately tied to child protection.

**Secondly, the EPI officer sought the support of the traditional Chiefs:** The traditional chiefs are crucial in Malawian governance and effective champions for local development. In the early days, immunization took place in the chief's yard and became by this what mothers and community members should do, as citizens and as members of local communities in order to protect their children.

**Thirdly, developed trust in the provider by educating a new health cadre.** Health surveillance assistance (HAS) is a cadre of community health workers that links the formal health system with local communities. Their history reach back to the 1960, when they were recruited as smallpox vaccinators. HSAs are, appointed by the chief, trusted by the community. They have with generations of experience of immunization practices and child protection.

**Fourthly, trust and active demand depends upon the quality OF VACCINE DELIVERY.** In Malawi immunization are delivered on a regular basis in fixed health units run by the government, old mission hospitals or private institutions. Hospitals and health centers organize outreach clinics. They have a cold-chain that after years of experience work, even with meagre resources.

**Lastly but importantly,** the Malawian government and its health authorities take pride in their immunization system, its output and impact. There **is a strong political will** to maintain it. Through different Precedencies the politicians have worked to protect it and sought support amongst its donors to secure its continuation. Even among the Malawian politicians, **there is an active demand for vaccines.**

**Today immunization is a global system.** It concerns an impressive medical technology - developed within a transnational industry. A Global Welfare system, in my talk represented by the WHO - supporting the national government system, communities and families in its attempt to fit a global immunization program to the local circumstances. Hence responding to the concern so salient in every place **how are we to ensure health and growth of our infants and children.**