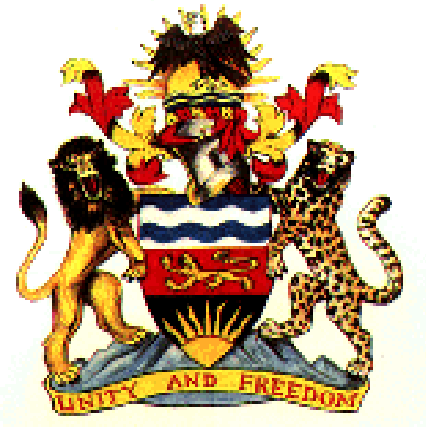
Government of Malawi



Ministry of Health

COMPREHENSIVE REVIEW
ON
EXPANDED PROGRAMME ON IMMUNISATION

November 26-December 21, 2012

Acknowledgements:

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Special thanks to the beneficiaries who were willing to be interviewed and provide valuable information.

Abbreviations

ADC	Area Development Committee
AEFI	Adverse Events Following Immunisation
AFP	Acute Flaccid Paralysis
ARI	Acute Respiratory Infections
BCG	Bacillus Calmette Guerin
CHAI	Clinton Health Access Initiative
CHAM	Christian Health Association of Malawi
cMYP	comprehensive Multi Year Plan
DIP	District Implementation Plan
DPT-HepB-Hib	Diphteria-Pertussis-Tetanus-Hepatitis-B Haemophilus influnezae type b
DQS	Data Quality Self Assessment
EHP	Essential Health Package
EPI	Expanded Programme on Immunisation
EVM	Effective Vaccine Management
GAVI	Global Alliance for Vaccine and Immunisation
GDP	Gross Domestic Product
GVH	Group Village Headman
HMIS	Health Management Information System
HSA	Health Surveillance Assistant
HSRG	Health Sector Review Group
HSSP	Health Sector Strategic Plan
KAP	Knowledge Attitude Practice
MCHIP	Maternal and Child Health Intervention Programme
MCHS	Malawi College of Health Sciences
MoF	Ministry of Finance
MoH	Ministry of Health
NITAG	National immunisation Technical Advisory Group
NNT	Neonatal Tetanus
NRA	National Regulatory Authority
NSO	National Statistics Office
OPV	Oral Polio Vaccine
PCV	Pneumococcal Vaccine
PIE	Post Introduction Evaluation
PMPB	Pharmacy, Medicines, and Poisons Board
REC	Reaching Every Child
RED	Reaching Every District
RV	Rotavirus Vaccine
SIA	Supplementary Immunisation Activity
STI	Sexually Transmitted Infections
SWAp	Sector Wide Approach

TA	Traditional Authorities
TT	Tetanus Toxoid
TWG	Technical Working Group
UNICEF	United Nations Children's Fund
VDC	Village Development Committee
VMA	Vaccine Management Assessment
VVM	Vaccine Vial Monitor
WHO	World Health Organization

1 Executive Summary

The EPI programme of Malawi in collaboration with partner agencies conducted a comprehensive programme review from November 26 - December 21. This review was needed to guide the strategic direction of the programme considering the new innovations in the immunisation service delivery system in particular and the health system in general since the last EPI comprehensive review in 2003.

1.1 Objectives and Methods

The main objectives of the review were:

- To assess the status of performance of the immunisation programme over the past 5 years
- To assess the effect/impact of the health system and external environment of EPI performance over the past 5 years;
- To provide recommendations for strategic planning in the cMYP and EPI Annual Plan of Action.

The plan of the review process was discussed and endorsed by the EPI sub-TWG. A team of internal and external reviewers was assembled for adaptation and review of tools and orientation/training of review team members.

Six teams were formed to make the data collection through interviews and observations. All the three regions were included in the review and a total of 13 districts and 38 health facilities were visited. Data was collected by interviewing EPI officers at national, district and health facility level using standardized questionnaires. Beneficiaries were also interviewed on their views about the service delivery and communication on EPI. Observations of immunisation session were recorded at the review sites. At national level the review included a visit to the national vaccine store and interviews with national EPI team, other relevant departments within the ministry of health, ministry of finance, pharmacy medicines and poisons board, 2 training institutions and 4 partner agencies.

Data cleaning and analysis was made in a meeting with all the team supervisors from each of the six data collection teams.

1.2 Major findings:

1.2.1 Strengths and opportunities

- There is high political will at all levels. The government funds the purchase of traditional vaccines, Co-financing of procurement of new vaccines, launching of SIAs and new vaccine introductions by high profile politicians
- Partner coordination especially through the EPI-sub Technical Working Group is strong
- The programme has got committed and experienced staff
- All but one districts have two EPI coordinators

- 86% of districts have District Implementation Plan (DIP) with an EPI annual plan
- The programme has achieved high immunisation coverage rate for many years
- Reaching Every District (RED) strategy has been rolled out and training conducted in all districts and facilities.
- At national level there is adequate storage and cold chain capacity and no vaccine stock outs
- None of the district's cold stores contain expired vaccine or VVM stage 3 or 4
- In all district cold chain stores the temperature inside the refrigerators was within +2° and +8°C
- There is proper procedure for destruction of used vials and all districts use incinerators
- Surveillance indicators for polio have been achieved in 2012 (except stool adequacy rate)
- 85% districts and 72% facilities have surveillance focal point person
- Most district officers know the case definition of AFP (92%) and measles (85%)
- Most districts (77%) and facilities (81%) have community level social mobilizers
- Community supports immunisation through mobilization of the population for sessions (72%) provision of volunteers (64%) and providing space for immunisation (54%)
- Most districts (77%) receive regular supervisory visits from the zonal level
- All districts receive monthly reports from facilities and most (70%) have a tool to monitor the timeliness and completeness of immunisation reports
- RED training was conducted in all the districts in the 12 months prior to the review
- All districts have conducted at least 2 trainings for health facilities in the past one year
- All districts HSAs received salaries on a regular basis in the past 12 months
- All facilities have introduced new vaccines (PCV and Rotavirus vaccine)

1.2.2 Weaknesses and threats:

- The economic situation in the country in the recent past has reduced budget and fuel available for supervision and the trend in the government budget allocation for EPI is showing a decline.
- The recent devaluation of Malawian Kwacha has affected the value of the funds from donors
- Resource support to EPI by local government at district level was not found in nearly 40%
- The national team is also responsible for coordinating EPI activities for central zones
- There is no National immunisation Technical Advisory Group (NITAG)
- Key policy and guideline documents are not available for use; some are in draft form
- The health organogram at district level does not show EPI in 10 of the 13 districts (77%).
- There is no RED guideline and vaccinators' manual is not updated and available
- A quarter of the districts and facilities do not have an up-to-date map of facilities and catchment population.
- Routine immunisation service delivery was disrupted in 37% of the facilities due to insufficient transport (44%), vaccine stock out (31%), cold chain breakdown (19%)
- Vaccine and materials distribution to the health facilities has been disrupted in 10/12 districts due to fuel related transport problem
- Only 50% of districts have got an updated cold chain inventory
- Vaccine/supply shortages were experienced in 62% of districts and 65% of the facilities
- Immunisation safety protocol was available only in 31% of the districts and 13.5% of the facilities
- AEFI forms are not available in most facilities (92%) and districts (54%)
- Summary of surveillance data is not displayed
- Knowledge on surveillance indicators was not satisfactory both at district (54% for AFP and 23% for measles) and facility level (19% for AFP and measles and 14% for NNT).
- Only 1 of 13 districts has a line graph monitoring priority diseases.

- EPI communication plan not revised to include new vaccines
- Only few districts (23%) and facilities (22%) have a IEC plan
- Only 46.2% of the districts have written guidelines or standards available for supportive supervision
- The districts could manage to conduct only 57% of the planned supervision activities
- Only 40% of districts and 34% of facilities have an updated monitoring chart
- No EPI review meeting at national level
- Review meetings are not commonly used (33%) as monitoring mechanism by districts
- Only one of the districts identifies and shares best practices with health workers and programme coordinators.
- Of the facilities which needed to increase the cold chain capacity for the new vaccine introduction, only 24% were able to adequately increase the capacity

1.3 Major recommendations:

- EPI sub TWG, EHP TWG, Health Sector Review Group to advocate for more EPI funding during the budget planning process
- Secretary of Health and Secretary of Finance to work together to have separate foreign-currency account for funds from external sources to EPI to minimize the effect of devaluation (SoH, SoF)
- Involve District Executive Committee and local non-governmental organizations in mobilization for routine EPI (DoH)
- Directorate of preventive health services to assign personnel in the zonal offices that do not have officers to coordinate EPI programme
- Directorate of preventive health services to oversee the establishment of NITAG
- EPI programme to finalize the EPI policy, finalize the updating of surveillance manual and distribute to facilities
- District Health Office to have an organogram showing the key position and role of EPI
- EPI programme to prepare and distribute a RED/REC guideline and tools
- EPI programme to evaluate why RED strategy is not fully implemented in districts and facilities
- District EPI officers to update EPI microplans as part of DIPs with appropriate resources and the health facility in charge with the EPI focal point person to prepare and/or update microplans in facilities
- District health office to ensure transport for out reach and delivery of supplies is available
- District EPI office to update cold chain inventory every 6 months
- Health facility EPI focal person to regularly update the stock register and notify district early to avoid stock outs and EPI programme to introduce the use of Stock management tools (SMT) for districts
- EPI programme to prepare standard operating procedures on cold chain/logistics and in consultation with environmental section to prepare injection safety guidelines and protocols
- Pharmacy, Medicines and Poisons Board be a member of EPI TWG to strengthen collaboration with the EPI programme on monitoring AEFIs and post marketing surveillance
- District EPI office to conduct refresher training of health workers and surveillance assistants on vaccine management and temperature monitoring

- District health office to collate facility surveillance data and make district level analysis for corrective action
- District health office to conduct refresher training and clinician sensitization
- EPI programme to provide regular monthly feedback to districts and facilities on surveillance indicators
- EPI programme and health education services to update the EPI communication plan
- District health offices should develop their communication plan and strategy
- EPI programme to Prepare and distribute guidelines and standardized checklist for supportive supervision and district health offices to prepare and implement plan for regular supervision according to national guideline
- Health facility in charge to strengthen the link between the program and community through regular meetings and discussions
- District EPI officers to make use of monitoring charts and update data regularly
- EPI programme to conduct one EPI review meeting at national level annually
- EPI programme to participate in zonal and district review meetings to provide feedback and share best practices
- District health office to identify and share best practices with all facilities
- Health facility in charge to assess the need for increasing cold chain capacity and ensure that it is addressed before the introduction of the new vaccines

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2 Introduction

2.1 Country profile

2.1.1 Geography and administrative system

Malawi is a landlocked country in southeastern part of Africa and shares boundaries with Zambia in the West, Mozambique in the East, South and Southwest and Tanzania in the North. It has an area of 118,484 km^2 of which 94,276 km^2 is land area. The remaining area is mostly composed of Lake Malawi, which is about 475 kilometres long and delineates Malawi's eastern boundary with Mozambique. The country is divided into 3 administrative regions namely the northern, central and southern regions. There are 28 districts; six districts are in the Northern Region, nine are in the Central Region, and 13 are in the Southern Region. Each district is further divided into traditional authorities (TAs) which are ruled by chiefs. The village is the smallest administrative unit and each village is under a TA. A Group Village Headman (GVH) oversees several villages. There is a Village Development Committee (VDC) at GVH level, which is responsible for development activities. The Area Development Committee (ADC) coordinates development activities at TA level. Politically, each district is further divided into constituencies that are represented by members of parliament and in some cases these constituencies can combine more than one TA.

2.1.2 Population

In 2011 Malawi's population was estimated at 14.4 million. At a growth rate of 2.9%, there will be need for a corresponding increase in funding for the health sector. The proportion of Malawi's population residing in urban areas is estimated at 15.3%. Malawi is one of the most densely populated countries in Africa: the population density was estimated at 105 persons per km^2 in 1998 and increased to 139 persons per km^2 in 2008 with the Southern Region having the highest population density at 184 persons per km^2.

Table below summarizes some of the demographic features.

Statistic	Indicator
Annual Growth Rate	2.9%
Projected Total population (2012)	14,844,822
Percentage of under 15 Population	46
Percentage of children under 12 months immunised against measles	93
Total Fertility Rate	6.0 children per woman
Infant Mortality Rate	66 per 1000 live births
Under-five Mortality Rate	112 per 1000 live births
Maternal Mortality Rate	675 per 100, 000 live births
Male Life Expectancy at birth	51years
Female Life Expectancy at birth	54 years

Source: Demographic Health Survey 2010

2.1.3 Socioeconomic profile

The backbone of the Malawi's economy is Agriculture. The main occupation of the people is farming, fishing and cattle rearing. Agriculture produce is the main contributor to the Gross Domestic Product

(GDP). The country's major exports are tobacco, tea, and sugar. They account for approximately 85 percent of Malawi's domestic exports. Malawi's GDP per capita has grown from less than $250 in 2004 to $313 in 2008. Malawi experienced a food surplus during the 2008-2009 growing season due to favorable weather and the benefits of the government's Farm Input Subsidy Programme (FISP). These events led to the financial growth and economic growth rate ranging between 6% and 9%. This has contributed to a reduction in the proportion of Malawians living below the poverty line from 52% in 2004 to 39% in 2009.
However since 2009, Malawi has experienced some setbacks, including a general shortage of foreign exchange, which has damaged its ability to pay for imports, and fuel shortages that hinder transportation and productivity

2.2 Health sector

In Malawi both the public and the private sectors deliver health care services. The public sector includes all facilities under the Ministry of Health (MoH), Ministry of Local Government and Rural Development, the Police, the Prisons and the Army. The private sector consists of private for profit and private not for profit providers (mainly the Christian Health Association of Malawi (CHAM)), Muslim Association of Malawi. The MoH is the largest health care service provider followed by CHAM. Though the private health sector is growing, its services are mainly in the large urban centers. The public sector provides services free of charge while the private sector charges user fees for its services but not for EPI services.

Health services are delivered at primary, secondary and tertiary levels. These different levels are linked to each other through an elaborate referral system that has been established within the health system. At the primary level, services are delivered through community initiatives, health posts, dispensaries, maternities, health centers and community and rural hospitals. At this level community-based health cadres such as Health Surveillance Assistants (HSAs) provide services alongside health workers such as nurses and medical assistants. District hospitals constitute the secondary level of health care and serve as referral facilities for both health centers and rural hospitals. The tertiary level comprises of central hospitals that provide specialist referral health services for their respective regions.

The government of Malawi in its efforts to improve the health status of the nation developed the Health Sector Strategic Plan (HSSP) in 2010 that covers the period 2011-2016.

The HSSP aims at four main outcomes:

- Increased coverage of high quality EHP services
- Strengthened Performance of the Health System to Support Delivery of EHP Services.
- Reduced Risk Factors to Health.
- Improved Equity and Efficiency in the Delivery of Quality EHP Services.

The Ministry of Health and its development partners agreed to move towards a sector wide approach in 2003 and SWAp started with the first tranche of funding for the Programme of Work in late 2004 as a means to deliver EHP.

The Essential Health Package (EHP) comprises of diseases and conditions affecting the majority of the population especially the poor. This package was delivered free of charge in cost effective interventions. Vaccine preventable diseases are one of the components of EHP. Others include Acute Respiratory Infections (ARIs); malaria; tuberculosis; sexually transmitted infections (STIs) including HIV/AIDS; diarrhoeal diseases; schistosomiasis; malnutrition; ear, nose and skin infections; perinatal conditions; and common injuries.

2.2.1 Expanded Programme on Immunisation

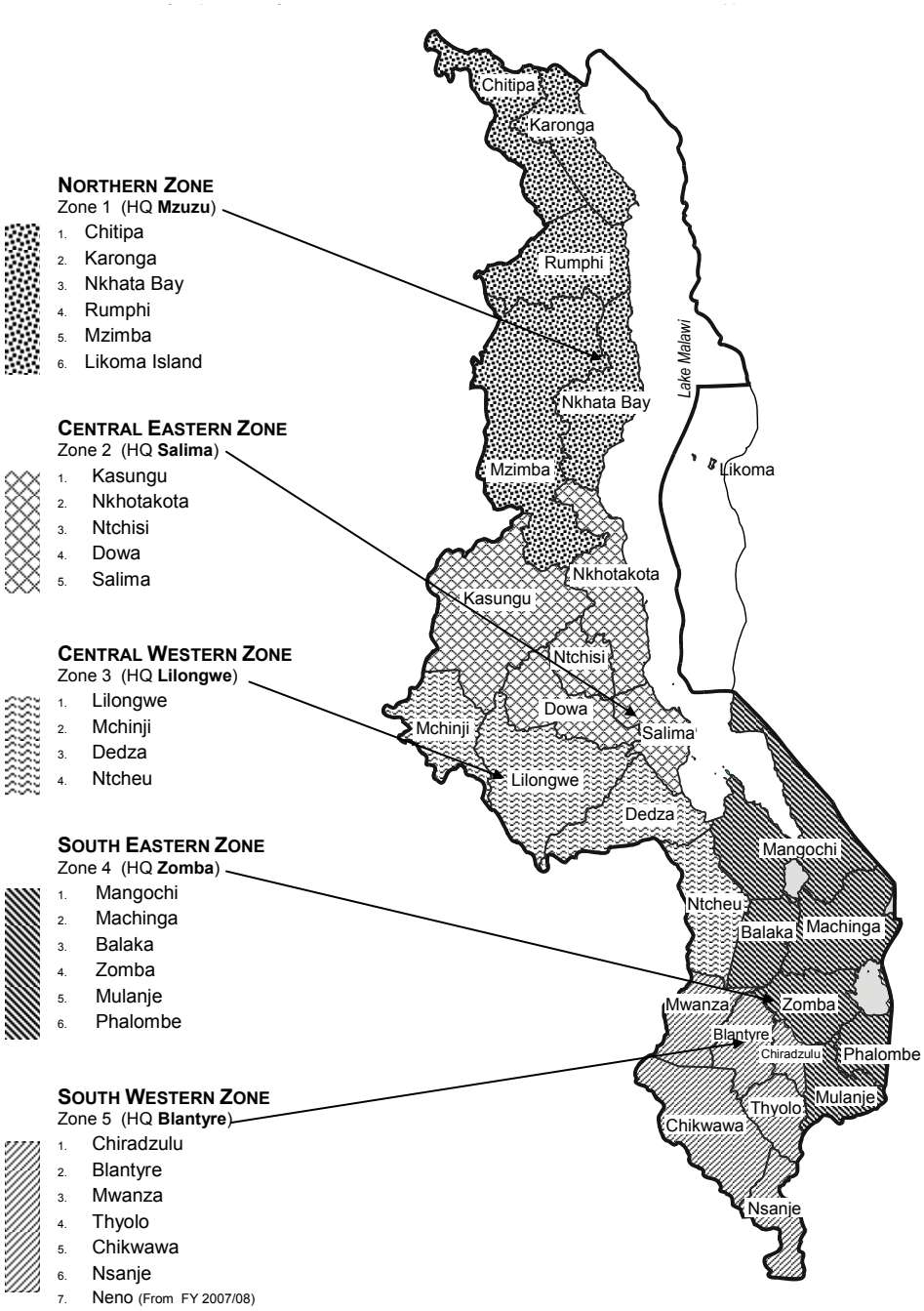
In Malawi, EPI is integrated within the Preventive Health Services network. At the central level, the programme is managed by the EPI Manager and assisted by deputy programme manager and officers dealing with logistics and cold chain, disease surveillance and data management

The EPI Unit has the responsibilities of policy and guidelines formulation, training and supervision to ensure provision of quality immunisation services, and accelerated disease control activities that relate to three main diseases that are of global concern for eradication and elimination: polio, measles and NNT. In line with the global and regional disease control initiatives, special strategies are in place in order to sustain the targets and objectives. These include strengthening routine immunisation, conducting periodic immunisation campaigns and surveillance.

The Regional EPI Officers in the North and South are responsible for coordinating EPI activities in their respective regions. The national EPI office is coordinating activities for the central regions. There are now 5 zonal health support offices but the EPI programme do not have coordinators in some of the zonal offices.

At district level, there are two EPI Coordinators assisted by Cold Chain Technicians who are responsible for control and allocation of supplies to health facilities within the districts. At health center level, all health workers participate in EPI activities. Immunisation activities are carried out along with growth monitoring, nutrition and antenatal care throughout the country. Currently in most facilities immunisation services are provided by Health Surveillance Assistants (HSAs).

EPI manages a cold chain that consists of 1 national vaccine store, 3 regional vaccine stores, 29 district vaccine stores (one of the districts has two), and 826 facilities with cold chain equipment.



Zonal Grouping of Districts of Malawi (January 2007)
Five Zonal Health Support Offices (ZHSO)

*Head quarter of central eastern zone has moved to Lilongwe in 2010

EPI service is mainly provided through government facilities (60%), CHAM (39%) and other private and non-governmental organizations (1%). Private facilities receive vaccines, provide services to clients free of charge, and report back to districts using the MOH reporting forms.

Current vaccination schedule: Measles, DPT-HepB-Hib, OPV, PCV, RV and BCG vaccines are given to children under one year of age. Tetanus toxoid vaccine is provided to pregnant women and women of child bearing age. These immunisation services are presently delivered through static and outreach clinics across the country. PCV was introduced in November 2011, and rotavirus vaccine was introduced in October 2012. Vitamin A supplements are provided during immunisation services.

Age	Vaccine
At birth or first contact	BCG
At birth up to 2 weeks	OPV 0
At 6 weeks	OPV 1, DPT-HepB-Hib 1, PCV 1 and Rota 1
At 10 weeks	OPV 2, DPT-HepB-Hib 2, PCV 2 and Rota 2
At 14 weeks	OPV 3, DPT-HepB-Hib 3 and PCV 3
At 9 months	Measles
First contact (15-45 yrs and Pregnant women)	TT 1
4 weeks after TT1	TT 2,
6 months after TT2	TT 3
1 yr after TT3	TT 4
1 yr after TT 4	TT 5
At 6 months and every 6 months up to 59 months	Vitamin A (children)
Within two weeks of delivery	Vitamin A (post natal mothers)

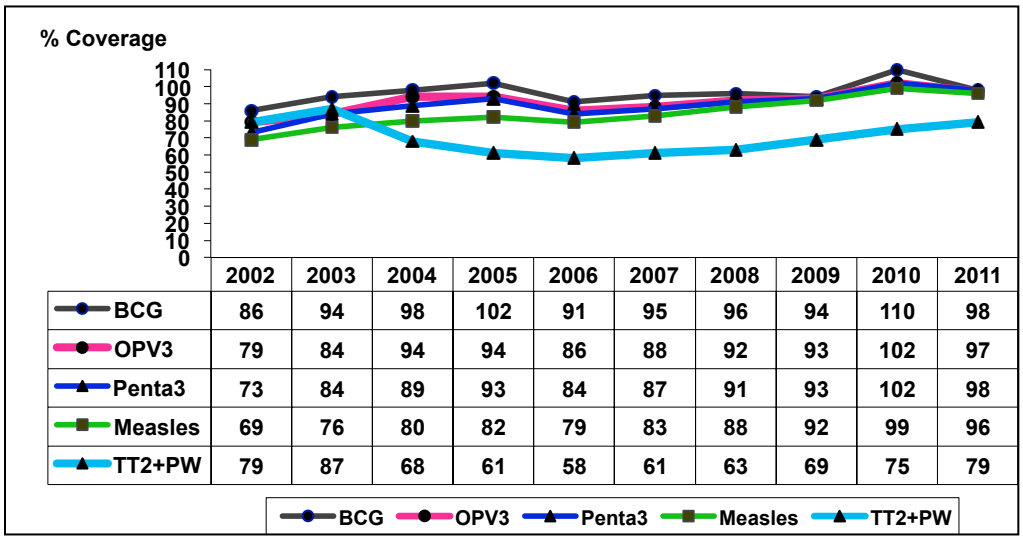
Progress and achievements of EPI in Malawi

Since it began operating in Malawi in 1979, EPI programme performance has progressively improved through the years. The programme has attained a coverage of 80% and above for nearly all antigens in the last decade as shown in the figure below with the exception of TT2+ for pregnant women (source national EPI data). In 2005 it was one of the first African countries to have its polio documentation report accepted by the ARCC for maintaining the certification criteria for more than three years.

Although an EPI coverage survey was not done in the near past, the 2010 DHS showed that 81% of children aged 12-23 months were fully immunised.

Malawi has achieved the Universal Childhood Immunisation (UCI) goal of 80% coverage for all antigens in 1989 and high levels of coverage have since been sustained.

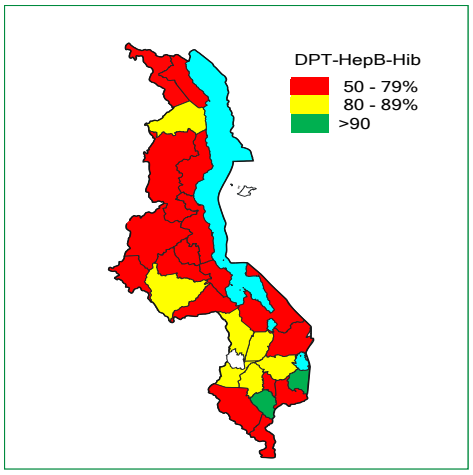
Vaccination coverage from 2002-2011, Malawi (data from MoH, EPI)



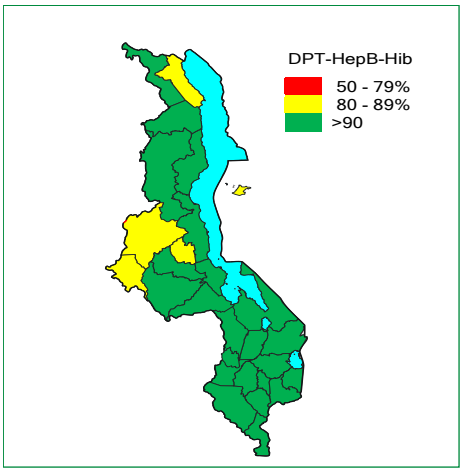
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BCG	86	94	98	102	91	95	96	94	110	98
OPV3	79	84	94	94	86	88	92	93	102	97
Penta3	73	84	89	93	84	87	91	93	102	98
Measles	69	76	80	82	79	83	88	92	99	96
TT2+PW	79	87	68	61	58	61	63	69	75	79

The picture below shows the notable progress of vaccination coverage as illustrated by the comparison of DPT-HepB-Hib coverage in 2002 and 2011.

2002



2011



The polio eradication programme was strengthened by the establishment of the AFP surveillance in the mid 1990's. The last clinically confirmed wild polio case in Malawi was in 1992 indicating a polio free status for more than two decades. The Africa Regional Certification Commission (ARCC) accepted its polio-free status documentation in 2005. Since 2000, the country relies on routine OPV administration

to maintain polio frees status but conducted preventive polio supplementation campaigns in three districts late 2011 in response to the confirmed circulating vaccine derived polio virus outbreak in 2011 in Mozambique.
Despite this progress Malawi experienced a large measles outbreak in 2009-2010 where 119,034 measles cases and 264 deaths were reported from all districts. This was believed to be due to accumulation of susceptible through the years. The government responded by nation wide vaccination that targeted children from 6 months to 15 years of age.

The programme in collaboration with partners has conducted surveys and reviews to look into the gaps in the different components of the immunisation system. Prioritized recommendations from some of these documents are summarized below.

2.2.2 Summary of desk review of key documents

Title	Year	Key Recommendations	Status of Implementation
National Report for Data Quality Self Assessment	**2012**	• **Districts must review their data management and monitoring system to ensure data quality.** • **EPI unit/ HMIS should review the Under 1 and TT registers so that individual immunisation information is easily tracked and child health passports to provide for documentation of dates for next immunisation visit and date given.** • **EPI unit should produce stock book for recording of injection materials at health facility level. This should also capture Batch number, expiry date and VVM.** • **EPI unit should produce protocols on AEFI procedures and train the health workers.** • **The national EPI Unit/ HMIS must ensure constant production and distribution of registers and child Health profiles in order to ensure documentation of data.** • **The Ministry should train health workers on Immunisation in practice modules in order to impart knowledge and skills on immunisation issues.**	**ON GOING** **ON GOING** **NOT DONE** **NOT DONE** **NOT DONE** **NOT DONE**

Technical Report on Post Introduction Evaluation of Pneumococcal Conjugate Vaccine (PCV 13)	**2012**	• **Conduct RED and DQS in all regions and districts** • **Train districts on data management to equip staff with skills to analyse, interpret and use data for action including the use of electronic tools such as DVDMT** • **Strengthen the coordination between the Pharmacy Medicines and Poisons Board (which serves as the NRA) and EPI on AEFI** • **Prepare and distribute a written protocol on AEFI to be displayed in all vaccination rooms** • **The National EPI programme should finalise the supervisory checklist and disseminate to district for adaptation** • **Conduct regular supportive supervision to lower levels and reinforce the culture of providing written feedback and follow up on implementation of recommendations** • **Provide written guidelines on how to handle vaccines during power outages** • **Conduct refresher training on vaccine management** • **Liaise with partners to explore other avenues for resource mobilisation to ensure sustainable immunisation financing** • **A National Immunisation Policy Guide should be developed by the end of 2013 and the EPI Field Manual should also be updated to include the new vaccines and new EPI current practices** • **Maintaining vaccine stock levels at facilities appears to be a major challenge, and EPI unit should study this issue to understand the causes and routes of prevention for these stock-outs** • **The National EPI programme should procure and distribute freeze monitors for use while transporting freeze-sensitive vaccines and fridge tags for all refrigerators.**	**Partially done, on track** **Not done yet** • **Not done** • **Not done** • **Not done** • **Partially done; to be verified in the next supervision visit** • **Not done** • **Not done** • **Not done** • **Partially done, draft version has come out** • **Not done** • **At stage of mobilizing resources**

In-depth National Surveillance Review Report	**May, 2012**	• **Develop an EPI policy document** • **Update the surveillance guidelines, print and disseminate before the end of 2012** • **Finalize the RED guidelines currently in draft form and disseminate as soon as possible** • **District EPI coordinators should develop comprehensive action plans to include supervision for the rest of 2012** • **Coordinate the development of a technical supervisory check list, reporting and feedback format to be used at all levels** • **Advocate with districts to revive the defunct technical supervision over and above the administrative supervision currently maintained.** • **All EPI reports and Surveillance data forms are properly filed, appropriately stored and should easily accessible** • **Feedback, which currently is provided irregularly or not at all at all levels, should be instituted using standard formats and preferably shared on a monthly basis.** • **There is need to continue training and orientation of staff at all levels but in order to improve the quality of training for EPI surveillance, subsequent trainings should include at a minimum,** – **Pre and post tests** – **Hands on practice on case definitions, calculation of indicators, monitoring and presentation of surveillance data** – **Practical application of surveillance data collected** – **Completion of all fields on the Case Investigation Forms**	**Draft** **Draft needs finalization** **Not done** **Not done** **In draft form** **Done** **Done, but needs verification** **Not done** **Done**
Knowledge, Attitudes and Perceptions Study on Immunisations and Diarrhoea	**2012**	• **Government with support from development partners should engage with leadership of churches to understand the value of immunisation** • **Government and stakeholders should ensure adequate stocks of vaccines at all times and that fridges in different health facilities are functional at all times** **The EPI Malawi Field Operational Manual, immunisation charts and health profile of a child should be made available in all the health facilities and reviewed whenever a new vaccine is being introduced.**	**DONE** **ON PROCESS**

3 Comprehensive EPI review

3.1 Objectives and Methodology

3.1.1 Rationale for conducting the comprehensive EPI review

Malawi conducted EPI Comprehensive review in 2003 and follow up review was not done since then although it is a recommended to conduct these reviews every 3-5 years.

Despite the positive achievement in the EPI programme, the country has been experiencing some challenges relating to immunisation service deliveries. High and/ or low immunisation coverage have been observed in some districts; suboptimal surveillance indicators have stagnated or declined in some districts for sometime; stock outs of vaccines have been reported at peripheral levels. These challenges have been observed during the programme area-specific assessments and reviews such as the VMA in 2009, the recently conducted in-depth disease surveillance review, PIE, KAP and DQS.

In view of the several changes experienced since the last EPI comprehensive review in 2003 and the new innovations in the immunisation service delivery system in particular and the health system in general, it was necessary to conduct a comprehensive review of the programme to guide the strategic direction of the programme over the next 5 years.

3.1.2 Main Objectives

The review was conducted with the following three main objectives:

- Assess the status of performance of the immunisation programme over the past 5 years;
- To assess the effect/impact of the health system and external environment of EPI performance over the past 5 years;
- To provide recommendations for strategic planning in the cMYP and EPI Annual Plan of Action.

3.1.3 Specific Objectives

- To assess programme management and financing, and propose strategies for a more effective programme management.
- To review operations regarding vaccines procurement, quality, stock management and distribution.
- To review the cold chain logistics system and define strategies that will ensure efficient/effective systems.
- To review experiences associated with the implementation of new and underused vaccines and propose a future course of action.
- To assess the design, methods, materials and effectiveness of the communication component of EPI and propose strategies for improved community utilization of EPI services.

- To review capacity building and propose strategies that will ensure an effective and sustainable training support to the programme.
- To identify the reasons for the low performance in disease surveillance and make recommendations for improvement.
- To review the methods and the adequacy of the existing programme monitoring activities at various levels and make recommendations for improvement.
- To provide advocacy to senior management, partners and District Health Management Teams.
- To evaluate national policies and guidelines.

3.1.4 Methods:

Sites visited: a total of 6 teams were formed to visit different parts of the three regions. At the national level, in addition to the EPI programme and departments within the Ministry of Health, a visit and interview was conducted to Ministry of Finance health desk, 2 training institutions (Malawi College of Health Sciences, Mponela PHC Training School), 4 partner agencies (WHO, UNICEF, MCHIP, CHAI) and the PMPB (the national equivalent of NRA). The list of all facilities visited is shown in Annex II

At the sub-national level data was collected through interviewing zonal EPI coordinators, district EPI coordinators, cold chain technicians, facility health workers, health surveillance assistants and observations of immunisation sessions. Interviews were also conducted with beneficiaries.

Team members included MoH officers from national, zone, district, training institutions, partner agencies and three external reviewers from WHO inter-country support team. The MoH officers were assigned to zones and districts other than their work place. Each team had a leader and a supervisor from partner agencies. List attached as Annex 3.

All the five health zones were included in the review and 13 districts were selected based on the following factors:

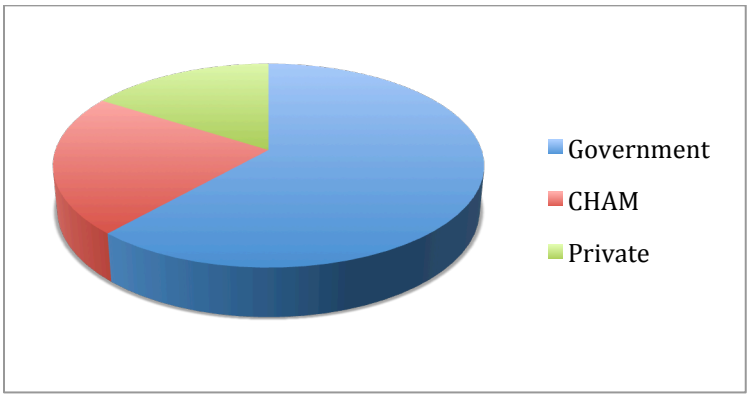
- Not recently reviewed by PIE, surveillance review or DQS
- Geographic representation
- EPI programme performance to include all spectrum of facilities

Table 1: Districts included in the review.

Team No.	Zone	Districts
1	Central West	Dedza, Ntcheu
2	North	Chitipa, Rumphi
3	Central East	Salima, Nkhotakota
4	South West	Blantyre, Chikwawa
5	South West	Mulanje,
5	South East	Phalombe
6	South West	Mwanza, Neno,
6	South East	Machinga

Based on the responses from the interviews in this review, In the 13 districts visited in this review there are a total of 300 facilities of which 185 are public, 67 under CHAM and 48 private facilities.

Fig. 1: Proportion Health facilities by ownership in the districts included in the review



Of these 300 facilities, 287 (95.4%) provide EPI services. Analyzing the number of facilities providing EPI services by ownership shows that 98% of government, 99% of CHAM and 83% of private facilities provide immunisation services..

In this review a total of 38 facilities-12 hospitals and 26 health centers, were selected and data collected through interviews, observation of sessions and visiting the national vaccine store, 3 regional vaccines stores, 12 district cold chain stores and 38 facility cold chain equipment.

3.1.5 Dates of the review:

The review exercise took three weeks:

- November 26-30, 2012: adaptation of the data collection tools was done. Generic tools were discussed by the reviewers in detail and adapted to suit the local situation. The tools were updated and pretested
- December 03-08,2012: Field visits and data collection
- December 10-14, 2012: Team leaders reconvened to enter data, collate results into one database, and conduct analysis
- December 14-21: Interview with the national EPI officers, other governmental departments and partners agencies
- February 6-8: finalizing the report writing
- February 13- debriefing senior MoH officials and partners

3.2 Findings: Interviews with government departments

3.2.1 Ministry of Finance health desk:

Ministry of Health falls under the social sector in Ministry of Finance. The desk acts as a bridge between MoF and MoH and provides and advises and supports budgeting and strategic planning upon request. Ministry of Finance does not involve directly in technical aspects of the programme, but provides support when requested by MoH and communication is usually with the planning section of Ministry of Health.

Health sector budget line remains protected and any fluctuations in budget due to economic situations in the country will be minimized as much as possible. Occasionally there is late disbursement of funds from donors. The Ministry of Finance does not follow or audit the expenditure but inform the Ministry of Health when a particular budget line is under or over spent

3.2.2 Ministry of Health Directorate of Planning and Policy Development:

The directorate works closely with EPI in development of proposals and the multiyear plan. It assists the EPI programme in developing work plan and budgets, strategic plans, reviewing policies, monitoring of implementation and provide technical back stopping. Health budget constitutes about 13% of the total government budget. Because of the financial problems the country is currently facing the budget for the ministry of health has shown some reduction and the EPI budget has come down from 424 million MK in 2011/12 to 395 million MK in 2012/13.

Compared to other programmes EPI remains a priority and government remains committed to purchase of traditional vaccines and co-financing of new vaccines. Although the political commitment is high as demonstrated by the government funding of the nation wide response to the measles outbreak in 2010, there is shortage of resources both financial and human to carry out programme activities as desired. Hence the directorate intends to prioritize peripheral health facilities through funding activities and manpower. The department will continue working closely with EPI but would like to be informed on progress through reports or bulletins.

3.2.3 Ministry of Health, Directorate of Sector Wide Approach (SWAp):

SWAp started in 2004 in Malawi with a programme of work for 2004-2010 to guide the implementation of health sector. One of its main objectives is reducing transaction costs in vertical programmes through a coordination mechanism. It operates on agreed prioritization of programmes and activities. It mobilizes resources and put additional resources for the priority programmes. EPI is one of the priority programmes under SWAp and immunisation coverage is one of the core performance indicators for health system effectiveness. Some partners put money in the pool, there are few (including GAVI) who support programmes directly. SWAp supports EPI in strengthening system issues like improving the manpower, provision of transport for HSAs, cold chain technicians. There is close attention to EPI and the director chairs some of the EPI coordination meetings.

The directorate use surveys to see how funds are utilized and monitor expenditure on agreed priorities. Programme reviews are also done every year to assess progress and provide feedback. However these

reviews are integrated and hence may not have sufficient time to look into the details of specific programmes.

The main constraint is limitation in resources. On occasion there has been delay in time taken to purchase vaccines due to delay in the procurement process.

3.2.4 Ministry of Health, Directorate of Preventive Health services:

EPI falls directly under the directorate of preventive services and is described by the director as a very important programme in the directorate. It is given priority in funding to purchase traditional vaccines, co-finance new vaccines and for operational costs. Of the 15 programmes in the directorate EPI budget is the highest and accounts for 29% of the total operational budget in the directorate. The directorate is satisfied with the performance of the EPI programme, as the EPI coverage had been consistently higher than 80% for many years. However there are challenges in resources both in manpower and finance.

The number of technical staffs at national level is few; moreover the National EPI staffs are responsible for central region EPI programme. The current office space is not adequate. However construction of a new office space is going on. There are no assigned personnel in some zonal offices in charge of the EPI programme.

The Essential Health Package (EHP) TWG is the committee that advises the directorate on important programme issues like plans, budget, resources and gaps. EPI has a sub group under EHP-TWG. Currently there is no National Immunisation Technical Advisory Group (NITAG) and the directorate will study guidelines and experience of other countries regarding the honorarium and transport cost to determine the way forward.

3.2.5 Ministry of Health, Health Management Information System (HMIS):

HMIS started in 2002 to collect integrated facility based data in one form and make reports twice a year. It uses a form (HMIS form 15) that has about 150 core indicators selected from the registers. Immunisation coverage of traditional vaccines is included. HMIS information is shared with the programmes to double check and harmonize data twice a year. At zonal level HMIS and programme data personnel meet quarterly to review and harmonize data. Data is presented at midyear SWAp review. It also produces performance based ranking and an annual progress report on the selected core indicators from each programme.

The number of programme specific indicators in HMIS is so limited that programmes retained their parallel reporting system. Moreover HMIS data comes quarterly while programmes like EPI need a monthly report for faster action. The HMIS report is basically useful for planning and policy and is slow for action. The web based DHIS2 is being introduced and will be used in the near future in all districts. There is also a plan to introduce data quality assessment tool to minimize errors.

Challenges include reports of coverage more than 100% indicating denominator or other data quality issues, unavailability of data collection tools in some facilities and lack of skills to use the data at lower facilities. Coordination with EPI needs to improve. Currently they interact at the EHP-TWG level. There is a need for more frequent formal meetings.

3.2.6 Ministry of Health, Environmental Health Section

The section is under the directorate of preventive health services and is mandated to look after environmental health issues including waste management and safety protocols. The department has the health care waste management policy which was printed and in use since 2003. The policy is being updated and the first draft is out. The section had produced the injection safety policy (printed in 2003) and is also in the process of review to be updated. User quality assurance policy (2004 edition) includes infection prevention protocol. There is a plan to present all the updated documents to the EHP-TWG by mid March 2013 and get endorsed for printing and distribution.

Challenges include that the section is not involved in immunisation trainings to orient trainees on waste management and injection safety protocols. Staffs in most facilities do not have access to these documents and are not aware of the protocols.

Suggestion is to prepare SOPs and brief guides for quick reference and be displayed on walls for easy access.

3.2.7 Pharmacy, Medicines, and Poisons Board:

The board is the national regulatory authority in Malawi. It registers products before use by the public. The normal procedure for registration includes a request for registration, getting samples from manufacturer, screening by visual physical inspection and then laboratory analysis. Currently there is no capacity to analyze vaccines and so only physical/visual inspection is done. Other additional indirect methods are also used. It will be checked whether the vaccine has passed through the WHO prequalification system, if another renowned regulatory authority has cleared the vaccine for use or whether the vaccine is registered in the country of manufacturer.

After a review by medicines committee, feedback is written to the programme regarding the registration of the drug or vaccine. For emergency situation a fast track mechanism is available.

For post marketing surveillance and pharmacovigilance, inspectors go to randomly selected facilities around the country to sample and test products. The tests can be done at the site using a mini lab test. But for vaccines this capacity for laboratory testing is not available and only physical and visual check up is done. Health facilities report adverse drug reaction to districts using ADR (Adverse Drug Reaction) forms. But the board has capacity problem both in manpower, space and equipment (computers) to analyze collected data. The board is not aware of AEFI (Adverse Events Following Immunisaton) forms and there was no report of AEFI that came to its attention. Hence there is a need for closer collaboration with EPI to look into ADR and AEFI forms.

3.2.8 Malawi College of Health Sciences (MCHS)

The college is one of the training centers for medical assistants, clinical officers, nurses and assistant environmental health officers- providing the key health personnel who run the EPI programme from national to district level. Students are trained on theoretical and practical aspects of immunisation but there is further room for improvement by increasing the practical exposure time in vaccine management and cold chain. There had not been any operational research on EPI but now the college has a research unit and intends to conduct researches in the area of immunisation. College is open for more

collaboration, sharing and networking with EPI unit and partners to support immunisation activities in Malawi.

3.2.9 Mponela PHC Training School

The school is one of the three primary health care training centers training Health Surveillance Assistants (HSAs), which form the backbone of essential health package (EHP) delivery in Malawi. Ministry of health and donors support the center. The training period for HSAs currently is 12 weeks. The curriculum was modified to include all aspects of EHP- prevention, promotion of hygiene and sanitation and curative services like IMCI. The immunisation module takes 2 weeks and includes practical session on injection. It has one-week hospital attachment for immunisation practice following simulation exercises. There is also a one-day out reach exercise. But the school is in short of vehicles to transport students for out reach exercises. Given the huge responsibility they take after graduation and the short period of training, the school management believes that there is a need for post training assessment and a strategic plan.

3.3 Findings: Summary of interviews with partners in EPI sub-TWG

The findings (perceived strengths and weaknesses) of interviews with partners (WHO, UNICEF, MCHIP, CHAI) are summarized in the table. These partners provide technical and financial support as per the plan of action in the cMYP. They are all members of the sub committee for EPI under the Technical Working Group (TWG) for Essential Health Package (EHP)

3.3.1 Maternal and Child Health Intervention Programme (MCHIP)/John Snow Inc. (JSI)

MCHIP provides technical and financial support to the EPI programme. The support focuses more on the technical support in areas of new vaccine introduction, monitoring and evaluation, data quality issues, capacity building (training) and production of field guides, manuals (like the Rota manual) and drafting the EPI policy. It also funds or partially covers expenses for reviews and trainings

3.3.2 Clinton Health Access Initiative (CHAI)

Provides support to EPI unit on new vaccine introduction (planning, gathering data, development of application for HPV) and vaccine system strengthening (technical assistance, cold chain inventory, EVM, vaccine forecasting. Current programme runs until June 2014.

3.3.3 United Nations Children's Fund (UNICEF)

UNICEF provides technical support as a member of the TWG sub committee, in trainings, supervision, assessments and other meetings. It also provides material support like provision of cold chain equipment, motorbikes and vehicles. It supports the procurement of vaccines.

UNICEF gives financial support for trainings and raises funds to support the government in co-finanicing purchase of rota and PCV vaccines. Its communication unit works closely with health education unit in the ministry in creating and passing messages to the public.

3.3.4 World Health Organization (WHO)

WHO has been providing all round technical support in EPI during planning, supervision, training, reviews and surveillance. It also provides financial support in funding some of the activities particularly in surveillance. WHO has been key partner in the development of cMYP and annual work plans. It is an active member of the sub committee on EPI in EHP-TWG.

Summary of findings from partners' interviews

Strengths of EPI programme
There is high political will – the funding of the purchase of traditional vaccines, Co-funding of procurement of new vaccines, launching of SIAs and new vaccine introductions by high profile politicians
EPI has got experienced staff at national level; not much of staff turn over both at national and sub-national levels
It has achieved high immunisation coverage rate for many years
Introduced successfully two new vaccines (PCV and rotavirus) in the last 2 years.
The existence of HSAs in all parts of the country has contributed to the success in EPI
Partner coordination especially through the EPI-sub TWG is strong
There is adequate vaccine stock at national and regional level and EVM at national level is excellent
In the SWAp reviews, EPI coverage is used an indicator for health service delivery and measles coverage is one of the indicators used in common approach for budget support (CABS)

Weaknesses and threats:
The economic situation in the country in the recent past has reduced budget and fuel available for supervision
The EPI unit is understaffed at national level and staffs are responsible for central region. Zonal offices have no EPI officers (3/5).
Existence of groups who refuse to be vaccinated is a threat for achieving high coverage
There is denominator issue in EPI data that makes it difficult to calculate accurate coverage; the census population is lower than the projected figures EPI used prior to the census, which brought the coverage higher.

Data need to distinguish coverage through routine and local immunisation days
Data monitoring tools are not available in all facilities and if they are there, they are not utilized appropriately.
Skills on data analysis, interpretation and use for action are uneven
Data is not used for advocacy.
The level of training of HSAs in comparison to the workload and expectation is not enough and hence it may affect the quality of service- like injection safety, temperature monitoring and vaccine management
Trainings “like immunisation in practice” are not conducted for facility staffs across all regions.
Members of the TWG-EHP subcommittee are not adequate in terms of inclusiveness of all stakeholders
Vaccine stock management at facility level is not always good; tools to monitor stocks are not standardized and are variable from district to district
Programme review meetings at zonal level are not regular due to lack of funding.
Although the frequency of the supervision by national level is adequate, The frequency and quality of supervision at district level in general is not satisfactory.
Some districts use integrated supervision with only few points on EPI.
Safety protocols are not available in districts and facilities.
AEFI forms are absent in most facilities and reporting and tracking of cases is not done.
Although RED training had been conducted, there is not much change in practice, most facilities do not have plans, catchment area, maps…
RED implementation was not followed up by monitoring and regular supervision.
Communication for EPI is undermined due to the belief that immunisation is doing well and not having focal person within EPI to work with Health Education department

3.4 Findings: EPI programme at national level

3.4.1 EPI programme at national level:

Strengths and opportunities:

The EPI programme at national level is under the directorate of preventive services and has a manager deputy manager and officers responsible for logistics and cold chain, EPI disease surveillance and data management. When the office under construction is completed, there will be adequate office space for current and additional staffs.

The programme has got committed staff supported by high level officials and politicians in securing funds to purchase traditional vaccines, launching of new vaccine introduction, ear marking fuel for EPI service delivery during fuel shortage periods. The programme works closely with partners and non-governmental organizations.

Reaching Every District (RED) strategy was introduced in 2005 and training has been conducted in all districts and facilities. Out reach programmes are essential part of the immunisation service delivery and nearly 40% of immunisation services are delivered through outreach programmes.

At national level there is adequate storage and cold chain capacity. There has not been any disruption of routine immunisation service delivery or vaccine stock outs. Cold chain assessment was done in August 2011 and effective vaccine management was done in December 2012. Vaccines are purchased through UNICEF and the NRA (PMPB) register the vaccines although it has no capacity for testing safety. Vaccines forecasting is done based on National Statistical Office (NSO) figures but distribution to the regions and districts consider the previous year utilization in addition to NSO figures.

Active surveillance is done as per the standards and targets for surveillance indicators have been achieved with the exception of stool adequacy rate for polio in 2012. The recent appointment of a surveillance focal point will strengthen the performance of the unit. Refresher training on surveillance was conducted last year.

There is a communication plan for EPI (2006), which may need revisions to incorporate materials on the newly introduced vaccines. A KAP survey was done in 2012 and showed that the general public is knowledgeable about and supportive of immunisation activities.

Supportive supervision is done on a regular basis (3 times in 2012) and during active surveillance visits. Supervisions are guided by checklists.

There is a well functioning reporting system that uses e-mail and sometimes paper report from districts to national level. There is also a tool to monitor the timeliness (95% in 2011) and completeness (100% in 2011) of reports.

Administrative coverage figures for 2011 from the programme show 99% coverage for BCG, 98% for Penta 3, 97%, for OPV3, 96% for Measles and 79% for TT2+. A DQS was conducted in August 2012 that showed a verification factor of 91% and a discrepancy of 9% for Penta 3. Even after correcting for the discrepancy, the coverage will still remain very good. Although there was no EPI coverage survey in the near past, a DHS done in 2010 showed 81% coverage for fully immunised.

There is an EPI Sub-TWG, which meets regularly (4 times in a year) and reports to the EHP-TWG. The director of preventive services chairs the sub-committee. EPI performance is one of the impact indicators for SWAp and hence the EHP-TWG reviews EPI performance indicators regularly. Review meetings are also used as venues to share best practices. Health Sector Review Group (HSRG) is another committee at a higher level that comprises of departments and programmes in MoH, donors and stakeholders.

The government fully finances the purchase of traditional vaccines and co-shares the cost for the other vaccines. It is worth mentioning that the government fully financed the countrywide response to the measles outbreak in 2010. It has a well functioning auditing system. All health surveillance assistants are paid regularly, every month.

The programme introduced PCV 13 in November 2011 and rotavirus vaccine in October 2012. The introduction required upgrading of the cold chain capacity and it was done successfully.

Weaknesses and threats:

Although the government's commitment towards the purchase of traditional vaccines and co-financing of newly introduced vaccines is unaltered, the co-financing of vaccines may be challenging due to economic constraints in the country. Despite the fact that health in general and EPI in particular are given priority in terms of funding, the trend in the government budget allocation for EPI is not showing any growth. The recent devaluation of Malawian Kwacha has affected the value of the funds from GAVI because the transferred fund was saved in local currency account and not in foreign-currency denominated account.

Senior government officials are mostly participating in launching of new vaccines and SIAs and their participation in routine EPI services has been limited.

There is no communication/social mobilization officer within the unit and it makes use of a desk officer at the health education unit. The national team is also responsible for coordinating EPI activities for the central region. The multiple responsibilities held by the team affect both the national and central region operations.

Key policy and guideline documents are not available for use although some are in draft form. There is no RED guideline or EPI policy currently in use (though there is one in draft form). There is no vaccinators' manual for use by districts and facilities (a draft EPI Malawi field manual exists at national level). A policy on injection safety is not available although the draft EPI manual has a section on injection safety and waste disposal. A draft health care waste management policy (2011) prepared by the environmental health section exists but is not yet available for use by facilities.

The updated surveillance field guide (June 2012) is also at draft level. Summary of surveillance data is not displayed as a line graph or table and is only available as a soft copy with the surveillance officer.

There is no performance based priority list of districts for supportive supervision. Supervision is conducted based on a pre-planned schedule.

Small religious groups/ church opposing vaccination, power outage and non-functioning cold chain especially in north are the main challenges in routine immunisation service delivery. For outreach activities lack of adequate transport and cancellation of sessions are major challenges.

The EPI sub-TWG membership is limited to technical officers from MoH and few partner agencies. It does not have the profile and role of an Inter agency Coordination Committee (ICC) which is entrusted to the HSRG and hence the sub-TWG does not include participation of donors and other stakeholders. There is no National immunisation Technical Advisory Group (NITAG). Review meeting is conducted sector wide for all programmes that are part of the EHP. There is no EPI specific review meeting that create the opportunity to make an in depth discussion and review of the programme activities and performance at national and subnational level.

3.5 In-depth analysis of findings at districts and facilities

3.5.1 External environment

Strengths & Opportunities

EPI is high on the agenda of district political leaders in 10 of the 13 districts. The political support includes construction of shelters (69.2%), social mobilization (46%) and identification of hard to reach areas (42%). There were NGO partners supporting EPI in 61% of the districts reviewed, more efforts should be put to attract and involve partners to support immunisation at the local level. At the facility levels, the participation of village leaders in immunisation activities was remarkably high and all the 38 facilities included in this review confirmed the participation of village headmen, volunteers, religious leaders or village health committees in immunisation activities.

Weaknesses & Threats:

Resource support to EPI by local government at district level is not optimal. 39% of districts did not get support backed by resources by the local government. The participation of district officials in immunisation days needs to be maximized than the current level of 69%.

3.5.2 Health System

Strengths & Opportunities:

The majority of districts (86%) have a District Implementation Plan (DIP) with clearly defined goals, objectives and priorities supported by appropriate budget. In these districts there is an EPI annual plan extracted from or within the DIP.

Although all the districts may not have direct access to census documents, all use the figures from the National Statistics Office (NSO) to draw the target population.

In all the districts, there is close coordination between EPI and HMIS.

All of the districts have two EPI coordinators and the majority of staffs (86%) at facility know and correctly understand the Reaching Every Child strategy.

Weaknesses & Threats:

Only 50% of health facilities use NSO while the other 50% use head count to determine their catchment population. The majority (74%) of health facilities feel the head count is more reliable than the NSO figures in estimating their catchment population.

The health organogram at district level does not show EPI in 10 of the 13 districts (77%). Only one of the 13 districts has a district multiyear health plan.

All health staffs that provide vaccinations in health facilities are also responsible for providing other health services which may interfere with implementing EPI activities.

3.5.3 Service Delivery

Strengths & Opportunities:

In all districts both static and outreach strategies are used to deliver immunisation services. Almost all facilities (97%) use both static and outreach strategies and in the 2 remaining facilities either static or outreach service is used to deliver immunisation services. 25% of facilities use child health days and 21% use local immunisation days as additional means to deliver the service. Majority of the facilities conducted immunisation session every day 68.4%. Of the 12 facilities that are not conducting daily immunisation sessions 11 were health centers.

Table2: Frequency of immunisation sessions.

Frequency of immunisation sessions	N	%
Daily	26	68.4%
Once a week	4	10.5%
Once a week and twice on last week of the month	1	2.6%
Twice a month	3	7.9%
Once a month	2	5.3%
No data	2	5.3%

Distances, size of the population and ease or difficulty to reach the areas are the three major criteria used by districts and health facilities to select outreach sites. Most districts carried out the planned outreach sessions (range 76-100%), with an average of 88% achievement for all the 13 districts. For the 38 facilities reviewed, the average achievement rate for carrying out planned outreach sessions was 92%.

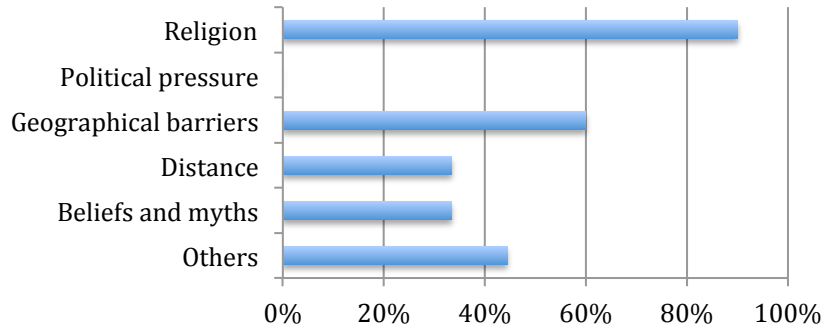
All districts receive monthly reports from CHAM facilities and facilities report outreach data separately from static service data.

Weaknesses & Threats:

A quarter of the districts and facilities do not have an up-to-date map of facilities and catchment population. Available maps at district level do not indicate locations of outreach immunisation sessions and population served by these sessions in majority of districts (only 30% and 11% respectively). At facility level the maps lack details like population, distance and obstacles.

Most districts (85%) reported the presence of barriers that can prevent children not to receive immunisations services. Of these religious factors were mentioned as the most important reasons (90%) followed by geographic barriers (60%).

Fig. 2 Percieved barriers to immunization services



Almost a third of the facilities (32%) were not conducting immunisation sessions everyday and only 48% of facilities visited stated that they provide the service if an eligible child comes to the facility on a non-immunisation day. Moreover, 63.2 % were conducting sessions in the morning only.

There is minimal coordination with neighboring districts for immunisation and surveillance activities (23%).

Routine immunisation service delivery had been disrupted at least once in the preceding six months (June-November 2012) in 8/13 districts. The main reasons for these disruptions were insufficient transport (56%) and/or cold chain break down (40%) and vaccine stock out (22%). Similarly it was disrupted in 37% of the facilities and the reasons were similar - insufficient transport (44%), vaccine stock out 31%, cold chain breakdown 19% and staff in training 19%.

3.5.4 Vaccine Supply & Quality

Strengths & Opportunities:

The majority of districts (62%) have an inventory of cold chain equipment although only 50% have an updated inventory.

None of the district's cold stores contain expired vaccine or VVM stage 3 or 4. All the facilities visited did not have any frozen vaccines although few (11%) had expired vaccines and VVM in stage 3 or 4.

In all district cold chain stores the temperature inside the refrigerators was between +2° and +8° C at the time of the visit. In 11/13 district stores an up to date cold chain temperature chart was available with twice a day record for over the past 30 days for each refrigerator. In one there was temperature excursions.

There is proper procedure for destruction of used vials and incinerators are used for destruction in all the districts and 89% of the facilities visited during the review.

Weaknesses & Threats:

One of the 13 districts had frozen TT vaccines.

Only 50% of districts have got an updated cold chain inventory. A plan for maintenance of equipment is available in only 42% of the districts and only 8% of districts have a plan for replacement of equipment.

Only 46% of districts have a transport equipment inventory for the district store and health facilities and only 30% have updated inventory. 4/13 (31%) districts reported enough cold chain capacity to store vaccines.

Vaccine/supply shortages were experienced in 8/13 (62%) of districts and 65% of the facilities between December 2011 and November 2012. These stock outs include polio, measles, PCV and syringes at the district level but all vaccines at different time at different facilities. Health workers reported that the stock outs have resulted in turning away children from vaccination. The duration for the stock out of vaccines ranged from 1day to 30 days.

Vaccine and materials distribution to the health facilities has been disrupted in 10/12 districts due to transport problem related to fuel in the preceding 12 months.

Immunisation safety protocol was available only in 31% of the districts and 13.5% of the facilities. Only 8.3% of facilities and 46% of districts have an AEFI form.

The calculation of vaccine wastage rate was correctly known by only 39% of the districts.

At facility level, the stock register was up to date in 46%.

Temperature was not recorded twice a day over the previous 30 days in 35% of facilities visited.

3.5.5 Surveillance

Strengths & Opportunities:

Surveillance guidelines were available in 12/13 districts (92%); most (85%)districts and 72% facilities have surveillance focal point person. Majority of districts (77%) have conducted refresher training and clinician sensitization in the past 12 months and involve private health facilities in the surveillance system. Most district officers know the case definition of AFP (92%) and measles (85%).

Weaknesses & Threats:

Only 32.4% of facilities have surveillance guidelines and refresher training was conducted in 44%. Knowledge on surveillance indicators at district level was generally poor (54% for AFP and 23% for measles) but was much worse at facility level (19% for AFP and measles and 14% for NNT).

Up to date data for these indicators was available only in 31% of the districts and 6% of the facilities.

Sensitization of health workers was conducted in only 40% of the facilities and knowledge on case definitions is low (38% for AFP)

Completeness and timeliness of reports at district level is below the standard target. Only 1/13 districts has a line graph monitoring priority diseases.

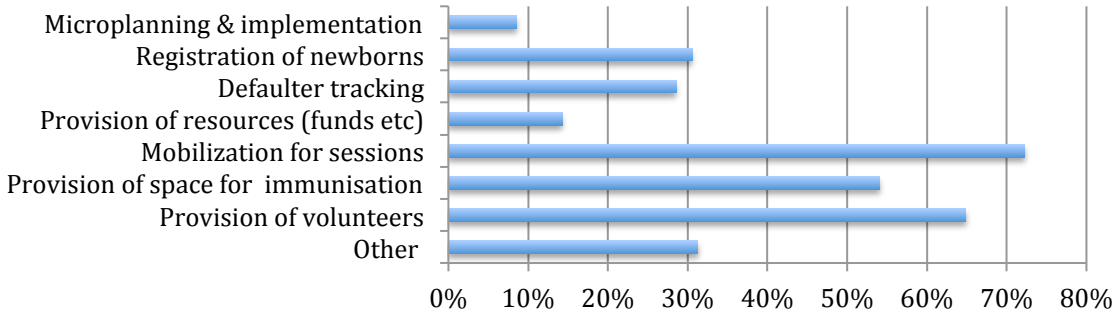
Stool specimen collection kits are available in 8/13 districts and 54% of the facilities. Blood specimen collection kits for measles are available in 64% of the facilities

3.5.6 Communications

Strengths & Opportunities:

Most districts (77%) and facilities (81%) reported the existence of community level social mobilizers for immunisations in their respective area. The most common method of participation by communities in supporting immunisation activities was in mobilization of the population for sessions (72%) followed by provision of volunteers (64%) and providing space for immunisation.

Fig 3: Community involvement in supporting immunization activities



Weaknesses & Threats:

There were no EPI advocacy and consensus meetings with community leaders at district level and few such meetings (38%) at health facility level.

A plan for information, education and communication for EPI is available only in few districts (23%) and facilities (22%)

The EPI teams at only a few facilities (39%) had undertaken meetings and or other activities in the past year to strengthen links between EPI and communities

3.5.7 Management: Planning

Strengths & Opportunities:

The majority of districts use NSO as a source to determine their target population in microplanning. An immunisation session schedule or plan exists in 89% of the facilities. 31% of facilities participated in an EPI microplanning update workshop during December 2011 – November 2012

Weaknesses & Threats:

Only 3/13 districts (23.1%) have microplans that is updated annually and prioritizes the health facilities in the district by performance and/or disease risk.

Of the health facilities only 22% have microplans and update the plans annually and only 8% of facilities prioritize villages by performance and/or disease risk.

3.5.8 Management: Supervision

Strengths & Opportunities:

Most districts (77%) receive regular supervisory visits from the zonal level. Supervisory checklists are used during supervision and 83% of districts feel the checklists are well formulated and user friendly. At district level, supervisions are integrated with other health services. Most districts (92%) provide feedback after supervision, which is usually verbal (85%) and occasionally written (23%).

Weaknesses & Threats:

Only 31% of districts have a supervision schedule available which is up-to-date indicating when this district will conduct supervision visits of the levels below it.

Only 46.2% of the districts have written guidelines or standards available for supportive supervision of immunisation service.

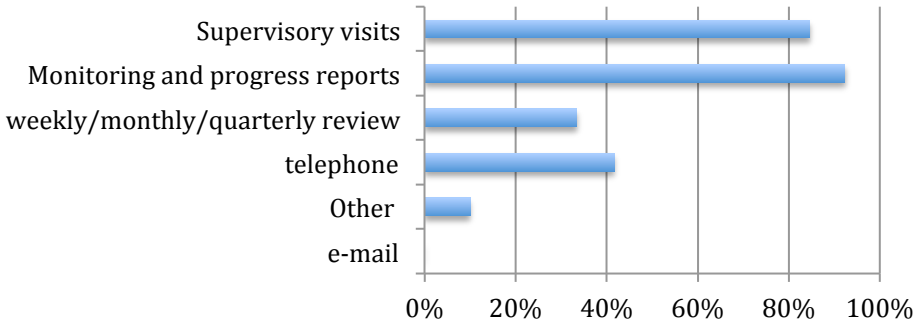
The districts could manage to conduct only 57% of the planned supervision activities. Fuel, vehicle and per diem were not available for supervision in most districts.

3.5.9 Monitoring & Evaluation

Strengths & Opportunities:

Monitoring and progress reports (92%) and supervisory visits (85%) are the main methods used by districts to monitor performance of health facilities.

Fig 4: Mechanisms of monitoring used by districts



All districts receive monthly reports from facilities and most (70%) have a tool to monitor the timeliness and completeness of immunisation reports. Only 4/13 districts have a drop out rate >10% but 3/13 had negative dropouts.

Weaknesses & Threats:

Monitoring charts were available only in 69% of the districts and 64% of facilities. Only 40% of districts and 34% of facilities have an updated monitoring chart. Review meetings are not commonly used (33%) as monitoring mechanism by districts. Only 2/13 districts and 8/38 facilities had review meetings.

Only one district reported about an operational research on EPI that have been carried out in the last two years.

None of the districts and only 14% of facilities conducted data quality self-assessment in 2010/2011.

Penta1 to penta3 dropout rate of >10% was reported in 54% of the facilities while 5/38 (13%)reported a negative dropout rate.

3.5.10 Capacity Building

Strengths & Opportunities:

RED training was conducted in all the districts in the 12 months prior to the review and 92% of the district officers interviewed had participated in these trainings. 73% of facility workers interviewed participated in REC training.

All districts have conducted at least 2 trainings for health facilities in the past one year. EPI training materials were available in 75% of the facilities, the most frequent being the Rota manual. Majority of the facilities have received training on new vaccines, injection technique and vaccine handling.

Weaknesses & Threats:

A plan for appointment and training of EPI staff to new positions is available only in 2/13 of the districts and none has got the budget to implement the plan.

Only one of the districts identifies and shares best practices with health workers and programme coordinators. None of the districts organized awards for best practices in EPI activities for health workers and programme coordinators.

Only one district has conducted training needs assessment in the last 24 months.

3.5.11 Finance

Strengths & Opportunities:

In all districts HSAs received salaries on a regular basis in the past 12 months. There is a financial control or auditing system in 11/13 (85%) of the districts. Most facilities get adequate resources from districts for registers and child health passports.

Weaknesses & Threats:

All districts report that funding from national level is inadequate. Majority of facilities do not get adequate resources for transport- fuel, motorbikes and pushbikes.

3.5.12 Vaccine Introduction

Strengths & Opportunities:

All facilities have introduced new vaccines (PCV and Rotavirus vaccine). In 61% of the 36 facilities for which data was available reported that coverage of the new vaccine (PCV) was higher than the equivalent penta dose in October 2012.

Table 3: The perception of health workers on the ease of introduction of the new vaccines.

The ease of introducing the new vaccine:	Number	% (N= 38)
Easy, no problems	20	52.6%
Adequate, Minor problems	15	39.5%
Difficult, Moderate problems	1	2.6%
Very difficult, Major problems	1	2.6%
Missing Data	1	2.6%

Almost all facilities' health workers were trained on new vaccine and most (78%) have carried out social mobilization prior to the introduction of new vaccines. Majority of facilities (70%) have updated

immunisation guidelines and monitoring tools to include the new vaccines and 69% believe that the introduction of the new vaccines have improved EPI.

Weaknesses & Threats:

Of the 17 facilities which needed to increase the cold chain capacity for the new vaccine introduction, only 4 (24%) were able to adequately increase the capacity.

3.5.13 Session observation:

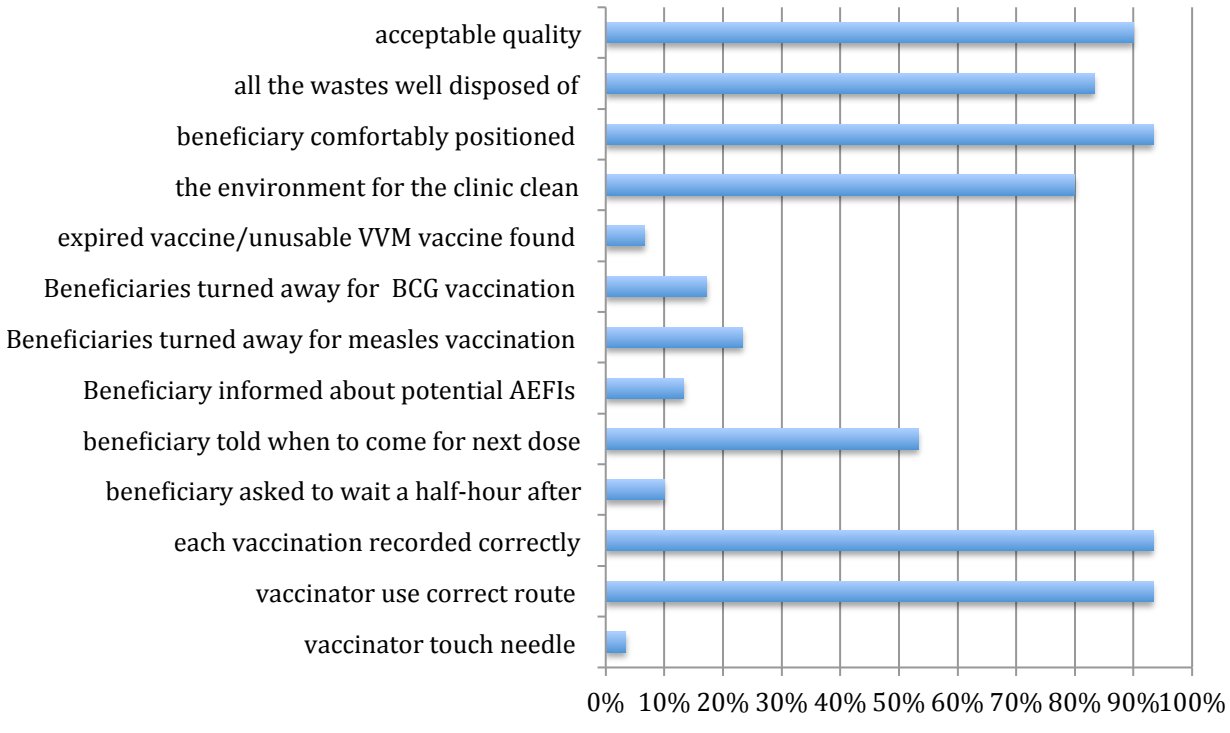
Strengths & Opportunities:

Most sessions were observed to be of good quality and vaccinators follow appropriate procedure.

Weaknesses & Threats:

Of the 30 sessions observed during the review, only in 4 (13%) were the beneficiaries informed about potential AEFIs and what to do if there is one. Only 3 (10%) beneficiaries were asked to wait a half-hour after vaccination. 7/30 (23%) and 25/29 (17%) observations noted beneficiaries turned away for measles and BCG vaccination respectively.

Fig 5: Summary of observations of immunization sessions



3.5.14 Findings of interviews of beneficiaries:

Strengths & Opportunities:

There were a total of 162 beneficiaries interviewed in all the facilities during the review process. The findings show that 93% were satisfied with the immunisation services and in 86%, the child was up to date on immunisations. 65% of them were told when to come for next due Routine Immunisation dose and know the date of return for the next dose.

Weaknesses & Threats:

However 10% of the beneficiaries interviewed were turned away for measles vaccination and told to come back on a specific "measles vaccination" day. Only 30% were informed about potential Adverse Events Following Immunisation (AEFIs). Almost a quarter (24%) of them stated that they know other mothers who do not bring infants for vaccination.

4 Conclusions

The EPI programme in Malawi is performing well as demonstrated by the sustained high coverage of fully immunised children. EPI is high on the agenda both at national level and in the districts. There is support from political leaders and government officials as shown by the prioritization of fuel for the programme during the shortage of fuel in the country, and the introduction of PCV and rotavirus vaccine in 2011 and 2012 respectively. However the declining value of the Malawian Kwacha against the US dollar and the high cost of the new and underutilized vaccines, poses a threat for future co-financing of new vaccines.

There is high rate of participation of local leaders in immunisation activities, however resource support to EPI by local government at district level is minimal.

Vaccine management and cold chain capacity at national level is adequate and there was no vaccine stock out. Cold chain capacity was upgraded successfully before the introduction of new vaccines. Temperature monitoring was appropriate in most districts and none of the district's cold stores contain expired vaccine or VVM stage 3 or 4. However there is not enough cold chain capacity at district and facility level and vaccine/supply shortages and stock outs were experienced by significant proportion of districts and facilities. Majority of districts faced transport problem related to fuel shortage that affected distribution of vaccines.

Targets for surveillance performance indicators are achieved at national level. Most districts and facilities have surveillance focal points and have conducted refresher training. District officers are knowledgeable on case definitions. However knowledge on surveillance indicators was generally poor at district and facility level. Most facilities do not have guidelines.

The presence of District Implementation Plan (DIP) is an opportunity utilized by most EPI coordinators to draw an annual EPI plan. However most districts and facilities either do not have or do not update EPI microplans.

There is regular supervision from National to districts using a standardized checklist. Most districts do not have schedule and guidelines for supervision. Transport problems at district level have resulted in less supervision than planned.

Community level social mobilizers are available to support EPI activities and community members assist with the delivery of EPI services. However there is no communication/health education plan in most of the districts and facilities. Lack of an in-house communications expert also restricts communication-related activities conducted by EPI.

All districts and most facilities have conducted RED and REC training respectively however detailed maps were not available in significant proportion of districts and facilities. Immunisation service is not provided every day by all health facilities and a significant proportion of facilities were giving

immunisation service only in the mornings. The delivery of vaccines by both static and outreach sessions is practiced almost universally and there is a high success rate in conducting planned outreach sessions.

The use of data for action is not optimal reflected by the fact that majority of districts have not updated the monitoring chart despite the good timeliness and completeness of monthly reports from facilities, and effective tracking of data completeness at the national level.

The EPI programme in Malawi rely on the health surveillance assistants (HSAs) for delivery of service to almost every corner of the country through fixed and outreach sessions. It is very encouraging that the government is committed in maintaining the regular and on time payment of salaries to these health workers. It is also gratifying to see the groups' outstanding performance in realizing high vaccination coverage through reaching all villages in the country. However there is a concern that the responsibility on this cadre of primary health workers might be too much to shoulder for their level of training.

Malawi successfully introduced 2 new vaccines without major operational problems. Health workers were trained on new vaccine before introduction and most facilities carried out social mobilization before the introduction.
There is high level of client satisfaction on immunisation service delivery but most parents were not informed on potential adverse events following immunisations. Reviewers also observed good immunisation practices.

5 Recommendations

5.1.1 External factors

National level:

- During the budget planning process advocate for more EPI funding for operations, the purchase of traditional vaccines and co-financing of new vaccines. (EPI sub TWG, EHP TWG, HSRG)
- Secretary of Health in consultation with Secretary of Treasury to have separate foreign-currency account for funds from external sources to EPI to minimize the effect of devaluation
- The high level of participation of officials and politicians should be replicated in routine immunisation; explore the appointment of local EPI ambassadors and strengthening of CSO networks.

District level

- District health office to Involve District Executive Committee and local non-governmental organizations in mobilization for routine EPI

5.1.2 Health system

National level:

- Directorate of preventive health services to assign personnel in the zonal offices that do not have officers to coordinate EPI programme
- Programme manager to appoint an officer in EPI to link with the desk officer for EPI in health education services.
- Directorate of preventive health services to assign a monitoring and evaluation officer for EPI
- EPI programme to finalize the EPI policy
- Directorate of preventive health services to oversee the establishment of NITAG
- EPI programme to expand membership of EPI-sub TWG to include other stakeholders.

District level

- District Health Office to have an organogram showing the key position and role of EPI in the district health structure

5.1.3 Service Delivery

National level:

- EPI programme to finalize the EPI Field manual
- EPI programme to prepare and distribute a RED/REC guideline and tools
- EPI programme to evaluate why RED strategy is not fully implemented in districts and facilities

District level

- District EPI officers to update EPI microplans as part of DIPs with appropriate resources
- District EPI officers to remind facilities of the 'every day is a vaccination day principle' and all vaccines are to be provided every day.
- District EPI officers to develop specific action plans for addressing low performing facilities.
- District health office to ensure sufficient transport for out reach and delivery of supplies

Health facility level

- The health facility in charge with the EPI focal point person to prepare microplans in those facilities where they have none and/or update the available ones
- The health facility in charge to ensure that facilities are prepared to provide all vaccines during all working days and hours
- The health facility in charge to ensure adequate transport for outreach activities

5.1.4 Vaccine Supply & Quality

National level:

- EPI programme to prepare standard operating procedures on cold chain/logistics
- EPI programme and environmental section to prepare injection safety guidelines and protocols
- Pharmacy, Medicines and Poisons Board be a member of EPI TWG to strengthen collaboration with the EPI programme
- EPI programme to introduce the use of Stock management tools (SMT) for districts

District level

- District EPI office to update cold chain inventory and use the updated data to conduct district level cold chain assessment every 6 months and before introduction of new vaccines
- District health office prepare a plan for maintenance and replacement of cold chain equipment and update it annually
- District health office to avail safety protocols and AEFI register forms in all health facilities
- District EPI office to conduct refresher training of health workers and surveillance assistants on vaccine management and temperature monitoring

Health facility level

- Health facility EPI focal perston to regularly update the stock register and notify district early to avoid stock outs
- Health facility EPI focal person to ensure monitoring of temperature on weekends and holidays

5.1.5 Surveillance

National level:

- EPI programme to finalize the updating of surveillance manual and distribute to facilities
- EPI programme to prepare brief standard operating procedures for case investigation and specimen collections
- EPI programme to provide regular monthly feedback to districts and facilities on surveillance indicators

District level

- District health office to collate facility surveillance data and make district level analysis for corrective action
- District health office to conduct refresher training and clinician sensitization

Health facility level

- Facility EPI focal persons to share information on surveillance to other health workers

5.1.6 Communications

National level:

- EPI programme and health education services to update the EPI communication plan

District level

- District health offices should develop their communication plan and strategy

Health facility level

- Health facility in charge to strengthen the link between the programme and community through regular meetings and discussions

5.1.7 Management:

National level:

- EPI programme to share the annual plan of action with districts
- EPI programme to Prepare and distribute guidelines and standardized checklist for supportive supervision

District level

- District health offices to prepare and implement plan for regular supervision according to national

5.1.8 Monitoring & Evaluation

National level:

- EPI programme to participate in zonal and district review meetings to provide feedback and share best practices

District level

- District EPI officers to make use of monitoring charts and update data regularly
- District health office to conduct review meetings regularly (3-4 times a year)
- District health office to carry out data quality self assessment and operational research in collaboration with other institutions and partners

Health facility level

- Health facility EPI focal person to update and use monitoring charts

5.1.9 Capacity Building

National level:

- Conduct training need assessment at all levels

District level

- District health office to identify and share best practices with all facilities

5.1.10 Finance

National level:

- EPI programme to develop a financial sustainability/resource mobilization plan that identify needs at national and subnational level for medium term. It can serve as an advocacy tool.

5.1.11 Vaccine Introduction

National level:

- EPI programme to utilize the experience of Rota and PCV for application of introduction of new vaccines and strengthening EPI services in the future

District and health facility level

- Assess the need for increasing cold chain capacity and ensure that it is addressed before the introduction of the new vaccines

6 Plan of action following comprehensive EPI review, Malawi

Action	Responsible unit	Out put	Dates of implementation
External factors			
During the budget planning process advocate for more EPI funding for operations, the purchase of traditional vaccines and co-financing of new vaccines	EPI sub TWG, EHP TWG, HSRG	EPI funding increased	February to March 2013
Secretary of Health in consultation with Secretary of Treasury to have separate foreign-currency account for funds from external sources to EPI to minimize the effect of devaluation	Secretary of Health and Secretary of Finance	Foreign currency account for EPI opened	1st quarter of 2013
Explore the appointment of local EPI ambassadors and strengthening of CSO networks and strengthen the participation of officials and politicians in routine immunisation	EPI program, District Assembly	Good will ambassadors identified and appointed; increased participation of officials and politicians in routine immunisation	2013, continuous
Involve District Executive Committee and local non-governmental organizations in mobilization for routine EPI	DHO	EPI agenda included in DEC meetings	Continuous
Health system			
Directorate of preventive health services to assign personnel in the zonal offices that do not have officers to coordinate EPI program	DPHS	All positions in zonal offices filled	June 2013
Program manager to appoint an officer in EPI to link with the desk officer for EPI in health education services.,	Program manager	Officer appointed	June 2013
Directorate of preventive health services to assign a monitoring and evaluation officer for EPI	DPHS	Officer appointed	June 2013

EPI program to finalize the EPI policy	EPI program	EPI policy finalized	June 2013
Directorate of preventive health services to oversee the establishment of NITAG	DPHS	NITAG established	December 2013
EPI programme to expand membership of EPI-sub TWG to include other stakeholders.	EPI program	Membership expanded	June 2013
District Health Office to have an organogram showing the key position and role of EPI in the district health structure	DHO	Organogram showing EPI done	June 2013
Service Delivery			
EPI programme to finalize the EPI Field manual	EPI program	EPI field manual finalized	March 2013
EPI programme to prepare and distribute a RED/REC guideline and tools	EPI program	RED and REC guidelines and tools distributed	June 2013
EPI programme to evaluate why RED strategy is not fully implemented in districts and facilities	EPI program	Evaluation done and reasons identified	June 2013
District EPI officers to update EPI microplans as part of DIPs with appropriate resources	District EPI officers	Updated EPI microplans	March 2013
District EPI officers to encourage facilities to implement the 'every day is a vaccination day' principle.	District EPI officers	Facilities implementing the principle	Continuous
District EPI officers to develop specific action plans for addressing low performing facilities.	District EPI officers	Action plans developed	April 2013
District health office to ensure transport for out reach and delivery of supplies is available	DHO	Transport made available	Continuous
The health facility in charge with the EPI focal point person to prepare microplans in those facilities where they have none and/or update the available ones	Health facility in charge	Microplans developed	March every year

Vaccine Supply & Quality			
EPI programme to prepare standard operating procedures on cold chain/logistics	EPI program	SOPs developed	June 2013
EPI programme and environmental section to prepare injection safety guidelines and protocols	EPI program	Guidelines and protocols prepared	June 2013
Pharmacy, Medicines and Poisons Board be a member of EPI TWG to strengthen collaboration with the EPI programme	EPI program	Collaboration strengthened	June 2013
EPI programme to introduce the use of Stock management tools (SMT) for districts	EPI program	SMT introduced	December 2013
District EPI office to update cold chain inventory and use the updated data to conduct district level cold chain assessment every 6 months and before introduction of new vaccines	District EPI office	Updated cold chain inventory	June and December yearly
District health office prepare a plan for maintenance and replacement of cold chain equipment and update it annually	DHO	A maintenance plan developed	March yearly
District health office to avail safety protocols and AEFI register forms in all health facilities	DHO	Safety protocols and AEFI available	April 2013
District EPI office to conduct refresher training of health workers and surveillance assistants on vaccine management and temperature monitoring	District EPI office	Refresher training conducted	December 2013
Health facility EPI focal person to regularly update the stock register and notify district early to avoid stock outs	Health facility focal person	Stock registers updated	March yearly
Health facility EPI focal person to ensure monitoring of temperature on weekends and holidays	Health facility focal person	Temperature monitored weekends and holidays	March 2013

Surveillance			
EPI programme to finalize the updating of surveillance manual and distribute to facilities	EPI programme	Updated surveillance manual distributed	April 2013
EPI programme to prepare brief standard operating procedures for case investigation and specimen collections	EPI programme	SOPs prepared and distributed	April 2013
EPI programme to provide regular monthly feedback to districts and facilities on surveillance indicators	EPI programme	Monthly feedback provided	April 2013
District health office to collate facility surveillance data and make district level analysis for corrective action	DHO	Data collated and analyzed	April 2013
District health office to conduct refresher training and clinician sensitization	DHO	Refresher training conducted	Ongoing
Facility EPI focal persons to share information on surveillance to other health workers	Facility in charge	Information shared	Ongoing
Communications			
EPI programme and health education services to update the EPI communication plan	EPI programme and Health Education Services	Updated communication plan	September 2013
District health offices should develop their communication plan and strategy	DHO	Communication plan developed	June 2013
Health facility in charge to strengthen the link between the program and community through regular meetings and discussions	Health facility in charge	Regular meetings conducted	Continuous
Management:			

EPI programme to share the annual plan of action with districts	EPI programme	Annual plan shared	April 2013
EPI programme to Prepare and distribute guidelines and standardized checklist for supportive supervision	EPI programme	Standardized checklists and guidelines distributed	March 2013
District health offices to prepare and implement plan for regular supervision according to national guideline	DHO	Supervision plan prepared and used	June 2013
Monitoring & Evaluation			
EPI programme to conduct one national EPI review meeting	EPI programme	A national level review meeting conducted	December, every year
EPI programme to participate in zonal and district review meetings to provide feedback and share best practices	EPI programme	Participated in review meetings	From March 2013- Continuous
District EPI officers to make use of monitoring charts and update data regularly	District EPI officers	Monitoring charts used	March 2013
District health office to conduct review meetings regularly (3-4 times a year)	District EPI office	Review meetings conducted regularly	Continuous starting from April 2013
District health office to carry out data quality self assessment and operational research in collaboration with other institutions and partners	DHO	DQS conducted	December 2013- continuous
Health facility EPI focal person to update and use immunisation monitoring charts	Health facility EPI focal person	Updated monitoring charts	March 2013
Capacity Building			
Conduct training need assessment at all levels	EPI programme	Assessment done	September 2013

District health office to identify and share best practices with all facilities	DHO	Best practices identified and shared	Continuous starting from April 2013
Finance			
EPI programme to develop a financial sustainability/resource mobilization plan that identify needs at national and subnational level for medium term. It can serve as an advocacy tool.	EPI programme	Financial sustainability shared	August 2013
Vaccine Introduction			
EPI program to utilize the experience of Rota and PCV for application of introduction of new vaccines and strengthening EPI services in the future	EPI programme	Experience utilized	Continuous
Assess the need for increasing cold chain capacity and ensure that it is addressed before the introduction of the new vaccines	EPI programme	Assessment done	May 2013

7 Annexes

Annex I: List of key people interviewed at National level

Name	Designation	Organization
Dr Storn Kabuluzi	Director, Preventive Health Services	Ministry of Health
Dr Ann Phoya	Director of SWAp	Ministry of Health
Mr Hetherwick Njati	Director of Planning and Policy Development	Ministry of Health
Mr Humphrey Masuku	Deputy Director, Preventive Health Services (Environmental Health)	Ministry of Health
Mr Willie Kachaka	Chief Statistician, HMIS	Ministry of Health
Mr Chipendo	Assistant Budget Director	Ministry of Finance
Mrs Kajawo	Budget Officer (Health)	Ministry of Finance
Mr Wilfred Mathia	Acting Registrar	Pharmacy, Medicine and Poison Board
Mr Kesby Banda	Director	Mponela PHC Training School
Mr DJ Simango	Campus Director	Malawi College of Health Sciences
Mr Geofrey Chirwa	Deputy EPI manager	Ministry of Health, EPI programme
Mr Mousa Valle	EPI logistic officer	Ministry of Health, EPI programme
Mr Ajida Tamuli	Assistant Data Manager	Ministry of Health, EPI programme
Mr Edward Soko	Cold chain officer	Ministry of Health, EPI programme
Mrs Hannah Hausi	Immunisation Technical Advisor	Maternal and Child Health Integrated Programme
Ms Emily Churchman	Program Manager, vaccines	Clinton Health Access Initiative
Dr Brigitte Malewezi	Program officer, vaccines	Clinton Health Access Initiative
Ms Rahima Dosani	Vaccine analyst	Clinton Health Access Initiative
Dr Kwame Chiwaya	EPI officer	World Health Organization
Mr Alan Macheso	Child Health Specialist	United Nations Childrens' Fund
Dr Lula Mariano	Chief of Health Section	United Nations Childrens' Fund

Annex II List of health facilities visited at sub-national level

Name of district	Name of health facility	Health facility type
Blantyre	Mpemba	Health Centre
Blantyre	Chilomon	Health Centre
Chikhwawa	Montfort	Hospital
Chikwawa	Chikwawa	Hospital
Chikwawa	Mapelera	Health Centre
Dedza	Golomoti	Health Centre
Dedza	District hospital	District hospital
Dedza	Chitowo	Health Centre
Ntcheu	Nsipe	Health Centre
Ntcheu	Mtonda	Health Centre
Ntcheu	Ntcheu District Hospital	Hospital
Rumphi	Chitimba	Health Centre
Rumphi	Ng'onga	Health Centre
Rumphi	Rumphi District Facility	Hospital
Chitipa	Ifumbo	Health Centre
Chitipa	Kameme	Health Centre
Chitipa	Chitipa District Facility	Health Centre
Mwanza	Mwanza	Hospital
Neno	Lisungwi	Health Centre
Neno	Nsambe	Health Centre
Mwanza	Thambani	Health Centre
Mwanza	Tulonkhondo	Health Centre
Neno	Neno	Hospital
Machinga	Mlomba	Health Centre
Machinga	Ntaja	Health Centre
Machinga	Machinga	Hospital
Mulanje	MJ	Hospital
Mulanje	Chonde	Health Centre
Mulanje	Kambenje	Health Centre
Phalombe	Phalombe	Health Centre
Phalombe	Mpasa	Health Centre
Phalombe	Chiteksa	Health Centre
Salima	Salima	District Hospital
Nkhotakota	Alinafe	Hospital
Nkhotakota	Benga	Health Centre
Salima	Chipoka	Health Centre
Salima	Khombedza	Health Centre
Nkhotakota	District hospital	Hospital

Annex III: List of reviewers and assigned districts

Team No.	Districts	Members	Partner
1	National Vaccine Store, Dedza, Ntcheu, 4 HCs	Mr Kumwenda	MoH
		Mr E. Phiri	MoH
		Mrs A. Ngulube	MoH
		Mr K. Misoya	MoH
		Kwame	WHO
		A. Assefa	WHO
2	Regional Vaccine Store, Chitipa, Rumphi, 4 HCs	Mrs C. Kunje	MoH
		Mr Lanjeni	MoH
		Mr Mwalija	MoH
		Mrs Kamphinda	MoH
		Zora	WHO
3	Salima, Nkhotakota, 4HCs	Mrs Chimkono	MoH
		Mr Tembo	MoH
		Mrs Dimba	MoH
		Mr Ntopi	MoH
		Hannah	MCHIP
4	Regional Vaccine Store, Blantyre District Vaccine Store, Chikwawa, 2 HCs	Mr B. Banda	MoH
		Mrs Kandulu	MoH
		Mr Mkisi	MoH
		Jethro	WHO
5	Mulanje, Phalombe, 4 HCs	Mrs Chingaipe	MoH
		Mr Mwanza	MoH
		Mr Chando	MoH
6	Mwanza, Neno, Machinga, 6 HCs	Mr SChola	MoH
		Mr Ndau	MoH
		Mr Nyirenda	MoH
		Mrs Kaunda	MoH
		Emily	CHAI

Annex IV: List of senior MoH officials and partner agencies who were present at the debriefing on February 13, 2013

Name	Designation	Organization
Dr Charles Mwansambo	Permanent secretary of Health	Ministry of Health
Mr Paul Chiunguzeni	Principal Secretary of administration	Ministry of Health
Dr Storn Kabuluzi	Director, Preventive Health Services	Ministry of Health
Dr Ann Phoya	Director of SWAp	Ministry of Health
Mrs Shiela Bandazi	Director of Nursing Services	Ministry of Health
Mr Humphrey Masuku	Deputy Director, Preventive Health Services (Environmental Health)	Ministry of Health
Mr Geofrey Chirwa	Deputy EPI manager	Ministry of Health
Mr Mousa Valle	EPI logistic officer	Ministry of Health
Mr Medson Kasambara	Chief Procurement Officer	Ministry of Health
Dr Kwame Chiwaya	EPI officer	World Health Organization
Mr Alan Macheso	Child Health Specialist	United Nations Children's Fund
Ms Emily Churchman	Vaccines Program Manager	Clinton Health Access Initiative
Mrs Hannah Hausi	Immunisation Technical Advisor	Maternal and Child Health Integrated Program
Dr Afework Assefa	Consultant	World Health Organization

Annex V: List of EPI sub TWG member who attended the debriefing on February 12, 2013

Name	Organization
Geofrey Chirwa	Ministry of Health, EPI programme
Mousa Valle	Ministry of Health, EPI programme
Ajida Tambuli	Ministry of Health, EPI programme
Brenda Rhine	Ministry of Health, EPI programme
Evance Mwendo	Ministry of Health, EPI programme
Nixon Mtambalika	Ministry of Health, EPI programme
Deliwe Malema	United States Agency for International Development (USAID)
Hannah Hausi	Maternal and Child Health Integrated Programme
Emily Churchman	Clinton Health Access Initiative
Brigitte Malewezi	Clinton Health Access Initiative
Rahima Dosani	Clinton Health Access Initiative
Kwame Chiwaya	World Health Organization
Afework Assefa	World Health Organization

Annex VI: District core indicators and summary of findings

Component	Question number	Question	Total 'Yes'	Total count	%
External Environment	2.01	Does EPI have a high political priority for political leaders in this district?	10	13	76.9%
Health System	3.01	Does the health organogram include EPI? (Confirm)	3	13	23.1%
Health System	3.03	Is there an EPI annual plan extracted from or within the DIP?	11	13	84.6%
Health System	3.08	What is the source of target populations used by the health sector in this area?			
Service Delivery	4.01	Which vaccination strategies and tactics are utilized frequently? (Check those mentioned, do not prompt)			
Service Delivery		Local Immunisation Days	1	11	9.1%
Service Delivery		Child health days	1	11	9.1%
Service Delivery		House-to-house vaccination	2	11	18.2%
Service Delivery		Outreach vaccination site	13	13	100.0%
Service Delivery		Static health facilities	13	13	100.0%
Service Delivery		Other tactics (specify)	3	11	27.3%
Service Delivery	4.03	Does an up-to-date map of the health facilities offering immunisations exist in this district? (Confirm)	9	12	75.0%
Service Delivery	4.07	Are data from outreach sessions reported separately to the zonal level?	13	13	100.0%
Service Delivery	4.08	How many outreach sessions were planned by this district in 2011?	15497		
Service Delivery	4.09	How many outreach sessions were held by this district in 2011?	13619		
Service Delivery	4.1	Are there any barriers which can make other children not to receive immunisations services in the district?	11	13	84.6%
Service Delivery	4.11	If yes, explain which are these?			
Service Delivery		Religion	9	10	90.0%
Service Delivery		Political pressure	0	10	0.0%
Service Delivery		Geographical barriers	6	10	60.0%
Service Delivery		Distance	3	9	33.3%
Service Delivery		Beliefs and myths	3	9	33.3%
Service Delivery		Others (Specify)	4	9	44.4%
Service Delivery	4.13	Do you receive the monthly reports on the doses administered in CHAM clinics? (Confirm)	12	12	100.0%

Service Delivery	4.15	Has routine immunisation service delivery been disrupted anytime in the last six months (June-November) in this district?	8	13	61.5%
Service Delivery	4.17	Are there low performing health facilities in this district? (Check the reports to identify the number of facilities <80% coverage for Penta3 in 2011)	12	13	92.3%
Service Delivery	4.18	Is there a plan to improve service delivery in low performing health facilities	0	2	0.0%
Vaccine supply and Quality	5.01	Is there an inventory of cold chain equipment in the health facilities? (Confirm)	8	13	61.5%
Vaccine supply and Quality	5.05	Is there a transport equipment inventory for the district store and health facilities? (Confirm)	6	13	46.2%
Vaccine supply and Quality	5.07	Does this district's cold store contain (requires a visit to cold store):			
Vaccine supply and Quality		Expired vaccine	0	13	0.0%
Vaccine supply and Quality		Frozen TT, PCV, Rota, Pentavalent	1	13	7.7%
Vaccine supply and Quality		VVM at stage 3 or 4	0	13	0.0%
Vaccine supply and Quality	5.15	Do you have enough cold chain capacity to store your vaccines?	4	13	30.8%
Vaccine supply and Quality	5.16	Has this district experienced any vaccine/supply shortages between December 2011 – November 2012?	8	13	61.5%
Vaccine supply and Quality	5.17	If yes, which of the items below have been out of stock within the last 12 months and for how long?			
Vaccine supply and Quality		BCG	0	9	0.0%
Vaccine supply and Quality		BCG stock out duration			
Vaccine supply and Quality		Pentavalent	0	9	0.0%
Vaccine supply and Quality		Pentavalent stock out duration			
Vaccine supply and Quality		Polio	4	10	40.0%
Vaccine supply and Quality		Polio stock out duration			
Vaccine supply and Quality		Measles	1	9	11.1%
Vaccine supply and Quality		Measles stock out duration			
Vaccine supply and Quality		TT	0	9	0.0%
Vaccine supply and Quality		TT stock out duration			
Vaccine supply and Quality		PCV	3	9	33.3%
Vaccine supply and Quality		PCV stock out duration			
Vaccine supply and Quality		BCG Diluents	0	9	0.0%
Vaccine supply and Quality		BCG Diluents stock out duration			
Vaccine supply and Quality		Measles Diluents	1	9	11.1%
Vaccine supply and Quality		Measles Diluents stock out duration			
Vaccine supply and Quality		AD syringes (.05mL)	1	9	11.1%
Vaccine supply and Quality		AD syringes (.05mL) stock out duration			

Vaccine supply and Quality		AD syringes (0.5mL)	0	9	0.0%
Vaccine supply and Quality		AD syringes (0.5mL) stock out duration			
Vaccine supply and Quality		Mixing syringes (2mL)	0	9	0.0%
Vaccine supply and Quality		Mixing syringes (2mL) stock out duration			
Vaccine supply and Quality		Mixing syringes (5mL)	1	9	11.1%
Vaccine supply and Quality		Mixing syringes (5mL) stock out duration			
Vaccine supply and Quality		Safety box	0	9	0.0%
Vaccine supply and Quality		Safety box stock out duration			
Vaccine supply and Quality		Other (list)	0	8	0.0%
Vaccine supply and Quality	5.18	Is there a proper procedure for destruction of used vials in this district?	12	13	92.3%
Vaccine supply and Quality	5.2	Does the district estimate the health facility needs and provides vaccines when they are needed?	13	13	100.0%
Vaccine supply and Quality	5.23	During the past year, has vaccine and materials distribution to the health facilities been disrupted due to transport problems? (Describe)	10	12	83.3%
Vaccine supply and Quality	5.24	Have any AEFIs occurred in this district in the past 2 years? (Confirm by report)	2	13	15.4%
Vaccine supply and Quality	5.25	Is an immunisation safety protocol available? (Confirm)	4	13	30.8%
Vaccine supply and Quality	5.28	Does this district implement or have the following (confirm):			
Vaccine supply and Quality		Multi-dose vial policy	11	13	84.6%
Vaccine supply and Quality	5.29	How is the vaccine wastage rate calculated? (Fill in the following :)			
Surveillance	6.01	Are surveillance technical guidelines available? (Confirm)	12	13	92.3%
Surveillance	6.02	Does a surveillance focal person exist?	11	13	84.6%
Surveillance	6.03	Has any surveillance refresher training been conducted within the last 12 months?	10	13	76.9%
Surveillance	6.04	Do you know the surveillance indicators for:			
Surveillance		AFP? (If correct, check 'Yes')	7	13	53.8%
Surveillance		Measles? (If correct, check 'Yes')	3	13	23.1%
Surveillance		Neonatal tetanus? (If correct, check 'Yes')	4	13	30.8%
Surveillance	6.05	Are up-to-date data for these indicators available? (Confirm)	4	13	30.8%
Surveillance	6.08	Is active disease surveillance done in this district? (Confirm) (Active surveillance is a health worker going regularly to the priority health facilities to collect information.)	7	13	53.8%
Surveillance	6.15	Have all health facilities in this district provided complete reports in the last six months?	11	13	84.6%

Surveillance	6.16	Have all health facilities in this district provided timely reports in the last six months?	6	13	46.2%
Surveillance	6.17	Does a consolidated monthly/weekly surveillance report exist? (Confirm)	9	13	69.2%
Communications (RED strategy = community linkages)	7.02	Do community level social mobilizers for immunisations exist in this district?	10	13	76.9%
Communications (RED strategy = community linkages)	7.03	Does a plan for information, education and communication for EPI exist? (confirm)	3	13	23.1%
Communications (RED strategy = community linkages)	7.06	Describe the key activities undertaken by the EPI team in the past year to strengthen links between EPI and communities			
Management (RED strategy = Microplanning; supervision)	8.01	Is there a current microplan for routine immunisation? (Confirm and use microplan to verify answers to the questions that follow) (Note: If there is a district health plan and it includes the details required in an immunisation microplan, answer "yes" to the question above.)	3	13	23.1%
Management (RED strategy = Microplanning; supervision)	8.05	Have you prioritized the health facilities in your district by performance and/or disease risk in the past 12 months (December 2011 – November 2012)? (Confirm)	3	13	23.1%
Supervision	8.09	Is a supervision schedule available and up-to-date indicating when this district will conduct supervision visits of the levels below it? (Confirm)	4	13	30.8%
Supervision	8.12	Are supervision visits integrated, i.e. do they cover both immunisation delivery and other health interventions?	10	13	76.9%
Supervision	8.13	Are written guidelines or standards available for supportive supervision of immunisation services? (Confirm)	6	13	46.2%
Supervision	8.18	How many supervisory visits were planned by this district last year?	76		
Supervision	8.19	How many supervisory visits were held by this district last year?	43		
Supervision		Is supervisory feedback provided to facility staff?	12	13	92.3%
Partner coordination	8.224	Did you hold any stakeholder meetings in this district that deal with any EPI issues within the last 12 months (December 2011 – November 2012)? (Confirm- Minutes for the meeting)	1	13	7.7%
Monitoring & evaluation (RED strategy = Data for action)	9.01	Does an EPI coverage monitoring chart exist in this district? (Confirm)	9	13	69.2%

Monitoring & evaluation (RED strategy = Data for action)	9.05	How many review meetings on EPI were planned by this district last year? (Confirm) (If none, go to Question 9.08)			
Monitoring & evaluation (RED strategy = Data for action)	9.06	How many review meetings on EPI were held by this district last year? (Confirm)			
Monitoring & evaluation (RED strategy = Data for action)	9.08	Has operations research of EPI been carried out in the last two years?	1	13	7.7%
Monitoring & evaluation (RED strategy = Data for action)	9.11	Is there a tool to monitor the timeliness and completeness of immunisation reports received from the health facilities? (Confirm)	9	13	69.2%
Monitoring & evaluation (RED strategy = Data for action)	9.12	What proportion of health facilities in this district have achieved >80% coverage of Penta3 between January to December 2011?			
Monitoring & evaluation (RED strategy = Data for action)	9.15	What is the Penta1-Penta3 dropout rate in October 2012?			
Monitoring & evaluation (RED strategy = Data for action)	9.18	Has this district conducted a data quality self-assessment in the past 2 years?	0	12	0.0%
Capacity building (Human resources)	10.01	Has a RED training been conducted within the last 12 months for health facility staff in this district?	12	12	100.0%
Capacity building (Human resources)	10.05	What proportion of HSA posts is vacant in this district?	0	13	0.0%
Capacity building (Human resources)	10.06	Do you regularly identify best practices for conducting immunisations and share these with health workers and program coordinators? (Confirm)	1	13	7.7%
Capacity building (Human resources)	10.1	Has a training needs assessment been conducted in the last 24 months?	1	13	7.7%
Capacity building (Human resources)	10.11	What proportion of this district's EPI team has not received training on EPI yet?			
Financing	11.03	Has funding from the national level been adequate for EPI in this district?	1	13	7.7%
Financing	11.04	Are there sources of financing for use by EPI for the following:			
Financing	11.05	Did HSAs receive salaries on a regular basis in the past 12 months?	13	13	100.0%
Financing	11.06	Is a financial control / auditing system in place at this district? (Confirm)	11	13	84.6%

Annex VII: Facility level; Summary of core indicators and findings

Component	Question Number	Question	Total 'Yes'	Total count	%
External environment	2.01	Do village leaders usually participate in immunisation campaigns and/or child health days?	38	38	100.0%
3 **Health System**	3.01	What is the source of target populations used by the health sector in this health facility? NSO?	19	38	50.0%
7 **Health System**	3.04	Are the health staff who provide vaccinations also responsible for providing other health services?	37	38	97.4%
Service delivery	4.01	Which vaccination strategies are utilized frequently in this facility?			
Service delivery	4.01 A	Local Immunisation Days	7	33	21.2%
Service delivery	4.01 B	Child health days	8	32	25.0%
Service delivery	4.01 C	House-to-house vaccination	3	34	8.8%
Service delivery	4.01 D	Outreach vaccination sessions	37	38	97.4%
Service delivery	4.01 E	Static vaccination sessions	37	38	97.4%
Service delivery	4.01 F	Other tactics (specify)	9	30	30.0%
Service delivery	4.05	Are immunisation sessions held every day at this facility?	26	38	68.4%
Service delivery	4.15	Does an up-to-date map of the catchment area exist at this facility (confirm)	28	38	73.7%
Service delivery	4.2	How many outreach sessions were planned in the last 3 months (September-November 2012)	920		
Service delivery	4.21	How many outreach sessions were held in September-November 2012?	850		
Service delivery	4.22	Are there populations in this area, which are not reached by immunisation services?	13	38	34.2%
Service delivery	4.23	If yes, explain why?			
Service delivery	4.23	Religion	10	15	66.7%
Service delivery	4.23	Political pressure	0	11	0.0%
Service delivery	4.23	Geographic	5	11	45.5%
Service delivery	4.23	Other, specify	2	8	25.0%
Service delivery	4.24	Has routine immunisation service delivery been disrupted anytime from June – November 2012?	14	38	36.8%
Vaccine supply and Quality	5.01	Does the health facility's refrigerator(s) contain: (confirm)			
Vaccine supply and Quality	5.01A	Expired vaccine	4	37	10.8%

Vaccine supply and Quality	5.01B	Frozen TT PCV, Pentavalent, Rota	0	37	0.0%
Vaccine supply and Quality	5.01C	VVM at stage 3 or 4	4	37	10.8%
Vaccine supply and Quality	5.01D	Correct number of diluents for number of vaccines available	20	36	55.6%
Vaccine supply and Quality	5.04	Are all cold chain equipment functioning? (Confirm)	30	38	78.9%
Vaccine supply and Quality	5.06	Is updated cold chain temperature chart available for each refrigerator?	31	37	83.8%
Vaccine supply and Quality	5.08	Is the temperature inside the refrigerators currently between +2° and +8° C?	31	37	83.8%
Vaccine supply and Quality	5.1	Has this facility experienced any vaccine/supply shortages in December 2011-November 2012?	22	34	64.7%
Vaccine supply and Quality	5.11	If yes, which of the items below have been out of stock from December 2011 to November 2012 and for how long?			
Vaccine supply and Quality	5.11A	BCG	10	23	43.5%
Vaccine supply and Quality	5.11A	BCG stock out duration			
Vaccine supply and Quality	5.11B	Pentavalent	6	23	26.1%
Vaccine supply and Quality	5.11B	Pentavalent stock out duration			
Vaccine supply and Quality	5.11C	Polio	11	23	47.8%
Vaccine supply and Quality	5.11C	Polio Stock out duration			
Vaccine supply and Quality	5.11D	Measles	6	22	27.3%
Vaccine supply and Quality	5.11D	Measles Stock out duration			
Vaccine supply and Quality	5.11E	TT	3	21	14.3%
Vaccine supply and Quality	5.11E	TT Stock out duration			
Vaccine supply and Quality	5.11F	PCV	15	25	60.0%
Vaccine supply and Quality	5.11F	PCV Stock out duration			
Vaccine supply and Quality	5.11G	Diluents	3	20	15.0%
Vaccine supply and Quality	5.11G	Diluents Stock out duration			
Vaccine supply and Quality	5.11H	AD syringes (0.05ml)	2	20	10.0%
Vaccine supply and Quality	5.11H	AD Syringes 0.05 ml Stock out duration			
Vaccine supply and Quality	5.11I	AD syringes (0.5ml)	1	20	5.0%
Vaccine supply and Quality	5.11I	AD Syringes 0.5 ml Stock out duration			
Vaccine supply and Quality	5.11J	Mixing syringes (2ml)	0	19	0.0%
Vaccine supply and Quality	5.11J	Mixing Syringes 2 ml Stock out duration			
Vaccine supply and Quality	5.11K	Mixing syringes (5ml)	1	20	5.0%
Vaccine supply and Quality	5.11K	Mixing Syringes 5ml Stock out duration			
Vaccine supply and Quality	5.11L	Safety boxes	0	20	0.0%
Vaccine supply and Quality	5.11L	Safety Boxes Stock out duration			
Vaccine supply and Quality	5.11M	OPV droppers	0	20	0.0%
Vaccine supply and Quality	5.11M	OPV droppers Stock out duration			

Vaccine supply and Quality	5.11N	Other (list)	1	18	5.6%
Vaccine supply and Quality	5.13	Is there a proper procedure for destruction of used vaccine equipment?	33	37	89.2%
Vaccine supply and Quality	5.2	Have any AEFIs occurred in this facility in 2010-2011? (Confirm by report)	2	37	5.4%
Vaccine supply and Quality	5.21	Is an immunisation safety protocol available? (Confirm)	5	37	13.5%
Vaccine supply and Quality	5.25	How is the vaccine wastage rate calculated? (Fill in the following:)			
Vaccine supply and Quality	5.25A	Indicator used for the numerator		36	
Vaccine supply and Quality	5.25B	Indicator used for the denominator		36	
Vaccine supply and Quality	5.25C	What is the current Penta wastage rate?(October2012)	0	35	0.0%
Surveillance	6.01	Are technical surveillance guidelines available? (Confirm)	12	37	32.4%
Surveillance	6.02	Does a surveillance focal point person exist?	26	36	72.2%
Surveillance	6.03	Has any surveillance training been conducted from December 2011 – November 2012?	16	36	44.4%
Surveillance	6.07	What is the case definition for AFP? (if correct, check 'Yes')	14	37	37.8%
Surveillance	6.08	What is the case definition for Measles? (if correct, check 'Yes')	24	36	66.7%
Surveillance	6.09	What is the case definition for NNT? (if correct, check 'Yes')	18	37	48.6%
Surveillance	6.11	Are stool specimen collection kits available for AFP at this health facility?	20	37	54.1%
Surveillance	6.12	Are blood collection kits for measles available?	23	37	62.2%
Communications	7.03	Do community level social mobilizers for immunisations exist in this area?	30	37	81.1%
Communications	7.05	Does a plan for information, education and communication for EPI exist? (Confirm)	8	37	21.6%
Communications	7.1	Is there an NGO or private organization which helps with immunisation in this area?	13	37	35.1%
Communications	7.12	What information is provided to parents before and after vaccination? (do not prompt, check only those mentioned. You may tell afterwards).			
Management	8.01	Is there a current microplan for routine immunisation? (Confirm and use microplan to verify answers to the questions that follow) (Note: If there is a health facility plan and it includes the details required in an immunisation microplan, answer "yes" to	8	37	21.6%

		the question above.)			
Management	8.07	Does an immunisation session schedule or plan exist? (Confirm)	33	37	89.2%
Management	8.14	How many times did a district supervisor visit from December 2011-November 2012? (confirm with the visitors book)			
Management	8.17	Did the supervisor provide any feedback during or after his/her visit?	22	29	75.9%
Monitoring and Evaluation	9.01	Does an EPI coverage monitoring chart exist at this facility? (Confirm) (If no, note why not)	21	33	63.6%
Monitoring and Evaluation	9.06	How many review meetings did you attend from December 2011-November 2012? (Confirm)			
Monitoring and Evaluation	9.08	What is the Penta1-Penta3 dropout rate? (October 2012)	20	37	54.1%
Monitoring and Evaluation	9.1	What tools/strategies are used to track defaulters? (Confirm)			
Monitoring and Evaluation	9.1A	Under 1 register	15	37	40.5%
Monitoring and Evaluation	9.1B	Village level volunteers	17	37	45.9%
Monitoring and Evaluation	9.1C	Defaulter file	1	36	2.8%
Monitoring and Evaluation	9.1D	Village health Register	11	37	29.7%
Monitoring and Evaluation	9.1E	Home visits	9	36	25.0%
Monitoring and Evaluation	9.1F	OPD	7	36	19.4%
Monitoring and Evaluation	9.1G	No tracking of defaulters	5	36	13.9%
Monitoring and Evaluation	9.1H	Other, specify _____	3	33	9.1%
Monitoring and Evaluation	9.11	Has this facility conducted a data quality self-assessment in 2010/2011?	5	37	13.5%
Monitoring and Evaluation	9.15	How frequently do you communicate data to the district?	26	37	70.3%

Capacity Building	10.01	Have you participated in a REC training workshop from December 2011-Novemebr 2012?	27	37	73.0%
Capacity Building	10.02	What proportion of H.S.A's posts is vacant?			
Capacity Building	10.03	Does the district office regularly share best practices for conducting immunisations with you? (Confirm)	14	37	37.8%
Capacity Building	10.06	Does this facility have EPI training materials? (Confirm and check yes for any manuals you see)	12	16	75.0%
Financing	11.01	Are the resources provided by the district adequate for EPI activities:			
Financing	11.01A	Fuel?	2	36	5.6%
Financing	11.01B	Motorcycles?	11	36	30.6%
Financing	11.01C	Pushbikes	13	37	35.1%
Financing	11.01D	Under 1 Registers?	28	36	77.8%
Financing	11.01E	Child Health Passports?	29	36	80.6%
Financing	11.02	Have H.S.As received salaries on a regular basis from December 2011-November 2012	34	35	97.1%
Vaccine Introduction	12.03	Did the health facility carry out social mobilization prior to introduction of new vaccine (PCV)? (Confirm)	29	37	78.4%
Vaccine Introduction	12.04	Were health workers trained on new vaccine prior to introduction?	36	37	97.3%
Vaccine Introduction	12.08	Do you have updated immunisation guidelines and monitoring tools which include the new vaccine? (Confirm)	26	37	70.3%
Vaccine Introduction	12.1	Did you need to increase cold chain capacity prior to introduction of the new vaccine?	17	37	45.9%
Vaccine Introduction	12.11	If yes, were you able to adequately increase this capacity?	8	27	29.6%
Vaccine Introduction	12.13	What effect has the introduction of the new vaccine had on EPI?			
Vaccine Introduction	12.13A	Improved EPI	25	36	69.4%
Vaccine Introduction	12.13a	Improved EPI explain	0	18	0.0%
Vaccine Introduction	12.13B	Worsened EPI	2	35	5.7%
Vaccine Introduction	12.13b	Worsened EPI explain	1	10	10.0%
Vaccine Introduction	12.13C	No effect on EPI	10	36	27.8%
Vaccine Introduction	12.13c	No effect explain	1	7	14.3%
Session observation	13.08	Are any beneficiaries turned away for measles vaccination and told to come back on a specific "measles vaccination" day?	7	30	23.3%
Session observation	13.09	Are any beneficiaries turned away for BCG vaccination and told to come back on a	5	29	17.2%

		specific "vaccination" day			
Session observation	13.11	Is the environment for the clinic clean (well swept, water for hand washing, not dusty)?	24	30	80.0%
Session observation	13.14	What is your impression of the quality of the immunisation session?	26	29	89.7%