



THE REPUBLIC OF UGANDA

**UGANDA NATIONAL EXPANDED PROGRAMME ON
IMMUNIZATION MULTI YEAR PLAN
2012-2016**



Updated cMYP August 2013

Foreword

Immunization is a key priority of the Uganda Minimum Health Care Package of the health sector. Over the decade, implementation of the EPI revitalization and strategic plans has accelerated government efforts to achieve better health for the children and women of Uganda, thereby contributing to the enhancement of the quality of life and productivity.

A comprehensive review of the programme conducted in 2005 provided vast information on good practices, gaps and lessons learned over the previous 5 years that formed the basis for development the 1st multiyear plan (2006-2010). Several achievements were noted: reversal of the decline of immunization coverage with achievement of high coverage surpassing previously set targets; introduction of underutilized vaccines (hepatitis B and *Haemophilus Influenzae* type b (Hib)) in the routine immunization schedule resulting in increased demand for services; and significant impact in reduction in morbidity and mortality of measles, neonatal tetanus and Hib.

However, several challenges experienced since 2007 in delivery of EPI services have threatened to reverse the achievements of the programme. A decline in immunization coverage with variations in sub national performance has posed a threat to sustainability of low morbidity and mortality due to vaccine preventable diseases. The continued circulation of wild polio virus in Horn of Africa coupled with the population immunity gaps among under-five children in Uganda, led to the re-emergence of wild polio virus in early 2009 after 13 polio-free years and has continued to be a real threat in 2013.

The process of development and update of the new strategic country multiyear plan 2012-2016, has accorded the programme and partners an opportunity to rethink approaches to address the current challenges, to explore opportunities for more efficient delivery of services and to devise strategies conforming to the Global vaccine Action Plan (GVAP) as we strive to achieve the Millennium Development Goal of reduction of childhood morbidity and mortality by 2015, and the national goals as articulated in the Health Sector Strategic Investment Plan.

The following have been addressed in the current update:

- Update of the current performance of EPI using the Joint Reporting Format and GAVI Annual Performance Reports for 2012 as baseline information
- Aligning the cMYP with the Decade of Vaccines Global Vaccine Action Plan
- Aligning the EPI components with the Health System blocks
- Emphasis on integration to achieve the child survival interventions

The focus over the coming years will lie on sustaining availability of current vaccines offered by the programme; introduction of HPV and rotavirus vaccines; maintaining a high immunization coverage in a rapidly growing population and reaching all un-immunized children particularly with re-emergence of wild polio virus; and maintaining a high quality and sensitive disease surveillance system at all levels in order to detect and respond timely to any outbreaks.

I wish to express my appreciation to all those who have contributed to updating of this strategic plan including the technical support provided by our partners. We pledge full government support in implementation of the plan and look forward to attainment of the revised objectives and milestones set.

Dr. Aceng Jane Ruth
Director General Health Services

Table of Contents

| | |
|---|------------|
| FOREWORD | III |
| TABLE OF CONTENTS | IV |
| LIST OF TABLES..... | IV |
| EXECUTIVE SUMMARY | V |
| 1. INTRODUCTION | 1 |
| 1.1 COUNTRY PROFILE..... | 1 |
| 1.2 THE NATIONAL HEALTH SYSTEM..... | 1 |
| 1.3 EPI WITHIN THE NATIONAL HEALTH SYSTEM..... | 3 |
| 2. SITUATION ANALYSIS | 7 |
| 2.1: OVERVIEW OF CRITICAL INDICATORS..... | 7 |
| 2.2: KEY STRATEGIC ACTIVITIES FOR IMPROVING IMMUNIZATION AND SURVEILLANCE..... | 9 |
| 3. PROBLEMS, OBJECTIVES, MILE STONES, GLOBAL GOALS, PRIORITIES, STRATEGIES, ACTIVITIES AND TIMELINE BY EPI COMPONENTS CMYP 2012-2016 | 35 |
| 5. COSTING AND FINANCING, UGANDA MULTI YEAR PLAN, 2010-2015 | 55 |
| 5.1 MACRO ECONOMIC BACKGROUND..... | 62 |
| 5.2 COSTING OF THE EPI MULTIYEAR PLAN..... | 63 |
| 5.3 FINANCING OF THE EPI MULTI YEAR PLAN 2012- 2016..... | 68 |
| 6. FINANCIAL SUSTAINABILITY ANALYSIS | 74 |
| 6.1 MOBILIZING ADDITIONAL RESOURCES..... | 74 |
| 6.2 INCREASING RELIABILITY OF RESOURCES..... | 75 |
| 6.3 IMPROVING PROGRAMME EFFICIENCY..... | 76 |

List of Tables

| | |
|--|-------------------------------------|
| TABLE 1: UGANDA IMMUNIZATION SCHEDULE..... | ERROR! BOOKMARK NOT DEFINED. |
| TABLE 2 STRENGTHS, WEAKNESSES AND RECOMMENDATIONS OF EPI REVIEW 2010, EVMA 2011 AND IMMUNISATION ASSESSMENT 2012 BY SYSTEM COMPONENTS..... | 10 |
| TABLE 3 SITUATION ANALYSES BY ACCELERATED DISEASE CONTROL INITIATIVES, UGANDA, 2006-2011..... | 26 |
| TABLE 4 SITUATION ANALYSIS OF ROUTINE EPI BY SYSTEM COMPONENTS, UGANDA, 2006-2011..... | 27 |
| TABLE 5 BASELINE, ANNUAL POPULATION TARGETS AND IMMUNISATION COVERAGE TARGETS FOR EPI 2011 – 2016..... | 34 |
| TABLE 6 PROBLEMS, OBJECTIVES, MILE STONES, GLOBAL GOALS, PRIORITIES, STRATEGIES, ACTIVITIES AND TIMELINE BY EPI COMPONENTS CMYP 2012-2015..... | 35 |
| TABLE 7 RESOURCE REQUIREMENTS, FINANCING AND FINANCIAL GAPS, EPI MULTIYEAR PLAN 2012-2016..... | 71 |
| TABLE 8 COMPOSITION OF FUNDING GAP (IMMUNIZATION SPECIFIC ONLY)..... | 72 |
| TABLE 9 GOVERNMENT CO-FINANCING FOR NEW VACCINES..... | 73 |

List of Figures

| | |
|--|----|
| FIGURE 1: FUNCTIONAL ORGANIZATIONAL STRUCTURE OF UNEPI AS OF FY 2011/2012..... | 4 |
| FIGURE 2: IMMUNIZATION COVERAGE TREND 2000 – 2011..... | 7 |
| FIGURE 3 BASELINE COST PROFILE (ROUTINE IMMUNIZATION) UGANDA, 2011..... | 65 |
| FIGURE 4 PROJECTION OF FUTURE RESOURCE REQUIREMENTS..... | 66 |
| FIGURE 5 MULTIYEAR PLAN COSTING, UGANDA, 2012-2016..... | 67 |
| FIGURE 6 MULTIYEAR PLAN COSTING FOR UGANDA BY PROGRAM COMPONENTS, 2012 – 2016..... | 68 |
| FIGURE 7 BASELINE FINANCING PROFILE (ROUTINE ONLY)..... | 69 |
| FIGURE 8 FUTURE SECURE + PROBABLE FINANCING AND GAPS..... | 69 |

Executive Summary

The updated Uganda EPI multiyear plan for 2012-2016 highlights the areas of focus for the immunization programme over the next three years based on previous programme performance, priorities for the health sector as stipulated in the Health Sector Strategic Investment Plan (2010/11 – 2014/15) and the global, regional goals set for child survival and the annual performance reports for EPI (JRF and APR) for 2012. The Decade of Vaccines Global Vaccine Action Plan (GVAP), Millennium Development Goals (MDG) on mortality and morbidity reduction and the WHO Strategic direction 2010-2015 provided the overall strategic framework for updating the plan as well as priorities set in the HSSIP.

EPI performance in Uganda has stagnated after showing progressive improvement of routine immunization and surveillance indicators between 2000 and 2006, when DPT3 coverage increasing from 56% in 2000 to 85% in 2006. Several investments into the programme over the years, such as GAVI Immunisation Service Support (GAVI-ISS), Sustainable Outreach Services (SOS) and the Reaching Every District (RED) approach, contributed to the successes attained. The impact of the immunization programme is evident: the country remained polio free from 1996 to early 2009; morbidity due to measles has declined by over 90% compared to 2000 with no confirmed deaths in 2004 and 2005; the number of meningitis cases due to *Haemophilus Influenzae* type b (Hib) declined by 95% at sentinel sites for Hib surveillance since introduction of Hib vaccine in 2002. The number of reported neonatal tetanus cases declined to less than 1/1,000 live birth nationally, this led to Uganda being certified for Maternal Neonatal Tetanus Elimination (MNTE).

However challenges in routine immunisation service delivery have resulted in declining performance during 2007-2012. District variability in performance exists with the proportion of districts achieving the set targets for routine immunization and surveillance not yet up to the required levels. Sustaining availability of current vaccines at the health facility offered by the programme, maintaining a high immunization coverage in a rapidly growing population, reaching all un-immunized children particularly with re-emergence of wild polio virus after 13 years, and maintaining a high quality and sensitive disease surveillance system at all levels are some of the challenges that the programme is faced with.

Over the next three years the programme will focus on the district level to improve routine immunization and surveillance performance; strengthen logistics management at all levels; introduce rotavirus vaccines and HPV vaccination; strengthen capacity of mid level managers, operational level health workers and pre-service trainees to deliver quality EPI services; advocate for sustainable financing of the programme; achieve and maintain polio free status, maintain neonatal tetanus elimination and pre-elimination measles targets. Strategies such as RED/REC, integration of activities (outreaches, child days, family health days, supplemental immunization activities), and advocacy for the programme using evidence-based data will be used to achieve the targets set.

The anticipated programme cost for the five years (2012-2016) is US \$388,091,684, with 60% of these costs being for vaccines and supplies. The programme intends to introduce new vaccines (PCV, Rota vaccine and HPV), construct new offices and stores at the national level, and conduct polio and measles supplementary immunization activities, all of which contribute significantly to the increased costs in 2012 to 2016. The programme is faced with a substantial funding gap. By the 2016, the apparent funding gap is expected to be \$87,470,768 which is 23% of the total resource needs, excluding shared costs.

1. Introduction

1.1 Country profile

Uganda is located on the equator and covers an area of 241,550.7 km², of which 18% consists of Lake Victoria and other lakes, with the rest being made up of plateau with numerous small hills, valleys and extensive savannah plains. It receives abundant rainfall and is rich in tillable land.

Administrative structure

Administratively, currently Uganda is divided into 112 districts as compared to 80 districts by end of financial year 2009/2010. The districts are further divided into 220 counties, 1261 sub-counties, 6,953 parishes and 59,092 LC1s/villages. The village forms the smallest political-administrative unit.

In 2002 the population of Uganda was estimated at 24.2 million: 48.5% were male while 51.5% were female; and 88% are resident in rural areas. The population growth rate is estimated at 3.2% per annum, resulting in an incremental growth of more than one million people annually. The Uganda Bureau of Statistics (UBOS) estimates the population in mid 2012 at 34.1 million persons and by the end of the HSSIP in 2014/15 Uganda's population will be approximately 37.9 million, increasing the average population density from 133, to 156 persons per square km.

Health indices

The national literacy rate is estimated to be 73.6% and the majority of the population (88%) lives in rural areas. However, some of the districts in north and northeast of Uganda were affected by a prolonged period of conflict resulting due to widespread insecurity and large-scale population displacement. This has had an effect on health service delivery and most of these districts have not been able to achieve the national targets for the health indicators.

It is estimated that 49% of Uganda's population constitutes of persons under the age of 15 years, and Under 1 year at 4.3%. Over the next five years the Ugandan population will remain a young population with 18.5% of the total population being under five. There shall be an increase in the number of females in reproductive years from 7 million in 2009 to 8.3 million in 2014, which will put a strain on all reproductive health services (HSSIP).

Between 2002 and 2011 under five mortality rate declined from 156 to 90 deaths per 1,000 live births; IMR decreased from 85 to 54 deaths per 1000 live births; MMR reduced from 505 to 435 per 100,000 live births (UDHS 2011, UBOS 2012 Statistical abstract).

1.2 The National Health System

The National Health System (NHS) is made up of the public and the private sectors. The public sector includes all GoU health facilities under the MoH, health services of the Ministries of Defense (Army), Education, Internal Affairs (Police and Prisons) and Ministry of Local Government (MoLG). The private health delivery system consists of Private Not for Profit (PNFPs) providers, Private Health Practitioners (PHPs), and the Traditional and Complementary Medicine Practitioners (TCMPs). This section describes the organization and management of the health sector and delivery of health services in Uganda. The provision of health services in Uganda is decentralised with districts and health sub-districts (HSDs) playing a key role in the delivery and management of health services at those levels. The health services are structured into National Referral Hospitals (NRHs) and Regional Referral

Hospitals (RRHs), General Hospitals, Health Centre (HC) IVs, HC IIIs, HC IIIs and Village Health Teams (HC Is).

The functions of the National health system are contained in the National Development Plan; the National Development Plan (NDP) 2010/2011-2014/2015 is Uganda's Comprehensive Development Framework which guides the implementation of the second National Health Policy (NHP) 2010/2011-2014/2015 and the National Health Sector Strategic and Investment Plan 2010/2011-2014/2015. The NHP focuses on health promotion, disease prevention, early diagnosis and treatment of diseases. It specifically prioritise the effective delivery of the Uganda National Minimum Health Care Package (UNMHCP), more efficient use of available health resources, strengthening public and private partnerships for health and strengthening of health systems. The HSSIP provides the medium term strategic framework for health, and focus that the government intends to pursue in regard to attaining the health goals for the country.

The HSSIP is implemented through a Sector-Wide Approach (SWAp). A Memorandum of Understanding (MoU) establishing the Health SWAp outlines and contains the modalities for financing the sector plan as well as common working arrangements for managing programmes.

The coordinating structures established under the SWAp include: the Health Policy Advisory Committee (HPAC) that advises both government and partners on the implementation of the second NHP and the HSSIP; working groups for translating the various HSSIP outputs into guidelines, plans and implementation activities; bi-annual GoU/HDP Health Sector Joint Review Missions held to review the implementation of the plan; Health Sector Working Group - a forum for discussion of sector priorities, drafting of the Health Sector Budget Framework Paper and discussion and approval of new donor funded projects.

The Ministry of Health (MoH) has the lead role and responsibility for delivering the outputs of the HSSIP and various other partners have defined roles to play and contributions to make. The MoH initiates policy and coordinates overall sector activities and brings together stakeholders at the central, district and community level. The stewardship function extends to the district level where by the district leadership is responsible for coordinating all the stakeholders within the district.

Uganda is governed through a decentralized system. The districts are autonomous and responsible for the health needs of the populations under their jurisdiction. The health services are also decentralized with Primary Health Care (PHC) concept as the main strategy for service delivery. Districts receive grants directly from the centre without an intervening regional tier.

1.3 EPI within the National Health System

The Uganda National Expanded Programme on Immunization (UNEPI) is located in the Department of National Communicable Disease Control within the Directorate of Clinical and Community Services. The UNEPI has a managerial structure to ensure efficient service delivery; the organogram of the UNEPI is illustrated in Figure 1.

The **vision** of UNEPI is to ensure that the Ugandan population is free of vaccine-preventable diseases.

The **mission** is to contribute to the overall objective of the HSSIP in reducing morbidity, mortality and disability due to vaccine preventable diseases, so that they are no longer of public health importance.

The **goal** of the programme is to ensure that every child and high-risk group is fully vaccinated with high quality and effective vaccines against the target diseases according to recommended strategies.

The targeted diseases for infants, as of 2011, are tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus, measles, hepatitis B and *Haemophilus Influenzae* type b (Hib), the last two diseases were introduced into the programme in June 2002. Vaccination against Human Papilloma Virus (HPV) has been carried out in two districts targeting girls 10 – 12 years since 2007 to date. The programme plans to introduce the Pneumococcal Vaccine, Rotavirus Vaccine and scale up of Human Papilloma Vaccine in the life span of the HSSIP. The immunization schedule for infants is as shown in Table 1.

The programme has two major areas of focus:

1. Strengthening routine immunization;
2. Conducting supplemental immunization activities to achieve global targets of polio eradication, elimination of maternal and neonatal tetanus, and accelerated measles control;
3. Sustaining a sensitive disease surveillance system within the Integrated Disease Surveillance and Response framework.
4. Introduction of new vaccines in the routine schedule and also expand the vaccination beyond the traditional target group

Immunization is a countrywide programme covering all districts of Uganda. The MoH/UNEPI is responsible for policy, standards and priority setting, capacity building, coordinating with other stakeholders and partners, resource mobilisation, procurement of inputs such as vaccines and injection safety materials, monitoring and technical support supervision to the districts. The districts and health sub-districts are responsible for planning, management and delivery of EPI services through the implementation of the overall district health plan. The community is involved in mobilization and bringing the children for immunization. Immunization is part of the PHC and is integrated into the child survival activities at the district and health facility levels. In July 2012, MOH made a policy shift and charged the National Medical Stores (NMS) with the storage and distribution of vaccines, a responsibility which used to be executed by UNEPI. However, this policy shift faced a number of challenges that led to vaccine stock outs at the sub national level. However the challenges are being addressed by the Government of Uganda through the Ministry of Health to ensure that there is a zero stock out.

Figure 1: Functional organizational structure of UNEPI as of FY 2011/2012

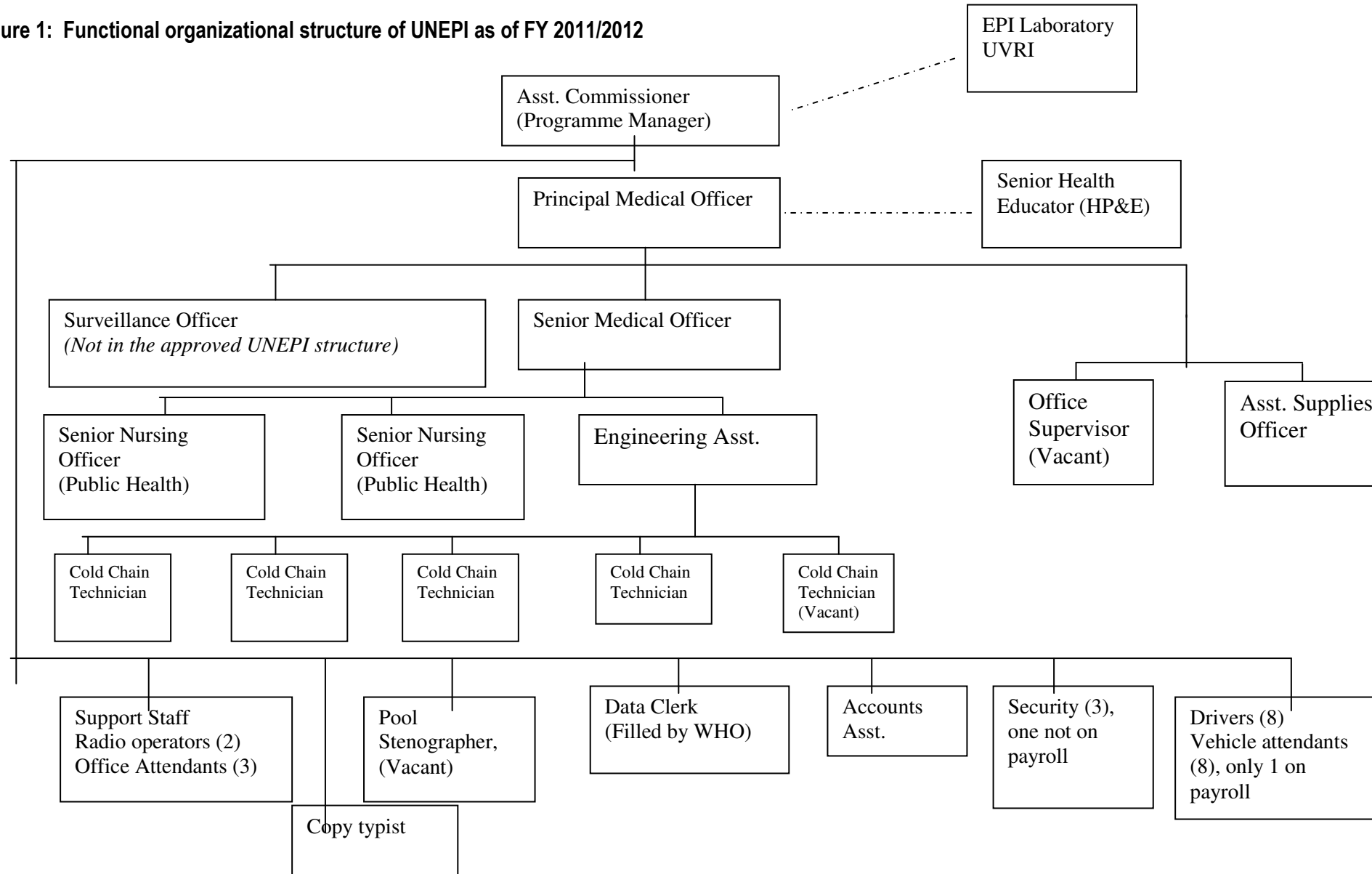


Table 1: Uganda Immunization Schedule

| Vaccine/ Antigen | Dosage | Doses Required | Minimum Interval Between Doses | Minimum Age to Start | Mode of Administration | Site of Administration |
|-------------------------|--|-------------------|---|---|---------------------------|-----------------------------------|
| BCG | 0.05ml up to 11 months, 0.10ml after 11 months | 1 | None | At birth (or first contact) | Intra-dermal | Right Upper Arm |
| DPT-Hep+Hib | 0.5 ml | 3 | One month (4 weeks) | At 6 weeks (or first contact after that age) | Intra-muscularly | Outer Upper Aspect of Left Thigh |
| Polio | 2 drops | 0+3 | One month (4 weeks) | At birth or within the first 2 weeks (Polio 0) and six weeks or first contact after 6 weeks (Polio 1) | Orally | Mouth |
| Measles | 0.5 ml | 1 | None | At 9 months (or first contact after that age) | Subcutaneously | Left Upper Arm |
| Tetanus Toxoid | 0.5 ml | 5 | First contact TT1; TT2 (4 weeks after TT1); TT3 (Six months after TT2); TT4 (One year after TT3) & TT5 (One year after TT4) | At first contact with a pregnant woman or women of child bearing age (15-45 years) | Intra-muscularly | Upper Arm Deltoid |
| PCV | 0.5ml | 3 | One month (4 weeks) | At 6 weeks (or first contact after that age) | Intra-muscularly | Outer Upper Aspect of Right Thigh |
| Rotavirus Vaccine | 1ml | 2 | One month (4 weeks) | At 6 weeks | Orally | Mouth |
| Human Papilloma Vaccine | 0.5mls | 3 | HPV1: First contact; HPV2: 8 weeks after HPV1; HPV3: five months after HPV2 | First contact girl aged 10 years | Intra-muscularly | Upper Arm Deltoid |

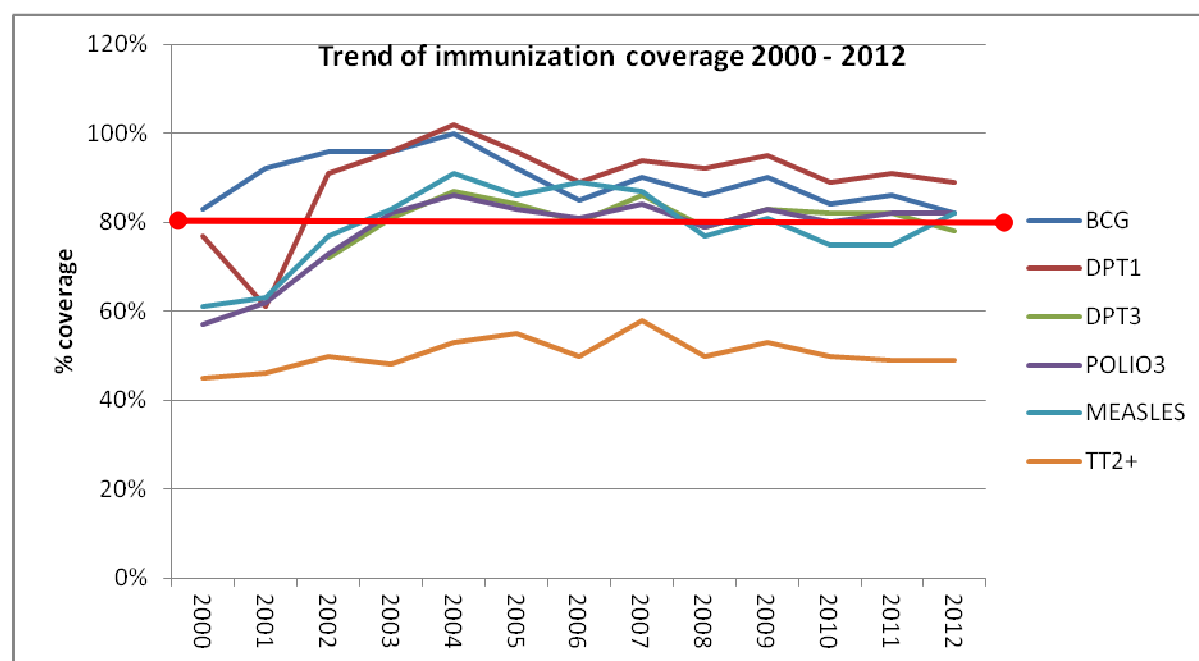
NB: The schedule will be update with introduction of the new vaccines

2. Situation Analysis

2.1: Overview of critical indicators

Routine immunization and surveillance indicators improved between 2000 and 2006, with DPT3 coverage increasing from 56% to 85% (figure 2). The main contributing factors at the time were GAVI ISS support, Sustainable Outreach Services (SOS), the Reaching Every District (RED) approach and EPI/IDSR regional supervision strategy. As a result the country remained polio free, morbidity due to measles declined by over 90% compared to 2000 with no confirmed deaths in 2004 and 2005; the number of meningitis cases due to *Haemophilus Influenzae* type b (Hib) declined by 95% at sentinel sites for Hib surveillance since introduction of Hib vaccine in 2002; the number of reported neonatal tetanus cases declined to less than 1/1,000 per live birth nationally and in all districts, this led to Uganda being certified for Maternal Neonatal Tetanus Elimination (MNTE).

Figure 2: Immunization coverage trend 2000 – 2012



In the period 2007-2012 there was deterioration in immunisation performance (figure 2) and this led to an increasing numbers of under and unimmunized children. The WPV outbreak in 2009 and 2010 were clear indication of population immunity gap due to un/under immunised children. The EPI Review 2010, Effective Vaccine Management Assessment (EVMA) 2011 and the assessment of Immunisation and External in depth surveillance August 2012 all showed inadequacies in the operational components of immunization and surveillance system as summarised below and detailed in table 2.

- Service delivery:** Several challenges exist, including staff shortages, insufficient funding to carry out activities as planned, , and many health facilities lacking backup supply of gas cylinders for refrigerators. Child health cards, child registers and tally sheets have not been consistently available from the central level for about two years. Health facilities have innovative solutions to some of the existing problems e.g. they are improvising child health register, child health cards and tally sheets.

Outreaches: Planned community outreaches were not conducted as planned due to delays in PHC funds, lack of transport, understaffing and inadequate outreach monitoring.

Supportive supervision: Visits occurred less frequently than planned at all levels; reasons cited included inadequate transport, fuel and staff.

2. Vaccine supply and quality:

Cold chain: The cold chain is well established at central, district and health facility levels. Health facilities have adequate ice packs, vaccine carriers, cold boxes, safety boxes. However many HFs have only one gas cylinder which results from episodes of stock out of gas.

3. **Logistics management:** At central level, there is an organized system for delivery of vaccines and other EPI logistics to districts. Health facilities generally collect supplies from district stores, but transport funds for collecting vaccines or delivering to lower health facilities are insufficient, causing stock outs in some health facilities.

4. **Advocacy and communication:** Many health facilities involve community groups, religious leaders and Village Health Teams. Advocacy/communication/mobilization activities are primarily promoted during periodic immunization events, such as Child Health Days and National Immunisation Days. The routine immunization services are not commonly supported. There is more potential for effective health promotion with expansion of VHTs, radio, print media, TV and nationwide mobile phone coverage.

5. Surveillance:

Reporting and monitoring: Districts and health facilities were not analysing their data or doing evidence-based planning. In addition they were not monitoring their immunization services in a systematic way for early appropriate action.

VPD surveillance: It is well established in majority of the districts, and most of the district focal persons are aware of the activities. Performance varies between districts, with the proportion of districts achieving the set targets for routine immunization and surveillance not reaching the required certification levels

The following factors were identified as key hindrances to a good surveillance system: untimely reimbursement for specimen transportation; lack of surveillance guidelines; Poor feedback on samples sent for analysis; private sector not fully involved; Lack of transport at sub-district levels; poor communication in remote areas; Inadequate human resources both in quality and quantity; and the lower level health facility workers not empowered in surveillance activities; Irregular and uncertain donor funding and irregular review meetings.

6. Supportive elements:

Financing: overall, districts had good financial control systems, but GoU funding for UNEPI remained the same for the past five years, and PHC funding remains inadequate and irregular. This affected the implementation of activities.

Planning & Management: Majority of districts (82%) have work plans, but only 62% of the health facilities have updated work plans. Among the health facility work plans, immunisation key activities are left out and there are few micro plans developed for activity implementation at district and health facility levels.

Capacity building: Pre-service training gains made by having the EPI curriculum incorporated in many institutions, but in-service training needs more attention. Since 2004, no major initiatives to provide refresher training for health workers have been carried out.

Over the period 2012 to 2016, the programme will focus on addressing the findings of 2010 EPI review, 2011 EVMA and Immunisation Assessment 2012 findings and global targets (MDG 4 & 5 targets and Global Vaccine Action Plan) to improve routine immunization and surveillance performance at all levels.

2.2: Key strategic activities for improving immunization and surveillance

Key strategic activities planned to improve immunisation and surveillance include:

1. Development and implementation of the two year national EPI revitalisation plan;
 - a. Service delivery
 - Strengthening capacity of mid-level managers, operational level health workers and pre-service trainees to deliver quality EPI services
 - Strategies such as RED/REC, integration of activities (outreaches, child days, family Health days, supplemental Immunization activities), and advocacy for the programme using evidence-based data will be used to achieve the set targets
 - New Vaccine Introduction of, Rotavirus, HPV vaccines and switch to IPV
 - b. Vaccine quality and logistics
 - The establishment of regional EPI hubs to strengthen logistics and vaccine management at all levels
 - c. Surveillance:
 - Achieve and maintain polio free status, maintain neonatal tetanus elimination status and pre-elimination measles targets
 - Expansion of the EPI/IDSR regional supervision strategy
 - Strengthen focused support supervision at all levels
2. Dissemination of a national EPI communication plan
 - a. Advocacy and communication
 - Strengthen sustained advocacy, community mobilisation and education for routine immunisation, vaccine safety and surveillance
 - Build capacity for interpersonal communication
 - Advocate for sustainable financing of the programme

Below is a systematic presentation of the Key EPI review findings 2010, EVMA 2010, and WHO/UNICEF assessment of the immunisation and surveillance and external in depth surveillance review 2012 in the situation analysis by system components and accelerated disease control initiative Tables 2 – 5 below.

Table 2 Strengths, weaknesses and recommendations of EPI review 2010, EVMA 2011 and Immunisation Assessment 2012 by system components

| Component | Strengths | Weaknesses | Actions |
|-----------------------------------|--|---|--|
| <p>1. Service delivery</p> | <p>Central level</p> <ul style="list-style-type: none"> • Good access to immunization services as reflected by coverage of BCG 82% and DPT1 89% in 2012. • National DPT Dropout Rates (DOR) at 7% in 2012 | <p>Central level</p> <ul style="list-style-type: none"> • 58% of districts attained DPT3 coverage less than 80% in 2012 • High DPT Dropout Rates (DOR) some districts. 58% (65/112) of the districts had DOR of > 10% in 2012 | <p>Central level</p> <ul style="list-style-type: none"> • Partners, MoH, and UNEPI to target resources and mentoring aimed at empowering District Health Teams and health facilities to solve operational problems and to perform self-evaluation of their routine immunisation and health delivery services |

| Component | Strengths | Weaknesses | Actions |
|--|--|---|---|
| 1. Service delivery (continued) | Districts level <ul style="list-style-type: none"> • Integration of EPI with other child survival strategies e.g. vitamin A supplementation, de-worming, growth monitoring through child days plus. • 90% of health facilities conduct daily static immunisation • 78% health facilities have plans for static and outreach service delivery | Districts level <ul style="list-style-type: none"> • Understaffing at health facility level • Qualified staff shun immunisation and delegate to low cadre staff due to other competing activities, other better funded programs and irregular allowances compared to other programs • Failure to implement the planned outreaches due to delayed and inadequate allowances and lack of transport • Poor utilization of data (monitoring) for evidence based planning • Majority of districts have no strategies for hard to reach areas/populations | Districts level <ul style="list-style-type: none"> • District to recruit and fill established position to reduce understaffing and initiate performance based appraisals • UNEPI and DHOs to design and put in action a system for monitoring static and outreach functionality • Scale up implementation of RED/REC strategy to lower levels |

| Component | Strengths | Weaknesses | Actions |
|--------------------------------------|---|--|--|
| 2. Vaccine supply and quality | (a) Procurement and distribution | (a) Procurement and distribution | (a) Procurement and distribution |
| | <ul style="list-style-type: none"> • GoU paying 100% for the BCG, OPV, Measles and TT vaccines, and injection safety materials and co-financing for DPT-Hep+Hib vaccine since 2007 • Well established procurement line through UNICEF and coordinated by national medical Stores (NMS) and UNEPI • Distribution line well established from the central stores to the district vaccine stores | <ul style="list-style-type: none"> • Increasing costs to distribute vaccines and logistics on monthly basis from centre to district due to the increasing districts • Inadequate trucks for supply of vaccines to 112 districts, UNEPI has only 4 insulated trucks out of 6 required trucks • Lack of regional stores for vaccines distribution • Inadequate preparations for the transition of vaccine distribution from UNEPI to NMS | <ul style="list-style-type: none"> • UNEPI and partners to develop a cost effective strategy for distribution of vaccines, gas and supplies to the districts. <ul style="list-style-type: none"> - Secure transport for districts, - Availability of operational funds (PHC funds and external funds) - Operationalize the regional vaccine stores (hub) so as to ease the distribution in the districts - UNEPI and Partners develop clear guidelines including MOUs and SOPs to guide the vaccine distribution from national vaccine stores to district vaccine stores |

| Component | Strengths | Weaknesses | Actions |
|--|---|--|---|
| 2. Vaccine supply and quality (continued) | <ul style="list-style-type: none"> Adequate storage capacity in the districts for PCV vaccine introduction | <ul style="list-style-type: none"> Distribution to the health facilities from the DVS is compromised by funding, transport and lack of vaccine bundling Episodes of gas stock outs and inadequate gas tracking and monitoring system 64% of districts reported stock outs of at least one vaccine during 2012 Vaccine stock control system not fully functional at operational level | <ul style="list-style-type: none"> District to develop monthly vaccine and logistics distribution costed plans and include them in their annual work plans MoFPED to allocate adequate funding for vaccines and immunization distribution plan to health facilities UNEPI with the district to develop and implement a gas security and accountability monitoring system |
| | <p><u>(b)Vaccine management</u></p> <ul style="list-style-type: none"> There is a stock management tool (SMT) at central level which helps to identify gaps to be addressed Effective Vaccine Management Assessment conducted 2011 | <p><u>(b)Vaccine management</u></p> <ul style="list-style-type: none"> Inadequate staff training on SMT and its use Inappropriate vaccine storage in the fridges leading to loss of labels and high vaccine wastage | <p><u>(b)Vaccine management</u></p> <ul style="list-style-type: none"> Train all UNEPI and NMS staff on SMT and ensure the implementation up to district level A cold chain monitoring study should be conducted at the NVS Revise HMIS forms and stock record books to capture all necessary information on vaccines (including damaged vaccines), diluents and consumables; print and distribute. Procuring adequate and appropriate transport to the district stores to enable them transport stocks to lower levels. |

| Component | Strengths | Weaknesses | Actions |
|---|--|--|---|
| Vaccine supply and quality (continued) | <ul style="list-style-type: none"> VVM on all vaccines and MVDP practiced in all districts | <ul style="list-style-type: none"> Lack of vaccine stock monitoring tools Mismatching of vaccines and diluents from different manufacturers and batch numbers Inadequate knowledge and irregular temperature monitoring at health facility level Only 34% of facilities visited are conversant with procedures for handling damaged vaccines. Only 11% of HFs either calculate wastage rates or use the HMIS form for reporting the only antigen in the schedule for wastage rate (DPT-Hep+Hib) | <ul style="list-style-type: none"> Districts to develop costed logistics supply plan and lobby local partners to supplement PHC funding On job focused technical supervision and mentoring on vaccine management by the DHT and UNEPI UNEPI to introduce continuous temperature monitoring at the DVS Establish a formal system to review temperature records on a monthly basis. UNEPI to conduct OPL trainings to build capacity of the health workers |
| Logistics | <p>Cold Chain Central level</p> <ul style="list-style-type: none"> Storage capacity is generally adequate at all levels. All facilities visited had WHO compliant equipment installed | <p>Central level</p> <ul style="list-style-type: none"> The national capacity is underutilized with the current shelving arrangement in the four WICRs and the one WIFR. Dry storage capacity at the national level | <p>Central level</p> <ul style="list-style-type: none"> There is the need to decongest the NVS complex by disposing off obsolete equipment and decommissioned vehicles |

| Component | Strengths | Weaknesses | Actions |
|-----------|--|--|--|
| | <ul style="list-style-type: none"> • The generator at the NVS is standby with automatic start up facilities. • Cold chain inventory at the NVS is available • Majority of equipment at lower levels HFs use gas which is readily available at the NVS | <p>is however, not satisfactory as the warehouse is rented.</p> <ul style="list-style-type: none"> • Delays in gas supply were experienced in the past leading to even delays in vaccines delivery to districts. • Inadequate funding and transport at central level for regular support to districts for cold chain maintenance | <ul style="list-style-type: none"> • Expedite construction of the proposed EPI national stores and provide shelves for proper storage and management of the consumables. This will provide saving of the resources being spent on hiring and be used in other areas that will improve on programme performance. |

| Component | Strengths | Weaknesses | Actions |
|-----------|--|--|---|
| | <p><u>District</u></p> <ul style="list-style-type: none"> • Almost all HFs have refrigeration equipment that is WHO compliant. <p><u>Injection safety and waste management</u></p> <ul style="list-style-type: none"> • The national policy was revised to include use of ADs for curative services. • Committee in place to coordinate injection safety within MOH (UNISTAF). • All health facilities are using ADs for immunization, both for reconstitution and injecting, and for curative services. • Waste segregation is being applied for curative services | <p><u>District</u></p> <ul style="list-style-type: none"> • None of the facilities visited had a written contingency plan in case of equipment failure although most staff know what to do in case of emergency <p><u>Injection safety and waste management</u></p> <ul style="list-style-type: none"> • Inadequate waste management at health facility level • Bulkiness of ADs has created shortage of storage space at all levels • Improper use of pits at health facilities. • The available incinerators are not sufficient for the service delivery areas (HSDs) and not all are functioning. • Lack of guidelines for disposal of used vaccine vial waste. | <p><u>District</u></p> <ul style="list-style-type: none"> • Develop, print and disseminate SOP which sets out a contingency plan in the event of equipment failure or other emergency • UNEPI to support districts to setup SOPs for equipment |

| Component | Strengths | Weaknesses | Actions |
|-----------------------------------|--|---|---|
| Advocacy and communication | <ul style="list-style-type: none"> • Available environment of modern technology for communication i.e. radios, TV, news print, mobile telephones, • Establishment of VHT for community mobilization • MOH structure (technical working group) exists for routine immunisation advocacy, social mobilisation and communication • Majority of districts have health educators • Health unit management committees are functional in 81% health units and 71 % discuss immunisation • Existence of cost effective communication structure e.g. community leaders, VHT, religious leaders • Local community leaders are aware of importance of immunisation and willing to pass information when requested • Availability of local communication channels e.g. FM radio stations | <ul style="list-style-type: none"> • Lack of updated EPI advocacy and communication strategic plan • No health promotion strategies for routine immunisation to take advantage of the modern technology • Inadequate funding for advocacy and communication • Lack of evidenced based advocacy and communication decision information • Health promotion activities promoting immunisation are limited to periodic events i.e. CDP days and SIAs • Inadequate inter personal communication (IPC) skills among health workers • Lack updated advocacy and communication plans at districts <ul style="list-style-type: none"> -Most advocacy focuses on SIAs -Inadequate funding for advocacy and communication -Lack of specific plans to target hard to convince population • Lack of IPC skills among health workers • VHTs have not been fully trained on immunisation and the VHT strategy has not been scaled up to all districts • Lack of health education materials for routine immunisation • Lack of local language translated IEC materials | <ul style="list-style-type: none"> • Develop a cost-effective communication strategy for a sustained advocacy , community mobilisation and education for routine immunization and vaccine safety • IEC materials to be reviewed, updated , translated, printed and distributed • Plan and implement the African vaccination week • Conduct studies for evidence based decision making • To update and implement advocacy, social mobilisation and communication strategic plan • Training and scale up of the VHT for promotion of routine immunisation |

| Component | Strengths | Weaknesses | Actions |
|---------------------|---|---|---|
| Surveillance | <p>(a) VPD surveillance</p> <ul style="list-style-type: none"> • Surveillance for VPD is being implemented within the Integrated Disease surveillance System and Response (IDSR) framework • Established pneumococcal and rota virus sentinel sites • GoU financing the AFP case based disease surveillance • An assigned medical officer to support surveillance activities at UNEPI who is supported by a surveillance officer and data manager funded by WHO • Established EPI/IDSR offices in eight regional referral hospitals as coordination, supervision and mentorship sites of EPI/IDSR • A comprehensive guideline for detecting, reporting, investigation and responding to EPI priority diseases • Established and accredited UVRI/EPI laboratory to support VPD surveillance • Available sensitive and functional surveillance system, which was able to detect a WPV case | <p>(b) VPD surveillance</p> <ul style="list-style-type: none"> • Case based disease surveillance is expensive to sustain • Measles and new vaccine disease surveillance is dependent on WHO funding • Outdated VPD surveillance field guide, last updated in 2004 and lack of resources to make the necessary surveillance tools available • 45% of districts in 2012 did not achieve the target non polio AFP rate of 2/100,000 • Increasing number of districts for focused disease surveillance support supervision by the national level • Inadequate funding and delays in transfer of funds to district level • Incomplete filling case investigation forms • Discrepancies between case based data and monthly HMIS reports • Active surveillance is not adequately conducted by the district surveillance focal person and health sub district surveillance focal persons • Limited involvement of private sector in | <p>(b) VPD surveillance</p> <p>The MOH and partners to develop cost effective strategies for sustainable case-based disease surveillance</p> <ul style="list-style-type: none"> • Advocate for GoU support active surveillance activities at district levels • Expand the EPI/IDSR regional supervision strategy • Revise, print and distribute VPD surveillance guideline • Strengthen the Regional and district surveillance system • Initiate the community based surveillances system • Develop and mobilize resources for capacity building in IDSR |

| | | | |
|------------------|--|---|---|
| | <ul style="list-style-type: none"> • Reduction in morbidity due to VPDs e.g. measles reduced by 93% and Hib meningitis reduced by 99%. • Well established surveillance structure at district level including innovative reporting on a weekly basis using mobile phones • Established surveillance in Kampala • Knowledge of case definitions and performance indicators for AFP and measles • Weekly feedback by the national level on district performance every Monday through the daily New Vision Paper • Reporting sites are defined and categorized with an inclusion of NGOs and faith based health facilities • Majority of health facilities had surveillance focal persons. • Health staff were aware of what to look for in terms of most conditions under IDS | <p>surveillance activities</p> <ul style="list-style-type: none"> • Failure to decentralize surveillance activities to lower levels by district surveillance officers • Lack of community based surveillance system including involvement of traditional healers in surveillance activities • Inadequate planning for surveillance activities • Poor utilization of data for decision making at point of collection • Lack of a fully established integrated AEFI surveillance system at district level • Lack of supervisory plans and supervisory reports • Lack of operational IDS operational field guidelines • Inadequate support supervision in surveillance activities at all levels • Irregular surveillance review meetings at all levels • Competing priorities of district level surveillance focal persons | <ul style="list-style-type: none"> • Develop annual work plan and include community based and private sector surveillance • DHO to decentralise Case-based surveillance to health facility level • Centre to support the Regional and districts surveillance offices to set up an integrated AEFI detection and reporting system |
| Component | Strengths | Weaknesses | Actions |

| | | | |
|-----------------------------|--|---|--|
| Programme management | <p>(a) <u>Policy, planning and management</u></p> <ul style="list-style-type: none"> • Had costed multiyear plan 2010-2014 • Immunization is prioritized and covered in all MOH and other government planning processes • Draft EPI policy and job Aides • Presence of immunisation policies and guidelines • EPI technical meetings • Policy updated to include new vaccines | <p>(a) <u>Policy, planning and management</u></p> <ul style="list-style-type: none"> • EPI Policy not yet finalised • Few policy documents at operational level • Lack of adequate infrastructure at UNEPI level • Ageing fleet of transport vehicles to supply logistics in increasing number of districts • Weak management in some of the districts affecting immunisation and health service delivery | <p>(a) <u>Policy, planning and management</u></p> <ul style="list-style-type: none"> • To finalise, print and disseminate policies to operational level • To build bigger office and storage space closer to the MoH for easier communication by 2015 • Procure and replace the ageing fleet at central and district levels • Strengthen management capacity in districts |
| | <ul style="list-style-type: none"> • District work plans available in 80% district health offices • Quarterly DHT planning meetings • Existence of health unit management | <ul style="list-style-type: none"> • Only 40% health facilities with micro plans updated • Irregular planning meetings and involvement with the HUMC • High attrition of health workers • Inadequate coordination of partners • Inadequate transport and operational funding | <ul style="list-style-type: none"> • Establish RED implementation at district, health sub district and health facility level • MOH should assist the districts to empower HUMC's to understand and to utilize EPI performance indicators • Establish the regional hubs to reduce on stretching in the supply chain |

| | | | |
|--|---|---|---|
| | | | |
| | <p>(b) <u>Monitoring and Supervision</u></p> <ul style="list-style-type: none"> • Immunization data fully integrated into MOH HMIS system • Quarterly feedback is provided to districts • Available reference materials for supervision • RED guideline are available for planning and supervision • UNEPI conducts three types of supervision: (a) technical (b) integrated area team and (c) VPD surveillance. • Regional supervision strategy is operational in seven regions • Partners available for technical support | <p>(b) <u>Monitoring and Supervision</u></p> <ul style="list-style-type: none"> • Lack of supply and distribution of immunization tools, child health cards and tally sheets to districts • Late and incomplete monthly HMIS reporting from the districts • Irregular support supervision to the districts due to, Increased number of the districts, Lack of funds and transport for supervision • Inadequate financial and human resources for a full scale sustained supervision of all districts • Ageing transport fleet for support supervision | <p>(b) <u>Monitoring and Supervision</u></p> <ul style="list-style-type: none"> • MOH to designate a line item budget and the unit responsible for ensuring the printing and distribution of monitoring tools including child health cards • Build capacity for districts to perform Data Quality Self Assessment (DQSA) • Empower and consolidate the EPI/IDSR regional offices for scale up and establishing surveillance to lower levels |

| | | | |
|--|---|---|---|
| | <ul style="list-style-type: none"> • HMIS reporting in place • Have HMIS focal points • Work plans include supervisions and have supervision check lists • Conduct integrated supervision • DHT members involved in supervision • Documentation of supervision findings | <ul style="list-style-type: none"> • Inadequate trained staff and infrastructure in new districts • Poor data quality leading to discrepancy and duplication • Immunisation district performance not monitored at district and health facility level • Inadequate data analysis and use (only 71% districts) • Lack of data collection and monitoring tools (Availability of tally sheets 61%, Child Health Cards 16%, Child Health Registers 26%) • Poor utilization of guidelines and checklists for supervision • Lack of focused technical supervision | <ul style="list-style-type: none"> • Partners and MOH should target resources and training more towards empowering DHTs and Health workers conduct data analysis for action • DHO to maintain adequate supplies for all monitoring tools including charts in health facilities • MOH/UNEPI should regularly support quarterly regional meetings and sustain regular technical EPI supervision. These are important for corrective actions and to share experiences/updates • DHO to ensure regular focused support supervision to lower level health facilities |
|--|---|---|---|

| Component | Strengths | Weaknesses | Actions |
|---|---|---|--|
| Programme management (continued) | <p>(c) Operational Research</p> <ul style="list-style-type: none"> • Operational research for new vaccine introduction at central level | <p>(c) Operational Research</p> <ul style="list-style-type: none"> • Lack of operational research for routine immunisation for action at district level | <p>(b) Operational Research</p> <ul style="list-style-type: none"> • Support districts to conduct operational research targeting strengthening health service delivery |
| Strengthening | <ul style="list-style-type: none"> • TOT, OPL and MLM trainings | <ul style="list-style-type: none"> • Inadequate training in the districts | <ul style="list-style-type: none"> • UNEPI mobilize resources to train |

| | | | |
|--|--|--|---|
| human and institutional resources | <p>have been conducted</p> <ul style="list-style-type: none"> • Training database in place • Pre- and in-service training programmes are in place | <ul style="list-style-type: none"> • Slow scale up of trainings dependant on partner funding • Training Needs Assessment last conducted in 2004 • Pre-service training not well established • Lack of training materials at district level • Few health worker received in-service training in the last 12 months • Under staffing at district level | <p>regional and district trainers for a quick scale up of training needs in the district</p> <ul style="list-style-type: none"> • Local partners in district to mobilize resources for health worker capacity building as a supplement to MOH support • Conduct a national TNA • The MOH together with Partners should work toward developing a comprehensive, decentralised and sustained mechanism for upgrading and maintaining the skills of DHTs and operational health workers |
| Component | Strengths | Weaknesses | Actions |
| Sustainable financing | <ul style="list-style-type: none"> • UNEPI has a budget line • 100% GoU financing for traditional vaccines and Co finances DPT-Hep+Hib vaccines and the PCV • Routine immunisation funding is available through the PHC conditional grants to the districts • UNEPI has support from health partners | <ul style="list-style-type: none"> • Government funding for health remains relatively static PHC funding to the districts has remained static since 2004/05 • Inadequate GOU allocation for UNEPI operational costs • Delayed release of PHC funds to the districts for activity implementation <p>Few partners supporting immunisation at district level</p> | <ul style="list-style-type: none"> • The MoH should work towards the Abuja Declaration Goal of 15% of the government's budget for health. • MOH and partners to pursue approaches outside the traditional "EPI" arena, such as the private sector which have been successful in strengthening immunization programmes in other countries • MoFPED to release operational funds timely for implementation of activities at national and district level |
| Introduction of new vaccines | <ul style="list-style-type: none"> • UNEPI successful introduction of DPT-Hep+Hib in national | <ul style="list-style-type: none"> • High disease burden due to: - Invasive Pneumococcal Disease (IPD) | <ul style="list-style-type: none"> • MOH to conduct a detailed assessment of operational and cost implication |

| | | | |
|------------------------------------|---|--|---|
| | <p>vaccination schedule in 2002</p> <ul style="list-style-type: none"> • Conducted EVMA in preparation for new vaccine introduction • Received additional equipment for expansion and replacement of the vaccine storage at centre and district level • Have national PBM and Rotavirus sentinel sites to assess disease burden • Conducted HPV demonstration study in preparation of introduction of HPV vaccine | <ul style="list-style-type: none"> - Severe diarrhoea disease due to rotavirus. - High direct medical cost of Pneumococcal and Rotavirus diseases • Post introduction evaluation not conducted for pentavalent | <p>before introducing any new vaccines, this should be shared with all stake holders</p> <ul style="list-style-type: none"> • UNEPI to conduct a post introduction evaluation for all new vaccine introduced and make reports available |
| Component | Strengths | Weaknesses | Actions |
| Accelerated Disease Control | <p>(a) Polio Eradication</p> <ul style="list-style-type: none"> • National Polio preparedness plan • Conducted Preventive Polio SIAs in 48 high risk districts and WPV outbreak controlled 2010 • Conducted Polio NIDs in 2009 and 2012 • Have functional National Polio Certification committee (NCC), National Polio Expert Committee (NPEC) and National Polio Laboratory Containment Task Force (NTF) • National polio Non AFP rate increased from 2.49 in 2010 to 2.82 in 2012 | <p>(a) Polio Eradication</p> <ul style="list-style-type: none"> • Inadequate financing of Government for integrated disease surveillance • Two Polio outbreaks in between 2009 and 2010 • 45% (51/112) districts have a AFP rate <2/100,000 • 71% monthly timeliness including zero reporting • Inadequate MoH support of polio committees Polio committees felt that they do not have official recognition | <p>(a) Polio Eradication</p> <ul style="list-style-type: none"> • The MoH and WHO should develop a strategy for increasing GOU support to surveillance activities • Districts to work towards the attainment of the new National target for Polio AFP rate of 4/100,000 • MOH and WHO to strengthen surveillance at regional IDSR offices for better implementation at the districts and lower levels |

| | | | |
|--|--|--|--|
| | | | |
| | <p>(b) Maternal and Neonatal Tetanus Elimination (MNTE)</p> <ul style="list-style-type: none"> • Uganda certified for MNTE • Integrated School health delivers TT to school girls • Established Child Health Days Plus as a period for accelerated catch-up actions | <p>(b) Maternal and Neonatal Tetanus Elimination</p> <ul style="list-style-type: none"> • TT2+ coverage at 49% among pregnant women • Irregular school health program due to inadequate PHC funding • Lack of a national plan to sustain MNTE • Lack of global report of TT program for Uganda • Inadequate funding for Child Health Days Plus | <p>(c) Maternal and Neonatal Tetanus Elimination</p> <ul style="list-style-type: none"> • MOH and Districts to strengthen integrated service delivery more so during the Child days plus to improve on catch up immunisation • MoH and MoES to develop a strategic plan to sustain a national MNTE • UNEPI to collaborate with Reproductive Health to promote clean deliveries |
| | <p>(c) Measles Control</p> <ul style="list-style-type: none"> • Established case based measles surveillance • Measles control efforts resulted in >90% reduction in measles morbidity and mortality • Have measles control plan • Conducted National Measles SIAs 2012 | <p>Measles Control</p> <ul style="list-style-type: none"> • National Measles coverage at 82% • 65% of districts with measles coverage less than 90% in 2012 • Expensive centralized measles laboratory investigation due to increasing districts | <p>(c) Measles Control</p> <ul style="list-style-type: none"> • UNEPI and Districts to strengthen routine immunisation service deliver for improved immunization coverage • |

*Source of data: EPI review 2010, EVMA 2011 and assessment of Immunisation and surveillance 2012 and JRF 2012

Table 3 Situation Analyses for routine immunization, 2010 - 2012

| Immunization Services | Indicators | National status | | |
|---------------------------------------|---|-----------------|------------------|------------|
| | | 2010 | 2011 | 2012 |
| Immunization Coverage | Official Coverage Estimates % Pentavalent3 ¹ | 80% | 82% | 78% |
| | Official Coverage Estimates % Measles | 73% | 75% | 82% |
| | Most Recent Survey Coverage % Pentavalent3 | | 68% (UDHS) | 72% (UDHS) |
| | % Fully Immunized Child | | 52 (UDHS) | |
| Immunization Demand | % Drop Out BCG – Measles 1 | 21% | 22% | 10% |
| | % Drop Out DPT1-3 | 8% | 10% | 7% |
| | % of districts with dropout BCG- Measles 1 > 10% | 44% | 41% | 58% |
| | Proportion of districts with DPT 1- 3 drop out rate ≤ 10% | 56% | 60% | 58% |
| Immunization Equity | % gap in DTP3 between highest and lowest socio economic quintiles | | 1% (UDHS – 2011) | |
| | Number of districts with DTP3 coverage above 80% | 65 | 67 | 47 |
| | Number of high risk communities identified for accelerated routine immunization programming | 26 | 23 | 55 |
| New Vaccines Introduction | No. of new or underutilized vaccines introduced into the routine schedule in the last plan period | 0 | 0 | 1 |
| | Pentavalent Coverage | 80% | 82% | 78% |
| | Number of Cancer of cervix cases reported through monthly HMIS | 1079 | 1323 | 1614 |
| | Number of acute diarrhoeal cases reported through monthly HMIS in the under 5 | 49,670 | 28,550 | 43,167 |
| | Number of reported deaths due to pneumonia in the under 5 | 1,284 | 1,074 | 1,628 |
| School Immunization Activities | | | | |

¹ Source of data: MOH Health Management Information System

| Immunization Services | Indicators | National status | | |
|-----------------------|---|-----------------|---------------|---------------|
| | | Coverage 2010 | Coverage 2011 | Coverage 2012 |
| Age | Antigens provided | | | |
| 10 Years | HPV coverage (2 districts in 2010; 2011 - 2012: 14 districts) | 100% | 58% | 79% |
| 10 - 24 Years | TT 2+ (reports on data in schools started in 2012) | 12% | 13% | 5% |

Table 4 Situation analysis by accelerated disease control initiatives, Uganda, 2010-2012

| Disease Control Initiative | Suggested indicators | National status | | |
|----------------------------|--|---|--|---|
| | | 2010 | 2011 | 2012 |
| Polio | OPV3 coverage | 80% | 82% | 82% |
| | Non-polio AFP rate per 100,000 children under 15 years of age | 2.49 | 3.00 | 2.82 |
| | Number of rounds of national and sub national immunization days Coverage range | 2 Polio SNIDs in 48 districts and 2 Polio SNIDs in 22 districts | 6 Polio SNIDs (2 rounds in 48 districts, 2 rounds in 8 districts and 2 rounds in 22 districts) | 1 NID integrated with measles follow up campaign and 1 SNID in 37 districts |
| | Proportion of districts with OPV3 coverage > 80% | 58% | 60% | 48% |
| MNT | TT2+ coverage pregnant women | 53% | 49% | 49% |
| | % target population protected at birth from neonatal tetanus | ND | 84% (UDHS 2011) | 10% (this is the baseline year when the HMIS tools started capturing data on PAB) |
| | Number and proportion of districts reporting > 1 case of neonatal tetanus per 1000 live births | 0 (0%) | 0 (0%) | 0 (0%) |
| | Was there an SIA? (Y/N) | N (the last SIAs was in 2008) | N | N |
| | Number of Neonatal deaths reported and investigated | 36 | 5 | 2 |
| | Delivery at Facility Rate | 41% (UDHS 2006) | 57% (UDHS 2011) | |

| Disease Control Initiative | Suggested indicators | National status | | |
|---|---|-----------------|-----------|---------------|
| | | 2010 | 2011 | 2012 |
| Measles & Rubella | Measles / MR vaccination coverage (1 dose) | 73% | 76% | 82% |
| | Proportion of districts with measles coverage >90% | 18% | 26% | 35% |
| | Number of lab confirmed measles/rubella outbreaks | 0 / 3 | 6 / 17 | 31 / 23 |
| | Geographic extent National Immunization Day | N | N | NIDs |
| | Age group | N | N | 6 - 59 months |
| | Coverage | N | N | 99% |
| | Total Measles Cases (Lab/Clinical/epidemiological) | 10 | 65 | 540 |
| Total (% of investigated cases) Rubella Cases(Lab/Clinical/epidemiological) | 132 (10%) | 581 (32%) | 472 (25%) | |
| Yellow fever | YF coverage | NA | NA | NA |
| | Number and percentage of districts reporting > 1 suspected case | 9 (11.3%) | 10 (8.9%) | 15 (13.4%) |
| | Was a preventive campaign conducted? (Y/N) | Y | N | N |

Table 5: Situation analysis of routine EPI by immunization system, Uganda 2010 – 2012

| System Components | Suggested indicators | RESULTS | | |
|--------------------------------------|---|---------|------|------|
| | | 2010 | 2011 | 2012 |
| 1. PROGRAMME MANAGEMENT | | | | |
| Law & Regulation | What numbers of functions are conducted by the NRA? | 4 | 4 | 4 |
| | Is there legislation or other administrative order establishing a line item for vaccines? | YES | YES | YES |
| | Is there legislation identifying sources of public revenue for immunization financing? | NO | NO | NO |
| Policy | Has the national immunization policy been updated? | NO | NO | YES |
| Planning | Does the country have an annual work plan for immunization funded through Ministry of Health budgeting processes? | YES | YES | YES |
| | What is the number of districts with an annual micro-plan for immunization? | 80 | 39 | 55 |
| Coordination | What were the Number of ICC (or equivalent) meetings held last year at which routine immunization was discussed? | 0 | 1 | 6 |
| | Has the country established a NITAG? | NO | No | No |
| Advocacy | How many presentations on immunization performance, expenditures, were made to parliament? | 0 | 0 | 2 |
| 2. HUMAN RESOURCES MANAGEMENT | | | | |
| HR Numbers | No. of health workers/vaccinators per 10,000 population | | | |

| System Components | Suggested indicators | RESULTS | | |
|---|--|--------------------------------------|--------------------|-----------------------|
| | | 2010 | 2011 | 2012 |
| Capacity Building | No. of health workers & managers trained in immunization services through MLM or IIP training per year; | 135 MLM 330 OPL | 145 MLM 603 OPL | 154 MLM 18,000 OPL |
| | Curriculum review for pre-service medical and nursing immunization education conducted | 28 tutors trained from 1 institution | Yes | No |
| Supervision | Average no. of central supervision visits to each District level Per year | 4 | 3 | 2 |
| 3. COSTING AND FINANCING | | | | |
| Financial sustainability | What percentage of total routine vaccine spending was financed using government funds? (including loans and excluding external public financing) | 36% | 30% | 31% |
| | Was the line item in the national budget for immunization 100% funded. | NO | NO | NO |
| | What % of immunization resources are being met by the domestic health budget (as identified in the annual budget plan) | 21% | | |
| | Government expenditures on routine immunization per surviving infant (JRF 6700) | US\$ 3.2 | US\$ 1 | US 1 |
| | Are sub-national immunization budgets and expenditures monitored and reported at national level? | YES | YES | YES |
| 4. VACCINE SUPPLY, QUALITY & LOGISTICS | | | | |

| System Components | Suggested indicators | RESULTS | | |
|--|---|--|---|--|
| | | 2010 | 2011 | 2012 |
| Transport / Mobility | Percentage of districts with a sufficient number of supervisory/EPI field activity vehicles /motorbikes/bicycles in working condition | | | |
| Vaccine supply | Was there a stock-out at national level during the last year? | N | N | Y |
| | If yes, specify duration in months | NA | NA | 1 |
| | If yes, specify which antigen(s) | NA | NA | PENTAVALENT AND tOPV |
| | Proportion of districts reporting stock out of the following antigens at DVS at least once a year | BCG: 63%; DPT: 65%; OPV: 78%; Measles 43%; TT: 84% | BCG: 12%; DPT: 12%; OPV: 18%; Measles 5%; TT: 10% | BCG: 69%; DPT: 81%; OPV: 73%; Measles 31%; TT: 46% |
| Cold chain/Logistics | % of districts with adequate numbers of appropriate and functional cold chain equipment | 100% | 71% | 100% |
| | Proportion of districts supplied with adequate number of ADs for all routine immunisations | 100% | 100% | 100% |
| | What was the year of last inventory assessment for all cold chain, transport and waste management equipment (or EVM) | 2007 Cold Chain Assessment Conducted | 2011 EVMA Conducted | 2012 Updated Cold chain inventory |
| | No. PHC facilities with > 80% score for all indicators on the last EVM assessment | NA | 0 | NA |
| | % Districts with Availability of a cold chain replacement plan | 0% | 0% | 0% |
| Injection safety and Waste management | Availability of a waste management policy and plan | YES | Yes | Yes |
| 5. SURVEILLANCE & REPORTING | | | | |

| System Components | Suggested indicators | RESULTS | | |
|----------------------|---|---|------|------|
| | | 2010 | 2011 | 2012 |
| Routine surveillance | Percentage of surveillance reports received at national level from districts compared to number of reports expected | 96% | 90% | 93% |
| | Proportion of districts with non polio AFP rate >4 / 100,000 | 28% | 32% | 26% |
| | AFP detection rate/100,000 population under 15 year of age | 2.49 | 3.00 | 2.82 |
| | Proportion of districts with stool adequacy ≥ 80% | 74% | 61% | 63% |
| | % suspected measles cases for which a laboratory test was conducted | 98% | 55% | 24% |
| | Proportion of suspected NNT cases for which a follow up investigation was conducted | 39% | 13% | 1% |
| | Proportion of reported NNT cases investigated | 39% | 13% | 0% |
| | Sentinel Surveillance for Rotavirus establish | YES | YES | YES |
| | Sentinel Surveillance for meningitis (Hib/PCV) established | YES | YES | YES |
| | % of suspected meningitis cases tested for Hib/pneumococcal disease according to standard protocol | 98% | 97% | 99% |
| | Coverage Monitoring | % gap in match between DTP3 survey coverage and officially reported figures | | 14% |
| | Completeness of district reporting to national level | 96% | 92% | 92% |
| | Timeliness of district reporting to national level | 73% | 92% | 82% |

| System Components | Suggested indicators | RESULTS | | |
|---|--|---------|------|------|
| | | 2010 | 2011 | 2012 |
| Immunization safety | % of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations | 100% | 100% | 100 |
| Adverse Events | National AEFI System is Active with a designated national committee | NO | YES | YES |
| | Number of serious AEFI cases reported and investigated | 1 | 1 | 2 |
| 6. DEMAND GENERATION AND COMMUNICATION | | | | |
| Communication Strategy | Availability of a routine immunization communication plan | NO | NO | YES |
| | Percentage of districts who have developed a communication plan | No | No | |
| Research | Year of last study on community knowledge, attitudes and practices in relation to immunization | NO | YES | NO |
| Demand | % of outreach services held as planned | 50 | 50 | 50 |
| | High risk plan for disadvantaged communities | NO | NO | NO |

Table 6 Baseline, annual population targets and immunisation coverage targets for EPI 2012 – 2016

| | Baseline 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---------------------------|---------------|---------------|----------------|----------------|
| cMYP years | | | | | |
| Population | 34,131,400 | 35,081,678 | 36,350,760 | 37,513,984 | 38,,714,432 |
| Births (4.85%) | 1,655,373 | 1,701,461 | 1,763,012 | 1,819,428 | 1,877,650 |
| Surviving Infants (Births-Deaths) | 1,467,650 | 1,609,582 | 1,667,809 | 1,721,179 | 1,776,257 |
| IMR per 1000 LB | 54 | 54 | 54 | 54 | 54 |
| Fully Immunized Children (proxy-DPT3) | 1,149,656 | 1,384,241 | 1,467,671 | 1,549,061 | 1,598,631 |
| Pregnant women | 1,706,570 | 1,701,461 | 1,763,012 | 1,819,428 | 1,877,650 |
| Child Bearing Age Women (23%) | 7,850,222 | 8,068,786 | 8,360,675 | 8,628,216 | 8,904,319 |
| Vit A supplementation 6months -59months (18.5%) | 6,314,309 | 6,490,110 | 6,724,891 | 6,940,087 | 7,162,170 |
| Girls 10years old (1.6%) | 68,263² | 70,163 | 72,702 | 825,308 | 851,718 |
| BCG coverage | 82% | 92% | 94% | 95% | 95% |
| DPT-HepB+Hib1 | 89% | 94% | 96% | 98% | 98% |
| DPT-HepB+Hib3 | 78% | 86% | 88% | 90% | 92% |
| OPV3 | 82% | 86% | 88% | 90% | 92% |
| Measles | 82% | 86% | 88% | 90% | 90% |
| TT2+ (Pregnant) | 49% | 70% | 75% | 70% | 80% |
| DPT1-3 dropout | 7% | 9% | 8% | 8% | 6% |
| PCV 1 | | 94% | 96% | 98% | 98% |
| PCV3 | | 86% | 88% | 90% | 92% |
| Rota1 | | | | | 96% |
| Rota2 | | | 88% | 90% | 88% |
| HPV3 | 75% | 70% | 75% | 80% | 82% |

² For girls in the 14 districts that implemented the HPV scale up

3. Problems, Objectives, Mile stones, Global goals, priorities, strategies, activities and timeline by EPI components cMYP 2012-2016

Systematic presentation of problems, objectives, milestones, goals, order of priority, key activities and timeline.

Table 7 Problems, Objectives, Mile stones, Global goals, priorities, strategies, activities and timeline by EPI components cMYP 2014-2016, updated as of August 2013

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---|--|--|--|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Service Delivery -Routine Immunization | | | | | | | | | | | |
| Immunization Coverage | Coverage decreased from 80% in 2010 to 78% in 2012 | To achieve at least 80% coverage for all routine childhood antigens (using DPT-HepB -Hib3 as a measure) in 80 % of districts by 2015 | 2014: National DPT-HepB - Hib3 coverage at 88%; 60% districts above 80% coverage; 2015: :Attain and Sustain a National DPT-HepB -Hib3 coverage above 90%; 70% districts above 80% coverage; 2016: Sustain a national coverage of 90%; 80% districts above 80% coverage | 1 | Build capacity at district level and lower levels to implement RED/ REC strategies | (i) Conduct micro planning, mapping catchment area per health facility including private practitioners | X | X | X | X | X |
| | | | | | | (ii) Identify priority areas (such as hard to reach areas, underserved population, high risk populations) develop and implement plans to reach the populations | X | X | X | X | X |
| | | | | | | (iii) Audit performance of outreaches | X | X | X | X | X |
| | | | | | | (iv) Establish Community Linkage and mobilization using local structures (VHTs, LC1,Leaders) | X | X | X | X | X |
| | | | | | | (v) Conduct data analysis and utilize at district and at health facility | X | X | X | X | X |
| | | | | | | (vi) Implement World/ African vaccination Week | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---------------------|--|---|--|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | (vii) Monitor and evaluate Private sector involvement in EPI | X | X | X | X | X |
| | | | | | | (viii) Daily Immunization at static units with screening for Immunization status at OPD | X | X | X | X | X |
| | | | | | | (ix) Public sensitization on the importance of card retention using print and electronic media | X | X | X | X | X |
| Immunization Demand | % drop out BCG measles has declined by 11% since 2010, but with an increase in the proportion of districts with a rate > 10% in 2012; proportion of districts with high drop out rate of DPT-Hepb-Hib is > 50% | To achieve at least 90% of districts with a dropout rate of less than 10% by 2015 | 2014: 90% districts with DOR <10%; 2015 - 2016: Sustain a drop out rate of <10% | 1 | Conduct Periodic Intensified Routine Immunization activities | (x) Conduct Accelerated Routine / catch up Immunization Activities using: Child Days Plus, Family Health Days, SIAs & other opportunities in all districts | X | X | X | X | X |
| | | | | | | (xi) Collaborate with Ministry of Education to institute a policy on screening for Immunization status at school entry | X | | X | | X |
| | | | | | | (xii) Conduct tracking mechanism for missed children/drop outs | X | X | X | X | X |
| Immunization Equity | The % gap between highest and lowest socio economic | To reduce the % gap in DTP3 between highest and lowest socio economic | 2018: To reduce the % gap in DTP3 between highest and lowest socio economic | 1 | Engage under served and marginalized communities in EPI | (xiii) Implement and monitor Plan to reach all areas at-least four times a year | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---------------------------|--|---|--|-------------------|--|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | quintiles remains at 30% | quintiles to 20% by 2018 | quintiles to 20% by 2018 | | planning and implementation | (xiv) Map underserved areas using polio HTH SIAs and other opportunities, update the maps regularly. Focus on zero dose | X | X | X | X | X |
| | | | | | | (xv) Identify and train community leaders in underserved areas to promote immunization and plan for service delivery | X | X | X | X | X |
| New Vaccines Introduction | High disease burden due to Invasive Pneumococcal Disease (IPD) | To reach >90% of surviving infants with at least 3 doses of PCV10 by 2015 | 2014: to reach 80% of surviving children having received PCV3; 2015: to reach 90% of surviving children having received PCV3; 2016: to reach 90% of surviving children having received PCV3; | 1 | Document impact of pneumococcal vaccine into routine immunization schedule | (xvi) Implement new vaccine introduction plan | X | | | | |
| | | | | | | (xvii) conduct supportive supervisions and monitoring | X | X | X | X | X |
| | | | | | | (xviii) To conduct Post Introduction Evaluation (PIE) and make reports available | X | | | | |
| | High incidence of cervical cancer as documented in routine health information reports and published research | To introduce HPV vaccine into the routine immunization in all districts by 2015 | National coverage of HPV3 for girls aged 10 years: 2015: 80% ; 2016: 82% | 1 | i)HPV introduction nationwide | (xix) Conduct planning meetings with stakeholders | | X | | | |
| | | | | | | (xx) Production of training tools | | X | | | |
| | | | | | | (xxi) Training of health workers | | X | | | |
| | | | | | (ii)Target girls in primary 4 and 10 year old girls | (xxii) Sensitization of school head teachers and teachers | | X | | | |
| | | | | | | (xxiii) Mapping of Primary schools | X | X | | | |
| | | | | | | (xxiv) Registration of all school going girls | X | X | | | |
| | (iii)Community engagement and awareness | (xxv) sensitization of VHTs and community leaders (e.g.LC1s) | | X | | | | | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---------------------------|--|---|---|-------------------|--|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | High infantile diarrhea disease burden due to Rota virus | To introduce rotavirus vaccine into the routine immunization programme by 2016 | 2014: Develop proposal for Rota virus vaccine introduction; 2016: To introduce Rotavirus in the immunization schedule; 2016: To reach 90% of the surviving children having received Rotavirus Vaccine 3 | 2 | Use evidence based disease burden for informed GAVI proposal application and GOU support | (xxvi) Expand and maintain surveillance system for new vaccines | X | X | X | X | X |
| | | | | | | (xxvii) Implement new vaccine introduction plan | | | X | | |
| | | | | | | (xxviii) Resource mobilization | | X | X | | |
| | | | | | | (xxix) Development of tools and awareness campaign materials for new vaccine introduction | | | X | | |
| | | | | | | (xxx) Training of health worker and communities on new vaccine introduction | | | X | | |
| | | | | | | (xxxii) Major launch of new vaccine introduction | | | X | | |
| | | | | | | (xxxii) Conduct supportive supervisions and monitoring | | | X | X | X |
| Program management | | | | | | | | | | | |
| Law & Regulation | There is no legislation that identifies sources of public revenue for immunization financing | To develop an immunization legislation that will support mobilization of resources for immunization financing by 2015 | 2014: Draft immunization legislation bill tabled in Parliament; 2015: Bill approved | 1 | Utilize the Uganda Parliamentarian Immunization Forum. | (i) Facilitate and follow-up the development of immunization legislation and sustainable financing by MPs | X | X | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | | |
|--------------|--|---|--|-------------------|---|---|----------|------|------|------|------|--|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Policy | EPI policy has been updated but not printed for dissemination | To finalize print, and disseminate EPI policy by 2015 | 2014: Final updated EPI policy presented to technical working group, senior management, HPAC and top management. 2015: EPI policy printed and disseminated to all districts | 1 | Conduct a stake holders meeting to discuss the updated policy | (ii) Print and disseminate the EPI policy to all stake holders | X | | | | | |
| Planning | Less than 50% of the districts have immunization micro plans | To support 100% of the districts to develop and implement detailed immunization micro plans by 2014 | 2014: 100% of districts with detailed micro plans for immunization | 1 | REC/RED | (iii) Train and support districts to develop micro plans at the district level. | X | X | X | X | X | |
| | | | | | | (iv) Retreats for UNEPI and stake holders to review performance, status of implementation of recommendations and harmonize EPI activities | X | X | X | X | X | |
| Coordination | Inadequate private public partnership (PPP) and civil society organization coordination for immunization resource mobilization | To establish a private public partnership and CSO for increased resource mobilization by 2014 | 2014: Consultative process finalized 2014: A functional PPP and CSO for routine immunization | 2 | EPI included in the PPP frame work | (v) Identification of key activities for private partner support | X | | | | | |
| | | | | | | (vi) Conduct quarterly performance assessment meetings | X | X | X | X | X | |
| | | | | | | (vii) Conduct stake holder meetings | X | X | X | X | X | |
| | | | | | | (viii) Closely work with GAVI CSO (MACIS) through meetings and capacity building sessions | X | X | X | X | X | |
| | | | | | | (ix) Establish the National Technical Advisory Group (NTAG) | X | | | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|----------------------------------|--|---|--|-------------------|---|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Advocacy | Immunization not adequately prioritized and covered in all MOH and other government planning | To achieve high visibility and prioritization of EPI in government planning and funding by 2014 | 2014: EPI Advocacy and communication strategic plan should be fully operationalised | 1 | A national EPI Advocacy and communication plan finalized and disseminated | (x) Disseminate EPI advocacy and communication strategic plan | X | | | | |
| | | | | | A National Task Force for immunization (NTFI) will be revived with major roles of providing technical support and ensuring that the program implements the set activities and strategies. | (xi) Conduct advocacy meetings for immunization funding | X | X | X | X | X |
| | | | | | (xii) Conduct Quarterly Immunization NTF meetings | X | X | X | X | X | |
| Human resource management | | | | | | | | | | | |
| HR Numbers | Inadequate numbers of qualified health workers to manage immunization services | To recruit mid level staff who will form the backbone of health work force by 2015 | 2014: vacant positions of health work force filled for at least 75% of the positions 2015: 100% of vacant positions of health work force filled | 1 | Advocate for increase in wage bill for MOH | (i) Recruitment for all districts | X | X | | | |
| Capacity Building | Less than 1,000 health workers are trained annually or oriented in EPI | To train and equip at least 2000 health workers on routine immunization and disease surveillance annually by 2016 | 2014: 2,000 health workers trained in EPI 2015: 2,000 health workers trained in EPI; 2016:2,000 health workers trained in EPI | 1 | (ii) Equip pre and in-service health workers and mid-level managers with knowledge, skills and competencies in EPI service delivery | (ii) Conduct and scale up EPI MLM and OPL training in the districts | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | | |
|------|--|---|--|-------------------|---|---|----------|------|------|------|------|--|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 | |
| | Training needs assessment only conducted in only 26 districts | | 2014: 25 districts supported 2015: additional 25 districts supported; 2016: additional 25 districts supported | 1 | | (iii) Empower districts to conduct training needs assessment | X | | | | | |
| | Lack of training materials at district level and health facility level | | 2014: Training materials updated and reviewed ; 2015: Mass production of updated training materials and disseminated to all regions and districts | 1 | | (iv) Identify all materials required to update and for production | X | | | | | |
| | | | | | (i) Update and print training materials by 2014 | (v) Identify and get commitment of resources from partners | X | | | | | |
| | Immunisation not well articulated in pre-service curriculum | To build capacity for pre and in-service health workers at national and district levels by 2016 | 2014: Immunisation pre service curriculum established and implemented in the health training institution programs 2015: Institutionalized EPI training in Pre and In-service training | 1 | i) Dialogue with key stakeholders at MOH and MOE to implement and update pre-service curriculum to include provide training materials to institutions | (vi) Work with the Ministry of Education to update the pre-service health training curriculum | X | | | | | |
| | | | | | | (vii) Conduct trainings for health tutors in EPI | X | | | | | |

Costing and Financing

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | | |
|--------------------------|--|---|---|-------------------|--|--|--|------|------|------|------|---|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 | |
| Financial sustainability | PHC funds to the districts have remained static since 2004/2005 despite an increase in population | To Advocate for increased GOU allocation for PHC operations and UNEPI operational costs by 2016 | 2016: Increased district PHC allocations for routine immunization activities | 1 | Implement the advocacy and communication plan | (i) Conduct stake holder meetings (MOH, MOF, Health partners, Political leader) | X | X | | | | |
| | | | | | | (ii) Resource mobilization meetings | X | X | X | X | X | |
| | | | | | | (iii) Advocate for regular, adequate and timely financial flows to the program | X | X | X | X | X | |
| | | | | | | Make an investment case to justify to Ministry of Finance for increased allocation to the sector and programme | (iv) Work through HPAC to look for additional partners to support EPI | X | X | X | X | X |
| | | | | | | | (v) Use evidence-based advocacy for resource mobilization from government and partners at national and district levels | X | X | X | X | X |
| | | | | | | | (vi) utilize National Health Account assessment to include a component of immunization | X | | | | |
| | Inadequate GOU allocation for UNEPI operational costs. The % of the MOH for EPI has decreased by than half from 7.7% in 2006/7 to 3.6% in 2009/10. | To develop alternative sources for EPI funding outside the traditional EPI funding by 2015 | 2014: Focus on immunization amplified within PPP 2015: Sustain the established alternative funding sources apart from the traditional sources to bridge the existing gap | 1 | Advocacy and coordination of the private sector for immunization resource mobilization | (vii) Conduct advocacy and awareness / sensitization meetings with Private sector | X | X | X | X | X | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|--|--|---|--|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | (ii) Engage the private public partnership for increased resource mobilization for immunization services | (viii) Active participation of private sector in immunization activities | X | X | X | X | X |
| Vaccine, Cold chain and Logistics | | | | | | | | | | | |
| Transport / Mobility | 10% adequacy in transport at national and sub national level for immunization and community outreaches | To procure and equip the central level and districts with transport by 2015 | 2014: procure 6 vehicles for national level and 44 vehicles for district level | 1 | Provide transport for EPI activities | (i) Procure and maintain 6 vehicles for national level and 44 vehicles for district level | X | | | | |
| Vaccine supply | Over 50% of districts reporting stock outs of at least one antigen (2012: BCG-68%; DPT-81%; OPV-63%; Measles 31%; TT-46%); | To achieve and sustain adequate vaccine stock levels in all the districts and 0% stock out in health facilities by 2014 | 2014: 100% of the districts reporting zero stock outs; 2015 - 2016: Sustain 100% districts reporting zero stock outs | 1 | (i) Establish regional hubs for vaccine and logistics distribution | (ii) Identify resources, space and personnel for the regional hubs | X | X | | | |
| | | | | | | (iii) Build capacity for cold chain maintenance at regional hubs & districts | X | X | | | |
| | | | | | | (iv) Support regional hubs to carry out routine and timely maintenance and repair of equipment | X | X | X | X | X |
| | | | | | | (v) Scale up use of Stock Management Tools (SMT) at regional hubs | X | X | X | X | X |
| | | | | | | (vi) Support districts to set up DVS | X | X | | | |
| | | | | | | (vii) Support central, regional hubs and district teams to carry out routine and timely | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|--|---|------------|--|-------------------|---|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | Preventative and emergency maintenance including repair of equipment | | | | | |
| | | | | | | (viii) Regular replacement, repair and maintenance of old and non functional equipment | X | X | X | X | X |
| | | | | | | (ix) Determine the district and regional needs/ gaps | X | X | X | X | X |
| | Lack of training in vaccine management and quality in all districts | | 2014: 100% of the districts trained and oriented in vaccine management: 2015 - 2016: Sustain 100% districts orientated in the districts | 1 | (ii) Establish a cost effective and sustainable system for distribution of vaccines and immunisation supplies (including gas cylinders) | (x) Train NMS on vaccine handling | X | X | X | X | X |
| (xi) Develop SOPs for the UNEPI-NMS transition | | | | | | X | | | | | |
| (xii) Conduct an external evaluation of the transition of vaccine management (procurement , storage, distribution etc) to NMS to document lessons and develop strategies for improvement | | | | | | | X | | | | |
| (xiii) Construction of the proposed EPI national stores (Training, Procure cold chain equipment, spare parts and workshop consumables) | | | | | | X | X | | | | |
| (xiv) Timely procurement, storage and tracking of vaccines and immunisation logistics for routine immunization (Including gas) | | | | | | X | X | X | X | X | |
| | | | | | | | | | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|------|---------------------|--|------------|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | (xv) Scale up use of Stock Management Tools (SMT) at central | X | X | X | X | X |
| | | | | | | (xvi) Determine the district and regional needs/ gaps | X | | | | |
| | | | | | (iii)Progressively increase alternative sources of energy (electricity and solar) and enhance efficient utilization of gas | (xvii) Institute alternative and quicker means of procurement, distribution and tracking of gas cylinders | X | X | | | |
| | | | | | | (xviii) Conduct studies on the cost effective energy sources for EPI cold chain | X | | | | |
| | | | | | | (xix) Implement use of the cost effective cold chain energy source | | X | X | X | X |
| | | To ensure that 100% of the districts have vaccine stock monitoring tools, temperature monitoring tools by 2014 | | | Vaccine monitoring tools included in NMS procurement plan | (xx) Update, Print and Distribute the VIMCB | X | X | X | X | X |
| | | | | | Purchase temp monitoring tools | (xxi) Purchase temperature monitoring tools for all levels (freeze tags, fridge tag, fridge FoneTM- for central level) | X | | | | |
| | | To train and orient all districts in Vaccine Supply and Quality by 2014 | | | Build capacity at districts for vaccine management | (xxii) Train district personnel on vaccine management | X | | | | |
| | | | | | | (xxiii) Conduct annual review meetings with DCCAs | X | X | X | X | X |
| | | To expand storage capacity at national, district and facility level by 2014 | | | | (xxiv) Identify resources, construct and equip vaccine logistics in new districts | X | | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---|---|--|---|-------------------|---|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | (xxv) Procure additional cold chain storage facilities for district and facilities | X | X | | | |
| | | | | | | (xxvi) Expand the vaccine and logistics space | X | X | | | |
| | | | | | (ii) Establish an effective and efficient storage and distribution system for EPI vaccines and logistics | (xxvii) Equip regional hubs to effectively handle vaccines | X | | | | |
| | | | | | | (xxviii) Procure gas cylinders for facilities | X | | | | |
| | | | | | | (xxix) Conduct Cold chain assessment and EVMA in plan for NVI; | X | | | | |
| Injection safety and Waste management | Inadequate waste management at health facility level (Insufficient incinerators and lack of guidelines) | To attain 100% safe disposal of open and closed unusable vaccine vials by 2016 | 2014: Incorporate vaccine vial disposal guidelines in waste management policy ; 2014: All health facilities with incinerators or safe waste disposal pits; 2015 - 2016: Attain and sustain 100% safe disposal of open and closed unusable vials | 1 | Collaborate with MOH infrastructure division, and partners to ensure adequate disposal of open and closed unusable vaccine vials | (xxx) Advocate for MOH to expand appropriate methods for management of waste disposal | X | | | | |
| | | | | | | (xxxi) Update, print and disseminate guidelines | X | X | | | |
| | | | | | | (xxxii) Monitoring of guideline implementation | | X | X | X | X |
| | | | | | | (xxxiii) Contribute to regional incineration facilities | X | X | X | X | X |
| Surveillance, Monitoring and reporting | | | | | | | | | | | |
| Routine surveillance | 74% of districts did not achieve the target Non Polio AFP rate $\geq 4/100,000$ | To attain and sustain a NPAFP rate of 4/100,000 in at least 60% districts by end of 2014 | Proportion of districts attaining a NPAFP rate of 4/100,000; 2014: 60%, 2015: 70%, 2016: 80% | 1 | Provide focused technical, logistical and financial support to districts to achieve/maintain polio certification level indicators within the IDSR framework | (i) Mobilize, protect and ensure timely availability of surveillance funds at the district level | X | X | X | X | X |
| | | | | | | (ii) Regular technical support supervision for surveillance activities in all districts by national and regional | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|------|---|---|--|-------------------|---|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | surveillance teams | | | | | |
| | | | | | | (iii) Develop and implement a comprehensive surveillance training/sensitization plan including professional bodies, private sector and training institutions within the IDSR framework | X | | | | |
| | Stool adequacy is below 80% in 37% districts | To attain and maintain stool adequacy of 80% and above in all districts by the end of 2015 | Proportion of districts attaining a stool adequacy of 80%; 2014: 90%, 2015: 100%, | 1 | Strengthen community surveillance system | (iv) Capacity building of VHT members in events-based reporting of priority diseases and conditions in low AFP detection districts | X | X | X | X | X |
| | Declining measles case based surveillance (76% of reported measles cases are not investigated for laboratory confirmation or line listed) | To ensure that at least 80% of the reported measles cases are investigated for laboratory confirmation or line listed by 2015 | Proportion of suspected measles cases investigated for laboratory confirmation; 2014: 70%; 2015: 80% | 1 | Capacity building of operational level health workers | (v) Develop and implement a comprehensive surveillance training/sensitization plan including professional bodies, private sector and training institutions within the IDSR framework | X | X | X | X | X |
| | Only 60% of reported suspected NNT cases are investigated | To ensure that all reported suspected NNT cases are investigated by 2015 | Proportion of suspected NNT cases investigated: 2014: 80% 2015: 100% 2016: maintain and sustain | 1 | | | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---------------------|---|---|--|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Coverage Monitoring | Lack of regular support supervision from the national and district levels | To conduct regular quarterly supportive supervision by central level to all districts annually | 2014 - 2016: 4 quarterly visits annually to the districts and feedback conducted annually; | 1 | (i) National and district costed plans to include support supervision at all levels | (vi) Resource mobilization for support supervision | X | X | X | X | X |
| | | | | | (ii) Conduct regular quarterly regional meetings to plan and assess supervision priorities | (vii) Develop, print and distribute supervision tools | X | | | | |
| | | | | | | (viii) National and district feedback and follow-up to all levels | X | X | X | X | X |
| | Increasing number of districts from 56 in 2009 to 112 in 2010 | To expand and strengthen the mentorship program in the districts using the Regional EPI/IDSR model and create a cascading structure to the lower level facilities | 2014-2016: quarterly District Health Team (DHT) supervision visits to the lower level health facilities 2015-2016: Sustain the program for immunisation at all levels | 1 | Regional EPI/IDSR supervisors trained and equipped for mentorship program in the districts | (ix) Develop resource mobilization strategy for EPI/IDSR strategy | X | X | | | |
| | | | | | | (x) Train and equip EPI/IDSR supervisors in mentorship and supervision | X | | | | |
| | | | | | | (xi) Train district health teams in supervisions | X | | X | | |
| | Lack of supply and distribution of immunization tools, child health cards and tally sheets to districts | To achieve 100% HMIS health facility completeness by 2015 | 2014: Adequate quantities of monitoring tools and child Health Cards in the districts 2015 - 2016: maintain and sustain performance | 1 | MOH to identify and designate a line item budget for HMIS tools | (xii) Printing and distribution of monitoring tools including child health cards | | | | | |
| | | | | | Districts to include monitoring tools in annual budget lines | | X | | | | |
| | 93% HMIS completeness reporting and poor data utilization for evidence planning | | Health facility completeness 2014: 90% 2015: 100% 2016: Sustain 100% HMIS reporting and completeness | 1 | Build capacity for districts to perform Data analysis and Data Quality Self Assessment (DQSA) for action | (xiii) Train all HMIS focal points in all district and HSD level | X | X | | | |
| | | | | | | (xiv) Conduct regularly data quality self assessments | X | X | X | X | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|--|--|---|--|-------------------|---|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | | | | (xv) Explore and expand modern technology for HMIS reporting | X | | | | |
| Adverse Events | Less than 10% of the districts report at least 1 AEFI case | To ensure that at least 80% of the districts reported one serious AEFI case annually by 2016 | Proportion of districts reporting and investigating an AEFI case: 2014: 50%; 2015: 70%; 2016: 80%; | 1 | Strengthen collaboration with the national Drug Authority | (xvi) Computerization of monitoring of AEFIs at national and regional referral hospitals (vigiflow system) | X | X | | | |
| | Lack of fully established integrated AEFI and Pharmacovigilances committee in the districts | | Proportion of districts with functional AEFI committees 2014: 50% 2015: 75% 2016: 100% | 1 | | (xvii) Conduct monthly AEFI district committee meetings | X | X | X | X | |
| Demand Generation, Communication and Advocacy | | | | | | | | | | | |
| Communication Strategy | Delayed dissemination of evidence based Advocacy and communication plan for routine immunization at sub national level | To disseminate an evidence based advocacy and communication plan to immunization stakeholders by 2014 | 2014: Disseminate and rollout evidence based advocacy and communication plan; 2014-2015: Sustain the utilization of the advocacy and communication plan | 1 | Capacity building through meetings | (i) Disseminate evidence based messages (print media); | X | X | | | |
| | | | | | | (ii) Conduct advocacy meetings with service organizations like lions club, rotary clubs, religious leaders, cultural leaders, parliamentarians, local leaders | X | X | X | X | X |
| | | | | | | (iii) Development of sub national specific communication plans including focus on hard to reach areas/people | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|----------|---|--|--|---|---|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Research | Last KAP study done in 2011 | To conduct a follow up research after dissemination of communication strategy in 2016 | 2016: follow up KAP study | 2 | Data driven approach to guide messages, communication channels, strategies and evaluation of communication and advocacy | (iv) Conduct follow up social research to understand the knowledge, attitudes, practices of key stakeholders and establish baseline data for updating the current communication strategy | | X | | | |
| | | | | | Establish evidence based advocacy and communication | (v) Coordinate, monitor and evaluate communications for Routine immunization, including plans for emergency response and responding to AEFI | X | X | X | X | X |
| | Lack of operational research for action and to guide implementation at district level | To institutionalize operational research for strengthening routine immunization service delivery by 2014 | 2014: Development of operational research proposal; 2015: Operational Research work plan implemented | 2 | Identify critical programme areas that require research | (vi) Develop a research agenda for EPI | X | X | X | X | X |
| | | | | | Operational research included in work plans of districts and lower level health facilities | (vii) Train and mentor health workers in conducting operational research for action | X | X | X | X | X |
| | | | | | | (viii) Resource mobilization for research | X | X | X | X | X |
| | | | | | | (ix) Development of research protocols by national and district personnel | X | X | X | X | X |
| | | | | (x) Activity plans developed for operational research | X | X | X | X | X | | |
| Demand | Inadequate Inter - personal communication (IPC) skills and | To train at least 2,000 health workers on IPC in annually by 2016 | Number of health workers trained in IPC and at least disseminate 5 key messages on EPI during immunization | 1 | Capacity building of operational level health workers | (xi) Conduct district specific training workshops involving HWs and key stakeholders in immunization | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|---|--|--|--|-------------------|--|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | materials among health workers leading to low utilization | | sessions; 2014: 2,000 2015: 2,000 2016: 2,000 | | | (xii) Social mapping of key influencers, resistant groups, key stakeholders, resources at all levels including at risk, mobile, marginalised and hard to reach population | X | X | X | X | X |
| | | | | | | (xiii) Create a mechanism of motivating good performing health workers | X | X | X | X | X |
| | VHTs have not been fully oriented on immunization and the VHT strategy has not been scaled up to all districts | To sensitize village health teams (VHTs) on EPI in 100% of districts by 2016 | Proportion of districts with VHTs sensitized on EPI 2014: 50% of districts; 2015: 80% of districts; 2016: 100% of districts | 1 | Build interest of key stakeholders in routine immunization | (xiv) Advocate for immunization to be an agenda in the Health unit management committees, Sub County and district local councils and parliament debates | X | X | X | X | X |
| | | | | | | (xv) Support districts to orient the VHT on routine immunization | X | X | X | X | X |
| Accelerated Disease Control activities | | | | | | | | | | | |
| Polio | OPV coverage at 82% and 52% of the districts have an OPV3 coverage less than 80% | To achieve and sustain polio eradication status by 2015 | National OPV3 coverage and proportion of districts achieving a coverage >80%: 2014: 86% National in 73% of districts; 2015: 90% National in 80% of districts | 1 | Achieve and maintain high routine immunization coverage for OPV3 | (i) Implement nationwide preventive and outbreak response polio SIAs | X | X | X | X | X |
| | | | | | | (ii) Conduct regular risk assessments | X | X | X | X | X |
| | | | | | | (iii) Reviewing and updating the national polio preparedness plan | X | X | X | X | X |
| | | | | | Conduct supplemental immunization activities | | | | | | |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|------|--|--|---|-------------------|--|---|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| | | | 2016: 90% national in 80% of districts | | Strengthen district disease surveillance for AFP detection | (iv) Support to the laboratory to maintain accreditation | X | X | X | X | X |
| | | | Strengthen involvement of the Polio committees | | (v) Support NCC, NPEC and NTF | X | X | X | X | X | |
| | Continued threat of importation from neighbouring countries of WPV and cVDPV | To introduce at least one dose of IPV into routine immunization program by 2016 as part of the polio endgame | 2015: Develop a proposal for introduction of IPV 2016: introduce one dose of IPV into routine immunization program | 1 | Plan for introduction of IPV | (vi) Proposal development | X | X | | | |
| | | | | | | (vii) Training of health worker | | | X | | |
| MNT | TT2+ national coverage at 49% among pregnant women | To sustain MNT elimination status by 2016 | Proportion of pregnant women receiving at least two doses of TT (TT2+) 2014: 60% 2015: 70%; 2016: 80 % | 1 | Conduct and document TT Vaccination During antenatal days | (ix) Monitor and evaluate the functionality of ANC days as an opportunity of TT vaccination during support supervision visits | X | X | X | X | X |
| | Only 5% of school girls received TT in 2012 | | Proportion of school girls (10 -24 Ys) receiving at least three doses of TT: 2014: 40%; 2015: 60%; 2016: 80% | 1 | Sustain MNT elimination | (x) Work with Reproductive Health to review strategies for immunizing women during ANC attendance | X | X | | | |
| | | | | | | (xi) Scale up and sustain TT vaccination in schools | X | X | X | X | X |

| Area | Current performance | Objectives | Milestones | Order of priority | Strategies | Main Activities | Timeline | | | | |
|-------------------|--|--|--|-------------------|--|--|----------|------|------|------|------|
| | | | | | | | 2014 | 2015 | 2016 | 2017 | 2018 |
| Measles & Rubella | Measles national coverage at 82% and only 35% of the districts have a coverage of greater than 90% | To achieve near zero measles morbidity and mortality by 2015 | 2014: 90% of districts achieving a coverage of 95% during measles follow up campaign : Proportion of districts achieving a routine measles coverage of above 90%: 2014: 60% of districts 2015: 70% of districts ; 2016: 80% of districts | 1 | Achieve high routine measles immunization coverage | (xii) Finalize the measles and rubella elimination strategic plan | X | | | | |
| | | | | | | (xiii) Resource mobilization using the MR elimination strategic plan | X | X | X | X | X |
| | 25% of suspected measles cases are rubella positive | To achieve Rubella elimination goal by 2019 | 2018: 80% of district achieving an MR coverage of 95% during catch up SIAs | 1 | Plan for rubella vaccine introduction | (xv) Implement MR campaign in the under 15 years | | | | | X |
| Yellow fever | Yellow fever outbreaks reported in the country | To develop a national YF vaccination policy for Uganda based on the risk assessment findings by 2014 | 2014: Available YF vaccination policy; 2015: implementation of YF policy | 2 | Achieve high progress towards yellow fever control | (xvi) Finalize the yellow fever risk assessment report | X | | | | |
| | | | | | | (xvii) Develop yellow fever control plan | X | | | | |
| | | | | | | (xviii) Implement key activities from the YF control plan | X | X | X | X | X |

This updated cMYP has been aligned with the Decade of Vaccines Global Vaccine Action Plan (GVAP) a new roadmap which aims at preventing millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities by reinforcing the five goals. Table 8 clearly summarises the six strategic objectives of GVAP and the status with the updated cMYP for Uganda.

Table 8 GVAP strategic objectives in line with cMYP 2012 – 2016, updated in August 2013.

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|---|--|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| Strategic objective 1: All countries commit to immunization as a priority. | | | | | |
| Establish and sustain commitment to immunization. | <ul style="list-style-type: none"> • Ensure legislation or legal framework in all countries, including provisions for a budget line for immunization, and for monitoring and reporting. | Yes | | | |
| | <ul style="list-style-type: none"> • Develop comprehensive national immunization plans that are part of overall national health plans through a bottom-up process including all stakeholders. | Yes | | | |
| | <ul style="list-style-type: none"> • Set ambitious but attainable country-specific targets within the context of morbidity and mortality reduction goals. | Yes | | | |
| | <ul style="list-style-type: none"> • Scrutinise, defend, and more closely follow immunization budgets, disbursements and immunization programme activities. | Yes | | | |
| | <ul style="list-style-type: none"> • Support local civil society organizations and professional associations to contribute to national discussions of immunizations and health. | Yes | | | |
| Inform and engage opinion leaders on the value of immunization. | <ul style="list-style-type: none"> • Explore models to promote collaboration between the stakeholders that generate evidence on immunization and those who use it to set priorities and formulate policies. | Yes | | | |
| | <ul style="list-style-type: none"> • Develop and disseminate the evidence base on the public health value of vaccines and immunization and the added value of achieving equity in access and use of immunization. | Yes | | | |
| | <ul style="list-style-type: none"> • Develop and disseminate the evidence base for the broad economic benefits of immunization for individuals, households, communities, and countries. | Yes | | | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|--|---|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| | <ul style="list-style-type: none"> • Include immunization in the agendas of governing body meetings at all levels and in other social, health and economic forums. | Yes | | | |
| Strengthen national capacity to formulate evidence-based policies. | <ul style="list-style-type: none"> • Create or strengthen independent bodies that formulate national immunization policies (for example, NITAGs or regional technical advisory groups). | Yes | | | |
| | <ul style="list-style-type: none"> • Develop more effective ways for National Regulatory Agencies (NRAs), Health Sector Coordination Committees (HSCCs), and Interagency Coordination Committees (ICCs) to support immunization programmes as part of disease control programmes and preventive health care. | Yes | | | |
| | <ul style="list-style-type: none"> • Create regional forums and peer-to-peer exchange of information, best practices and tools. | | | | |
| | <ul style="list-style-type: none"> • Create expanded and more transparent mechanisms for aggregating, sharing, and using information to monitor commitments. | Yes | | | |
| Strategic objective 2: Individuals and communities understand the value of vaccines and demand immunization as both their right and responsibility. | | | | | |
| Engage individuals and communities on the benefits of immunization and hear their concerns. | <ul style="list-style-type: none"> • Engage in a dialogue which both transmits information and responds to people's concerns and fears. | Yes | | | |
| | <ul style="list-style-type: none"> • Utilise social media tools and lessons from commercial and social marketing efforts. | Yes | | | |
| | <ul style="list-style-type: none"> • Leverage new mobile and Internet-based technologies. | Yes | | | |
| | <ul style="list-style-type: none"> • Include immunization in the basic education curriculum. | Yes | | | |
| | <ul style="list-style-type: none"> • Conduct communications research. | Yes | | | |
| Create incentives to stimulate demand. | <ul style="list-style-type: none"> • Create incentives to households and health workers for immunization, where appropriate and while respecting the autonomy of beneficiaries (for example, cash or in-kind transfers, bundling of services, media recognition). | Yes | | | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|--|--|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| | <ul style="list-style-type: none"> • Conduct social research to improve the delivery of immunization services and the ability to meet the needs of diverse communities. | Yes | | | |
| Build advocacy capacity. | <ul style="list-style-type: none"> • Recruit new voices, including those of educators, religious leaders, traditional and social media personalities, family physicians, community health workers, and trained immunization champions (among others). | Yes | | | |
| | <ul style="list-style-type: none"> • Train healthcare workers on effective communication techniques, especially to address vaccine hesitancy and to respond to reports of serious adverse events following immunization in order to maintain trust and allay fears. | Yes | | | |
| | <ul style="list-style-type: none"> • Engage, enable and support in-country CSOs to advocate to local communities and policy-makers and in local and global media regarding the value of vaccines. | Yes | | | |
| | <ul style="list-style-type: none"> • Create national or regional advocacy plans that involve in-country CSOs. | Yes | | | |
| | <ul style="list-style-type: none"> • Link global, national and community advocacy efforts with professional and academic networks. | Yes | | | |
| Strategic objective 3: The benefits of immunization are equitably extended to all people. | | | | | |
| Develop and implement new strategies to address inequities. | <ul style="list-style-type: none"> • Recast "Reaching Every District" to "Reaching Every Community" to address inequities within districts. | Yes | | | |
| | <ul style="list-style-type: none"> • Engage underserved and marginalised groups to develop locally tailored, targeted strategies for reducing inequities. | Yes | | | |
| | <ul style="list-style-type: none"> • Introduce appropriate new vaccines in national immunization programmes (see also Objective 5). | Yes | | | |
| | <ul style="list-style-type: none"> • Establish a life course approach to immunization planning and implementation, including new strategies to ensure equity across the life span. | | | | |
| | <ul style="list-style-type: none"> • Prevent and respond to vaccine-preventable diseases during disease outbreaks, humanitarian crises, and in conflict zones. | Yes | | | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|--|---|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| Build knowledge base and capacity to enable equitable delivery. | <ul style="list-style-type: none"> Track each individual's immunization status, leveraging immunization registries, electronic databases and national identification number systems. | Yes | | | |
| | <ul style="list-style-type: none"> Take advantage of community structures to enhance communication and deliver services (for example, traditional birth attendants, birth registries). | Yes | | | |
| | <ul style="list-style-type: none"> Involve CSOs in community outreach and planning. | Yes | | | |
| | <ul style="list-style-type: none"> Develop new approaches to community engagement for urban and peri-urban areas. | Yes | | | |
| | <ul style="list-style-type: none"> Train health workers and CSOs on how to engage communities, identify influential people who can assist in planning, organizing and monitoring health and immunization programmes, identify community needs and work with communities to meet those needs. | Yes | | | |
| | <ul style="list-style-type: none"> Conduct operational and social science research to identify successful strategies to reduce inequities and improve the quality and delivery of immunization services. | Yes | | | |
| Strategic objective 4: Strong immunization systems that are an integral part of a well functioning health system. | | | | | |
| Develop comprehensive and coordinated approaches. | <ul style="list-style-type: none"> Ensure that global vaccine programmes focusing on eradication and elimination goals (for example, polio and measles campaigns) are incorporated into national immunization programmes and do not operate independently. | Yes | | | |
| | <ul style="list-style-type: none"> Ensure that new vaccine deployment is accompanied by comprehensive plans to control targeted diseases. | Yes | | | |
| | <ul style="list-style-type: none"> Ensure coordination between the public and private sectors for new vaccine introduction, reporting of vaccine-preventable diseases and administration of vaccines, and ensure quality of vaccination in the public and private sectors. | Yes | | | |
| | <ul style="list-style-type: none"> Consider the inclusion of vaccines (as appropriate to national priorities) to health programmes across the life course. | Yes | | | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|--|---|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| Strengthen monitoring and surveillance systems. | <ul style="list-style-type: none"> • Improve the quality of all immunization administrative data and promote its analysis and use at all administrative levels to improve programme performances. | Yes | | | |
| | <ul style="list-style-type: none"> • Develop and promote the use of new technologies for collection, transmission and analysis of immunization data. | Yes | | | |
| | <ul style="list-style-type: none"> • Further strengthen and expand disease surveillance systems to generate information for decision-making, monitoring the impact of immunization on morbidity and mortality and changes in disease epidemiology. | Yes | | | |
| | <ul style="list-style-type: none"> • Ensure capacity for vaccine safety activities, including capacity to collect and interpret safety data, with enhanced capacity in countries that introduce newly developed vaccines. | Yes | | | |
| Strengthen capacity of managers and frontline workers. | <ul style="list-style-type: none"> • Ensure that immunization and other primary health care programmes have adequate human resources to schedule and deliver predictable services of acceptable quality. | Yes | | | |
| | <ul style="list-style-type: none"> • Increase levels of pre-service, in-service and post-service training for human resources, and develop new, relevant curricula that approach immunization as a component of comprehensive disease control. | Yes | | | |
| | <ul style="list-style-type: none"> • Promote coordinated training and supervision of community-based health workers. | Yes | | | |
| Strengthen infrastructure and logistics. | <ul style="list-style-type: none"> • Innovate to improve cold chain capacity and logistics, as well as waste management. | Yes | | | |
| | <ul style="list-style-type: none"> • Minimize the environmental impact of energy, materials and processes used in immunization supply systems, both within countries and globally. | | | | |
| | <ul style="list-style-type: none"> • Staff supply systems with adequate numbers of competent, motivated and empowered personnel at all levels. | Yes | | | |
| | <ul style="list-style-type: none"> • Establish information systems that help staff accurately track the available supply. | Yes | | | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|---|--|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| Strategic objective 5: Immunization programmes have sustainable access to predictable funding, quality supply and innovative technologies. | | | | | |
| Increase total amount of funding. | <ul style="list-style-type: none"> Establish a commitment for governments to invest in immunization according to their ability to pay and the expected benefits. | Yes | | | |
| | <ul style="list-style-type: none"> Engage new potential domestic and development partners and diversify sources of funding. | Yes | | | |
| | <ul style="list-style-type: none"> Develop the next generation of innovative financing mechanisms. | Yes | | | |
| Increase affordability for middle-income countries. | <ul style="list-style-type: none"> Explore differential pricing approaches to define explicit criteria for price tiers and the current and future prices to be made available to lower middle-income and middle-income countries. | | | NA | |
| | <ul style="list-style-type: none"> Explore pooled negotiation or procurement mechanisms for lower-middle-income and middle income countries. | | | NA | |
| Improve allocation of funding in low- and middle-income countries. | <ul style="list-style-type: none"> Strengthen budgeting and financial management in-country to better integrate financial and health care planning and priority setting. | Yes | | | |
| | <ul style="list-style-type: none"> Coordinate funding support from development partners and other external sources. | Yes | | | |
| | <ul style="list-style-type: none"> Evaluate and improve funding support mechanisms on the basis of their effectiveness in reaching disease goals. | Yes | | | |
| | <ul style="list-style-type: none"> Base funding on transparency and objectivity in order to ensure the sustainability of programmes. | Yes | | | |
| | <ul style="list-style-type: none"> Promote the use of cost and cost-benefit arguments in fund raising, decision-making, and defence of immunization funding. | Yes | | | |
| | <ul style="list-style-type: none"> Explore pay-for-performance funding systems. | | | NA | |
| Secure quality supply. | <ul style="list-style-type: none"> Build and support networks of regulators and suppliers to share best practices and to improve quality assurance capabilities and quality control. | | | NA | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|---|---|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| | <ul style="list-style-type: none"> Develop tools to strengthen global standardization of manufacturing and regulatory processes. | | | NA | |
| | <ul style="list-style-type: none"> Strengthen national regulatory systems and develop globally harmonized regulations. | | | NA | |
| | <ul style="list-style-type: none"> Ensure a forum where countries can communicate expected demand for vaccines and technologies and provide guidance to manufacturers on desired product profiles. | | | NA | |
| Strategic objective 6: Country, regional and global R&D innovations maximize the benefits of immunization. | | | | | |
| Expand capabilities and increase engagement with end-users. | <ul style="list-style-type: none"> Engage with end users to prioritise vaccines and innovations according to perceived demand and added value. | Yes | | | |
| | <ul style="list-style-type: none"> Establish platforms for exchange of information on immunization research and consensus building. | Yes | | | |
| | <ul style="list-style-type: none"> Build more capacity and human resources in low- and middle-income countries to conduct R&D and operational research. | Yes | | | |
| | <ul style="list-style-type: none"> Increase networking among research centres for efficient building of partnerships among high-, middle- and low-income countries' institutions. | Yes | | | |
| | <ul style="list-style-type: none"> Promote collaboration between traditional research disciplines and scientists from disciplines not previously engaged in vaccine research. | Yes | | | |
| Enable the development of new vaccines. | <ul style="list-style-type: none"> Research on the fundamentals of innate and adaptive immune responses, particularly in humans. | | | NA | |
| | <ul style="list-style-type: none"> Research on immunologic and molecular characteristics of microbes. | | | NA | |
| | <ul style="list-style-type: none"> Improve understanding of the extent and causes of variation in pathogen and human population responses to vaccines. | | | NA | |
| Accelerate development, licensing and uptake of | <ul style="list-style-type: none"> Promote greater access to technology, know-how and intellectual property for adjuvants and their formulation into vaccines. | | | NA | |

| GVAP Strategy | Key Activities | Activity included in cMYP | | | |
|--|---|---------------------------|----|----------------|---------------------|
| | | Yes | No | Not applicable | New activity needed |
| vaccines. | <ul style="list-style-type: none"> Develop non-syringe delivery mechanisms and vaccine packaging that best suit the needs and constraints of countries' programmes. | | | NA | |
| | <ul style="list-style-type: none"> Develop thermostable rotavirus and measles vaccines. | | | NA | |
| | <ul style="list-style-type: none"> Develop new bioprocessing and manufacturing technologies. | | | NA | |
| | <ul style="list-style-type: none"> Develop a global, regulatory science research agenda. | | | NA | |
| | <ul style="list-style-type: none"> Adopt best practices in portfolio and partnership management for R&D. | | | NA | |
| Improve programme efficiencies and increase coverage and impact. | <ul style="list-style-type: none"> Research the use of more effective information through modern communication technologies. | Yes | | | |
| | <ul style="list-style-type: none"> Conduct representative epidemiological, immunological, social and operational studies and investigations of vaccine impact to guide health economics analysis. | Yes | | | |
| | <ul style="list-style-type: none"> Perform operational research on improved delivery approaches for life course immunization, and vaccination in humanitarian emergencies, fragile states and countries in and emerging from conflict. | | | NA | |
| | <ul style="list-style-type: none"> Perform research on interference effects and optimum delivery schedules. | | | NA | |
| | <ul style="list-style-type: none"> Perform research to develop improved diagnostic tools for conducting surveillance in low-income countries. | | | NA | |

5. Costing and Financing, Uganda Multi Year Plan, 2012-2016

5.1 Macro economic background

The Uganda economy experienced varying growth rates when Poverty Eradication Action Plan was being implemented, with an average GDP growth rate of 7.2 percent between 1997/78 and 2000/01 and 2003/04, increasing to 8 percent over the period 2004/05 to 2007/08. Based on economic forecasts, GDP growth rate over the National Development Plan period is projected at an average of 7.2% per annum. At this GDP growth rate, nominal per capita income is projected to increase from USD 506 in 2008/09 to about USD 850 by 2014/15. During the same period, the proportion of people living below the poverty line is expected to decline from the level of 31% in 2005/06 to about 24.5% in 2014/2015, above the MDG target of 28%.

The Health Sector Strategic Investment Plan is implemented through Sector Wide Approaches (SWAPs) where both government and donor funds (including project funds) are pooled together to constitute budget support for the public health services. Other sources of financing for the health sector include local government and parastatal contributions, private not for profit agencies, private firms and households through insurance and out of pocket contributions.

Inadequate financing remains the primary constraint inhibiting the development of the health sector in Uganda. The current level of funding of US\$10.4 per capita falls far below the estimated requirements. Attempts have been made to mobilize additional funds for the sector but these have been constrained by macroeconomic concerns and the rigid sector ceilings.

5.2 Costing of the EPI Multiyear plan

This section outlines the costing of the strategic plan over the next five years. Interventions and inputs into the programme have been costed using the updated WHO tool for costing of multiyear plans³. The data used in the costing tool was gathered at national level, mostly from documents of the Ministry of Health, Ministry of Finance and Economic Development; and from other line Ministries, UNEPI and from partners such as WHO and UNICEF.

Procurement of vaccines and injection supplies is done through UNICEF and so UNICEF standard price projections were adapted from the tool. Personnel costs were based on available data from current government salary scales. Interventions at all levels of service delivery have been costed. Operational costs for routine and supplementary activities were based on past expenditures with some adjustments.

The programme costs may be classified as routine recurrent costs, routine capital costs, supplemental immunization activities and other costs.

☐ Routine recurrent costs

- a) Vaccines
 - i. Traditional
 - ii. New and underused vaccines
- b) Injection supplies
- c) Personnel
- d) Transport
- e) Maintenance and overhead
- f) Training
- g) Social mobilization
- h) Disease surveillance
- i) Programme management
- j) Other routine recurrent costs

☐ Routine capital costs

- a) Vehicles
- b) Cold chain equipment
- c) Other capital equipment

³ Comprehensive Multi-Year Planning (cMYP) Costing and Financing Tool (Revised 2013).

Supplemental immunization activities

- a) Polio
- b) Measles
- c) Maternal and neonatal tetanus

Other costs

- a) Shared personnel costs
- b) Shared transportation costs
- c) Construction of new buildings

The main cost drivers of the routine programme (excluding shared costs and SIAs) in the baseline year of the plan (2011), as in the previous years, were vaccines (new and underused vaccines) 50% and personnel (9%) figure 3.

Figure 3 Baseline cost profile (routine immunization) Uganda, 2011

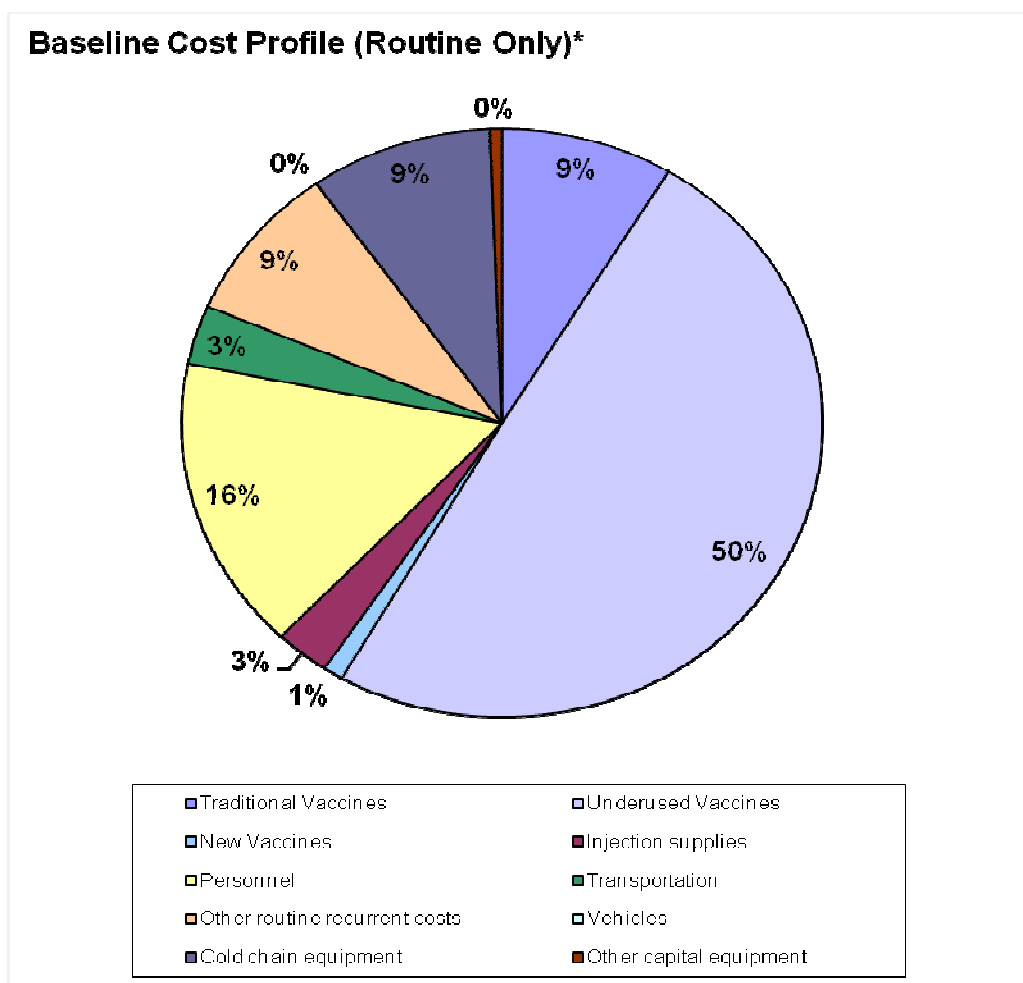


Figure 4 shows the projection of future resource requirements for the next five years, which are further summarized in tables 5 and 6. The total budget for the programme ranges from **USD \$31,647,517 in 2011 to USD \$91,436,221 in 2016.**

The programme costs for the future budgets are largely driven by:

- The costs for vaccines - DPT-Hep+Hib (already introduced in the programme), pneumococcal vaccine, rotavirus vaccines and HPV vaccines to be introduced in 2015 and 2016 respectively.
- Personnel which includes salaries and allowances
- Activities planned in preparation for introduction of the new vaccines in 2014 and 2015 that include cold chain expansion, training, social mobilization, monitoring and evaluation.
- Program Recurrent costs and Injection materials

Figure 4 Projection of Future Resource Requirements

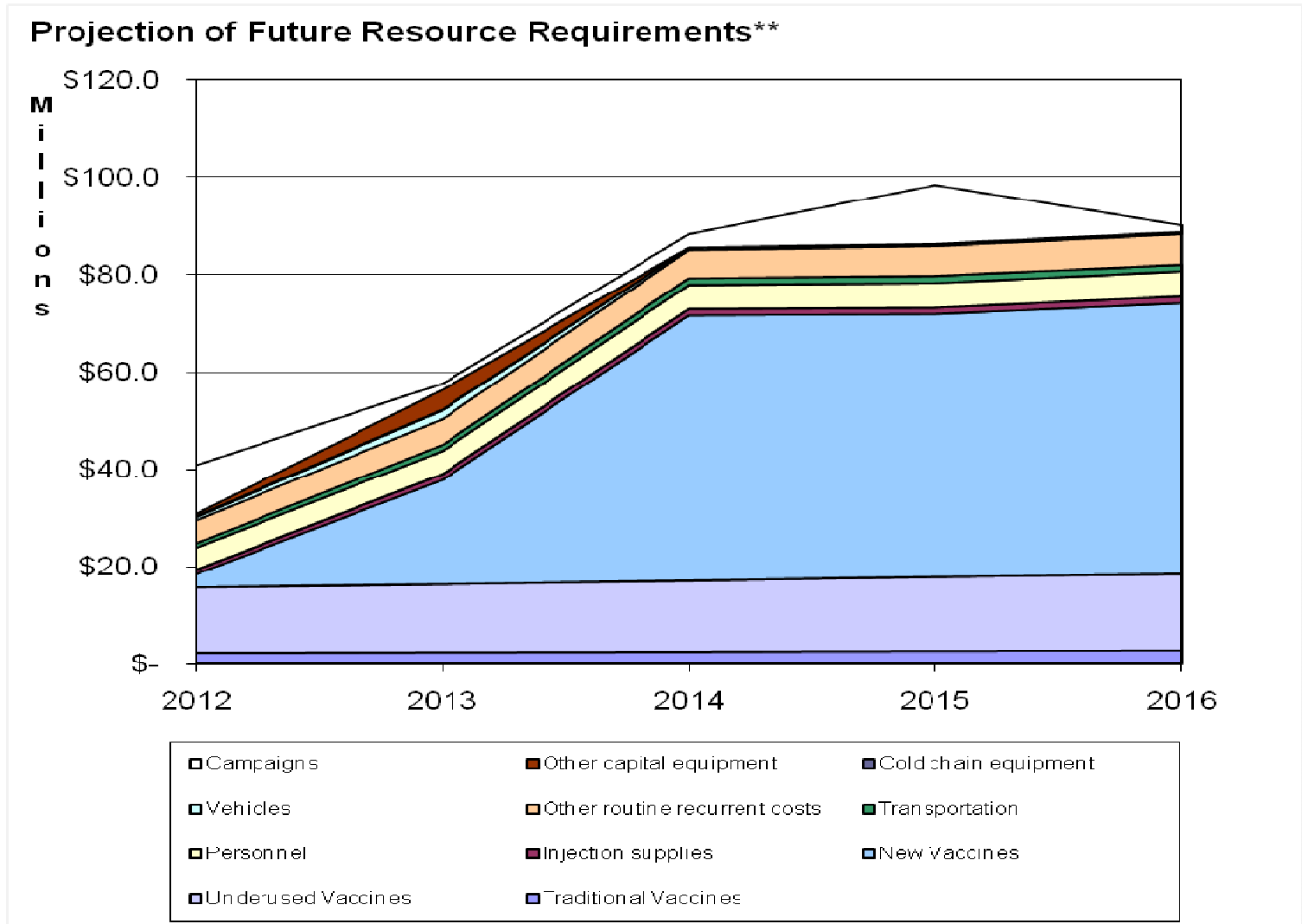


Figure 6 Multiyear plan costing for Uganda by Program Components, 2012 – 2016

| cMYP Component | | Expenditures | Future Resource Requirements | | | | | Total 2012 - 2016 |
|--------------------|--------------------------------------|---------------------|------------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | |
| | | US\$ | US\$ | US\$ | US\$ | US\$ | US\$ | US\$ |
| | Vaccine Supply and Logistics | \$18,497,042 | \$20,792,938 | \$45,563,048 | \$70,380,505 | \$72,330,710 | \$74,431,715 | \$283,498,916 |
| | Service Delivery | \$4,813,551 | \$5,479,923 | \$6,004,158 | \$6,312,481 | \$6,525,855 | \$6,461,838 | \$30,784,256 |
| | Advocacy and Communication | \$155,690 | \$844,430 | \$892,604 | \$943,400 | \$996,800 | \$1,052,967 | \$4,730,200 |
| | Monitoring and Disease Surveillance | \$762,985 | \$1,688,860 | \$1,785,207 | \$1,886,801 | \$1,993,599 | \$2,105,933 | \$9,460,400 |
| | Programme Management | \$482,548 | \$1,429,028 | \$1,496,782 | \$1,584,401 | \$1,681,807 | \$1,739,101 | \$7,931,119 |
| | Supplemental Immunization Activities | \$3,647,974 | \$9,981,997 | \$1,233,191 | \$2,755,658 | \$12,048,201 | \$1,355,475 | \$27,374,521 |
| | Shared Health Systems Costs | \$3,287,727 | \$3,888,313 | \$3,989,125 | \$7,947,402 | \$4,198,239 | \$4,289,191 | \$24,312,271 |
| GRAND TOTAL | | \$31,647,517 | \$44,105,489 | \$60,964,115 | \$91,810,648 | \$99,775,211 | \$91,436,221 | \$388,091,684 |

5.3 Financing of the EPI Multi year plan 2012- 2016

The sources of financing of the program include government (central and sub-national) budget and donors. Donor agencies that have supported the program include GAVI, WHO, UNICEF, JICA, USAID, CDC, PATH, DFID, SABIN Inst, and Merck Company. CHAI is a new partner for consideration for future support for the program.

The majority of funding during the baseline year (2011) was from GAVI (48%) for the DPT-Hep+Hib vaccine (Figure 7). This trend is reflected over the next 5 years even after considering probable funding from the government for co financing of the vaccine costs.

It is expected that support from these agencies will continue during the next five years, although most of the funding can only be regarded as probable funding. JICA is expected to fund capital costs i.e. equipment for cold chain expansion and rehabilitation, and vehicles. Funding classified as secure only represents estimates from government and the 'traditional' donors to the programme based on their past contributions.

Funding from the government is classified as secure based on historical funding patterns. The government has been funding the four traditional antigens (polio, measles, BCG, TT), injection supplies, personnel, transport, maintenance for vehicles, gas for the cold chain and overheads. Funds for these items have therefore been classified as secure.

In addition to the government funds, some donor funds are also classified as secure such as funds from GAVI for Immunization Services Strengthening (ISS) and Health Systems Strengthening (HSS).

Figure 7 Baseline Financing Profile (Routine Only)

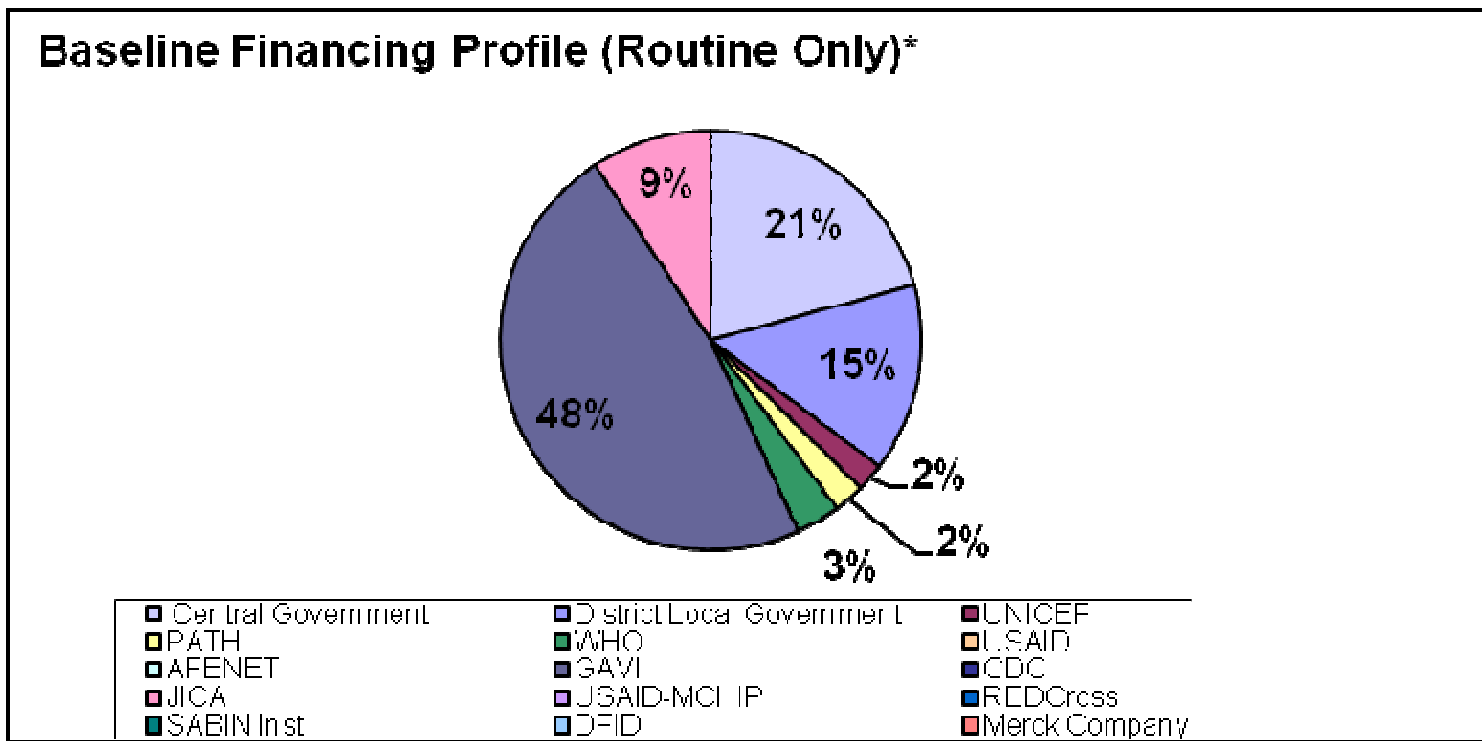
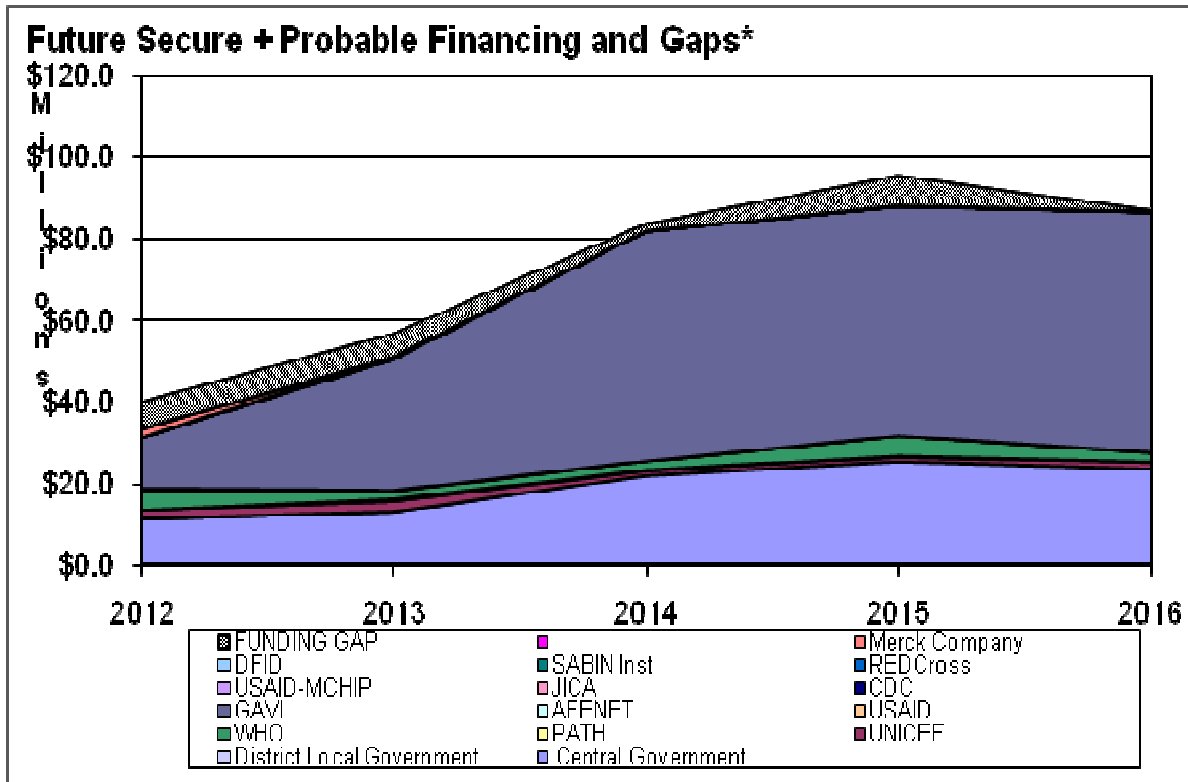


Figure 8 Future Secure + Probable Financing and Gaps



Of the USD 363,779,413 table 7 required for the programme from 2012-2016 (excluding shared costs), USD 276,308,645 (76%) is classified as secure funding, USD 65,587,912 (18%) as probable funding and 6% as unsecured funds. A large total funding gap of USD 87,470,768 (of secured funding only) exists in the program costs table 8. The funding gap is largely for the new vaccines and injection materials, programme recurrent costs, logistics (vehicles, cold chain equipment and other equipment) and for supplemental immunization activities in 2012 -2016 for both the secure and probable funding (Tables 5-8).

Table 9 Resource requirements, Financing and Financial Gaps, EPI Multiyear Plan 2012-2016⁴

| Resource Requirements, Financing and Gaps* | 2012 | 2013 | 2014 | 2015 | 2016 | Avg. 2012 - 2016 |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| Total Resource Requirements | \$40,217,176 | \$56,974,990 | \$83,863,246 | \$95,576,971 | \$87,147,029 | \$363,779,413 |
| Total Resource Requirements (Routine only) | \$30,235,179 | \$55,741,800 | \$81,107,588 | \$83,528,770 | \$85,791,554 | \$336,404,891 |
| per capita | \$0.9 | \$1.6 | \$2.2 | \$2.2 | \$2.2 | \$1.9 |
| per DTP targeted child | \$23.1 | \$40.3 | \$55.5 | \$54.1 | \$52.7 | \$45.9 |
| Total Secured Financing | \$26,384,106 | \$43,559,151 | \$65,559,479 | \$70,622,141 | \$70,183,768 | \$276,308,645 |
| Central Government | \$8,524,678 | \$11,782,089 | \$9,506,212 | \$14,482,932 | \$12,278,678 | \$56,574,589 |
| UNICEF | \$1,029,640 | | | | | \$1,029,640 |
| PATH | | \$394,312 | | | | \$394,312 |
| WHO | \$2,353,041 | | | | | \$2,353,041 |
| GAVI | \$12,397,747 | \$31,382,750 | \$56,053,267 | \$56,139,209 | \$57,905,090 | \$213,878,063 |
| Merck Company | \$2,079,000 | | | | | \$2,079,000 |
| Funding Gap (with secured funds only) | \$13,833,070 | \$13,415,839 | \$18,303,767 | \$24,954,830 | \$16,963,261 | \$87,470,768 |
| % of Total Needs | 34% | 24% | 22% | 26% | 19% | 24% |
| Total Probable Financing | \$7,153,600 | \$7,683,329 | \$16,477,779 | \$17,622,368 | \$16,650,837 | \$65,587,912 |
| Central Government | \$2,792,246 | \$1,306,093 | \$12,545,619 | \$11,032,698 | \$11,402,998 | \$39,079,654 |
| UNICEF | \$1,251,891 | \$2,707,390 | \$1,186,650 | \$1,200,684 | \$1,680,586 | \$8,027,201 |
| PATH | | \$50,000 | \$50,000 | \$50,000 | | \$150,000 |
| WHO | \$2,472,169 | \$1,886,372 | \$2,241,313 | \$4,902,454 | \$2,318,769 | \$13,821,077 |
| USAID | \$195,595 | | | | | \$195,595 |
| AFENET | \$105,283 | \$148,961 | | | | \$254,244 |
| GAVI | \$286,416 | \$1,084,513 | \$454,197 | \$361,532 | \$1,198,484 | \$3,385,142 |
| USAID-MCHIP | \$50,000 | \$500,000 | | \$75,000 | \$50,000 | \$675,000 |
| Funding Gap (with secured & probable funds) | \$6,679,470 | \$5,732,511 | \$1,825,988 | \$7,332,462 | \$312,424 | \$21,882,855 |
| % of Total Needs | 17% | 10% | 2% | 8% | 0% | 6% |

⁴ Immunization specific resource requirements, financing and gaps. Shared costs not included.

Table 10 Composition of funding gap (Immunization Specific Only)

| | | | | | | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|
| Show the funding gap with secure funds only | Y | | | | | |
| Composition of the funding gap | 2012 | 2013 | 2014 | 2015 | 2016 | Avg. 2012 - 2016 |
| Vaccines and injection equipment | | | \$6,495,031 | \$8,071,927 | \$8,208,117 | \$22,107,575 |
| Personnel | \$2,819,493 | \$2,304,197 | \$2,381,026 | \$2,459,750 | \$2,512,563 | \$12,477,029 |
| Transport | \$815,136 | \$1,094,824 | \$1,393,951 | \$264,601 | \$0 | \$3,568,512 |
| Activities and other recurrent costs | \$3,316,572 | \$3,822,147 | \$4,797,847 | \$4,602,361 | \$4,476,039 | \$21,014,966 |
| Logistics (Vehicles, cold chain and other equipment) | \$851,955 | \$5,628,981 | \$480,254 | \$374,522 | \$411,067 | \$7,746,779 |
| Campaigns | \$6,029,914 | \$1,233,191 | \$2,755,658 | \$9,181,670 | \$1,355,475 | \$20,555,907 |
| Total Funding Gap* | \$13,833,070 | \$13,415,839 | \$18,303,767 | \$24,954,830 | \$16,963,261 | \$87,470,768 |
| * Immunization specific resource requirements, financing and gaps. Shared costs are not included. | | | | | | |

* Immunization specific resource requirements, financing and gaps. Shared costs are not included.

The funding gap reflects the difficulty in projecting available resources from donors and government far into the future table 8. The mobilization of resources from GAVI for health systems strengthening, JICA for cold chain rehabilitation has contributed to reduction of the funding gap for logistics, cold chain and transport.

GAVI will be procuring the new vaccines (pneumococcal, Rota vaccine and HPV) and Government will start co-financing the new vaccines in 2014. The amounts are as shown in Table 9.

Table 11 Government Co-Financing for New vaccines

| Government Co-Financing Amounts | | | | | | | |
|---------------------------------|--------------|----------------|-----------|-------------|-----------|-------------|-------------|
| GAVI supported Vaccines | Vaccine | Classification | 2012 | 2013 | 2014 | 2015 | 2016 |
| | | | \$ | \$ | \$ | \$ | \$ |
| 1 | DTP-HepB+Hib | Underused | \$885,386 | \$935,180 | \$987,425 | \$1,042,057 | \$1,099,173 |
| 2 | Rota | New | | | \$730,879 | \$710,946 | \$713,125 |
| 3 | Pneumococcal | New | | \$1,038,181 | \$888,683 | \$1,066,419 | \$1,099,173 |
| 4 | HPV | New | | | \$456,500 | \$380,000 | \$392,000 |

6. Financial Sustainability Analysis

The options remain open depending on the ability of Government to mobilise the resources it requires for vaccine procurement. We present the strategies to raise resources, whose outcome will determine the option that the Government will adopt in the future. These strategies are based on a mix of:

- ❑ Mobilisation of additional resources (local and external),
- ❑ Increase in reliability of resources, and
- ❑ Strategies to increase programme efficiency.

6.1 Mobilizing additional resources

There are several ways the immunisation programme can obtain additional resources locally. These include:

- ❑ Additional resources from the government budget for the health sector;
- ❑ Additional resources from the Ministry of Health budget for immunisation;
- ❑ Increased resource input from decentralized local governments;
- ❑ Resources from local, non-governmental sources; and
- ❑ Additional external resources from current and new partners.
- ❑ Additional partners from the private sector -

According to the Government Medium and Long Term Expenditure Frameworks (MTEF and LTEF), the expected growth in the health sector budget is minimal. However, the health and agriculture sectors are priority sectors in terms of unfunded priorities of Government, and vaccines are one of the health sector unfunded priorities. As such, immunisation has a high potential to be further funded should Government and the health sector receive resources above what is expected. However, based on present financial realities, it is not possible in the short to medium term for the Government to cover this funding gap from its own resources. As such, the contribution from the Government health sector shall be sought keeping in mind the financial realities in the sector. Resource mobilisation should have minimal or no impact on resources already available to other Ministry of Health programmes. In addition, other strategies to mobilise resources are to be employed.

Additional resources within the sector will be sought within the context of the Government's Vaccine Independence Initiative (VII). In line with the recommendations of the Health Financing Strategy of the Ministry of Health, the programme shall seek, in the short term, to have 4% of the recurrent health sector budget apportioned for vaccine purchases.

Other sources of local resources shall be sought. At present, government immunisation resources are largely from the central government. The programme shall advise and advocate for Local Governments to mobilise resources for their constituencies to cover some selected cost items within their means. These are largely around Information, Education and Communication (IEC) activities, community outreaches and social mobilisation. The strategy will aim to integrate immunisation programme activities within those already being carried out by the local governments for efficiency gains.

Avenues for resource mobilisation from the private sector shall be sought. This has proven successful with preventive strategies in the sector, such as the polio mass immunisation SIAs and use of Insecticide Treated Materials (ITN's). Individuals and companies shall be sought to support immunisation programmes from the private sector to reduce operational costs.

While the Government is pursuing a strong SWAp policy, with implications for the need of common financial disbursement strategies (common basket), it is unlikely that in the short to medium term, all sector activities will be financed through this system. New and ongoing global initiatives make it further unlikely. As such, the programme, while supporting the common SWAp arrangement and seeking more

resources through it, shall also seek additional external resources from donors and incoming projects to supplement what it receives through the government budget.

A number of development partners have at different periods in time supported immunisation activities. Many channel resources through multilateral agencies such as UNICEF, WHO and the World Food Programme (WFP) while some others offer direct support. In addition, resources from donors increase tremendously during supplemental SIAs indicating a high level of belief in the approach, and the health care system ability to deliver vaccines to the communities.

The programme shall seek to mobilise additional resources from these donors that have shown willingness to support immunisation activities in the past, and identify and advocate among potential new donors for more resources. Support sought from these donors shall be in the form of resources, and advocacy for the programme. In addition, the programme shall actively seek further support from GAVI beyond the present arrangement, with the strategy highly dependent on the financial commitment from the Government.

6.2 Increasing reliability of resources

Within this strategy, the sector shall seek to ensure that:

- Financial requirements for immunisation are in the MTEF and LTEF;
- Government contributions for vaccines and EPI are protected;
- Funds allocated for vaccines are reflected within PHC vote to districts, as with drugs;
- GAVI Vaccine Fund support is tapered off beyond phase 1;
- Any unspent resources from donors, or Government are maintained within the programme.

It is difficult to ensure reliability of resource flows. However, there are a number of strategies that will be employed to improve this.

At the national level, the programme shall ensure that the financial forecasts for immunisation should be incorporated into the MTEF and LTEF planning and budgeting cycles of the Government, and updated regularly. The strategy to have an increasing proportion of the vaccine expenditure covered by the Government increases the reliability of the resources required. In line with this, the programme shall stretch out the vaccine fund resources, so that this support is tapered off, and the increasing resources being mobilised by the programme taking over the gap being created. The Ministry of Health shall earmark and protect its contribution to vaccine purchase within its health sector expenditures, in line with the present situation where the vaccine resources are protected within the Programme 9 resources.

6.3 Improving programme efficiency

Improved efficiency of the programme shall also be pursued. Reduction of vaccine wastage offers significant efficiency gains for the programme, more so with the use of the high cost vaccines. It is envisioned that improvement of vaccine wastage to 10% for the new and under-utilized vaccines shall achieve cost savings. This shall primarily be capacity building in vaccine management, putting in place a vaccine wastage monitoring system, ensuring optimal functioning of the cold chain system, and consolidation of the multi-dose vial policy.

In addition to the reduction in wastage, the change from gas only to gas/electric fridges shall reduce operational costs of cold chain operation. At present, the UNEPI programme covers the costs of purchase, and transportation of the gas to the respective districts. Use of electric fridges and/or procurement of gas directly by districts will reduce these operational costs on the EPI programme at the national level.

The programme shall build capacity at the sub national level to enable these take up the responsibility for purchase of gas supplies as required. There are presently little/no cost savings as a result of bulk purchases at the central level, which will not lead to any losses due to the districts purchasing the gas.

Further rationalization of outreach services shall be sought, with integration with other programmes carried out as is feasible. Mobilisation efforts shall be enhanced to increase immunisation at each session, reducing unit costs for immunisation per child.

The programme shall ensure its budgetary outturn is maximised, including use of GAVI ISS reward funds, GAVI HSS funds and all funds available to the immunisation programme.

The Ministry of Health shall continue to advocate at a regional and global level for increasing the availability and reducing the cost of combination vaccines, and for promoting developing country capacity for vaccine production.

7.0 Monitoring and Evaluation

Monitoring and evaluation will constitute an essential component of this updated cMYP to help track progress in implementation of the immunization programme. The proposed monitoring and evaluation framework for this plan will focus on use of performance indicators by immunization and health system components. The more stringent way of monitoring this plan would have been the use of process indicators specific for each activity. However because there are over 100 activities (141), monitoring each of these indicators will be very cumbersome and not feasible. In view of this, selected Indicators which measure performance of entire system components have been highlighted. The baseline targets used are for 2012 or any available data as highlighted in the situational analysis.

The data sources will include the routine Health Management Information System, surveys, support supervision visits and proposed EPI review to be conducted in 2015. Quarterly M&E reports will be shared by the program with all immunization stakeholders. These reports will form the basis for discussions during the annual retreats for UNEPI and stakeholders to review performance and status of implementation of recommendations of the plan.

Monitoring will be continuous with lessons learnt and best practices incorporated into the strategy for improvement, considering the fact that circumstances on the ground will keep changing which will ultimately affect performance in routine immunisation.

Table 12 monitoring and evaluation framework, proposed indicators

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | |
|---|---|-------------------|------|-----------------|-------------------|-------------------|-------------------|--|
| | | Result | Year | Source | 2014 | 2015 | 2016 | Means of verification |
| Immunization Component - Immunization Services | | | | | | | | |
| To reduce child mortality by 2/3rds between 1990 and 2015 | Under 5 Child Mortality Rate | 90 / 1,000 | 2011 | UDHS | | | | DHS Survey 5 yearly |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To achieve at least 90% of districts with a dropout rate of less than 10% by 2015 | Proportion of districts with a drop out rate of less than 10% | 58% | 2012 | HMIS | 90% | 90% | 90% | HF and community based DQS reports HMIS |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Conduct periodic intensified routine immunization activities | Proportion of districts supported to improve routine immunization performance | 49% | 2012 | Program Records | 70% | 90% | 100% | Program reports |
| Inputs & Activities | INPUT INDICATORS | Baseline | | | | | | |
| Update Reaching Every Community Strategy proposal for resource mobilization | Proposal developed and resources availed | Yes, US\$ 150,000 | 2012 | Program Records | Yes, US\$ 250,000 | Yes, US\$ 200,000 | Yes, US\$ 150,000 | Program Records |
| Program management | | | | | | | | |
| Goal | IMPACT INDICATORS | | | | | | | |
| General government allocation for health as % of total government health budget | Attainment of Abuja Declaration | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To develop an immunization legislation that will support mobilization of resources for immunization financing by 2015 | Availability of an immunization law | No | 2012 | Ugandan laws | Yes | Yes | | Ugandan laws |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Utilize the Uganda Parliamentarian Immunization Forum | Number of advocacy meetings held by UPIF | 2 | 2012 | Reports | 4 | 4 | 4 | Reports |
| Inputs & Activities | INPUT INDICATORS | Baseline | | | | | | |

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | |
|---|--|----------|------|---------|---------|------|------|----------|
| | | Result | Year | Source | 2014 | 2015 | 2016 | Means of |
| Facilitate and follow up the development of the immunization legislation and sustainable financing by MPs | Immunization bill approved by Parliament | No | 2012 | Reports | Yes | Yes | yes | Reports |

Human resource Management

| Goal | IMPACT INDICATORS | | | | | | | |
|--|--|----------|------|----------------|-------|-------|-------|-----------------|
| Adequate skill mix and evenly geographically distributed | Attainment of MDG 4 and 5 | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To train and equip at least 2,000 health workers on routine immunization and disease surveillance annually by 2016 | Number of health workers trained in EPI | 603 | 2011 | Program report | 2,000 | 2,000 | 2,000 | Program reports |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Capacity building workshops | Number of workshops conducted | 15 | 2011 | Program report | 50 | 50 | 50 | Program reports |
| Inputs & Activities | INPUT INDICATORS | Baseline | | | | | | |
| Training materials | Number of training materials printed and distributed | | | | | | | |

Costing and Financing

| Goal | IMPACT INDICATORS | | | | | | | |
|--|---|--------|------|--------------------------|---------|--------|--------|--------------------------|
| Protection against the financial risk of ill health | | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To advocate for increased government of Uganda allocation for PHC operations and UNEPI operation costs by 2016 | Increase on government expenditure on routine immunization per surviving infant | US \$1 | 2012 | JRF, APR | US \$ 2 | US\$ 3 | US\$ 4 | JRF, APR, NHA |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Make an investment case to justify to Ministry of Finance for increased allocation to the sector and programme | Number of investment cases presented to MOF | 0 | 2012 | Program Records, minutes | 2 | 3 | 4 | Program reports, minutes |

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | |
|---|---|----------|------|--------------------------|---------|------|------|--------------------------|
| | | Result | Year | Source | 2014 | 2015 | 2016 | Means of |
| Inputs & Activities | INPUT INDICATORS | Baseline | | | | | | |
| Advocacy and coordination meetings with potential funders for EPI including MOF | Number of advocacy and coordination meetings held | 0 | 2012 | Program Records, minutes | 2 | 3 | 4 | Program Records, minutes |

Vaccine, cold chain and logistics

| Goal | IMPACT INDICATORS | | | | | | | |
|--|---|----------|------|-----------------|------|------|------|-----------------|
| Reduce high numbers of unvaccinated children | reduction by 30% of unvaccinated children | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To achieve and sustain adequate vaccine stock levels in all the districts and 0% stock out in health facilities by 2014 | Proportion of districts reporting zero stock outs of vaccines | 81% | 2012 | Program reports | 0% | 0% | 0% | Program reports |
| To expand storage capacity at national, district and facility level by 2014 | Proportion of districts with adequate vaccine storage space that is functional | 100% | 2012 | Program reports | 100% | 100% | 100% | Program reports |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Establish cost effective and sustainable system for distribution of vaccines and immunization supplies including gas cylinders | Number of additional cold chain equipment procured, distributed and installed at sub national level | | | | | | | |
| Build capacity at districts for vaccine management | Number of district cold chain and EPI focal persons trained | | | | | | | |
| Inputs & Activities | INPUT INDICATORS | Baseline | | | | | | |
| Develop a cold chain expansion capacity proposal for resource mobilization | | | | | | | | |
| Develop an MOU and SOPs for vaccine management at all levels | Available signed MOU and SOPs | No | 2012 | Program reports | Yes | Yes | Yes | Program reports |
| Training of district cold chain assistants and EPI focal persons at sub national level on VM | Numbers trained | 0 | 2012 | Program reports | | | | |

surveillance, monitoring and reporting

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | |
|--|--|----------|------|--------|---------|------|------|----------|
| | | Result | Year | Source | 2014 | 2015 | 2016 | Means of |
| Goal | IMPACT INDICATORS | | | | | | | |
| High quality data | | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To conduct regular quarterly supportative supervision by central level to all districts annually | Number of districts categorized as poor performers | | | | | | | |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Quarterly support supervision visits by central and district levels | Number of support supervision visits conducted | | | | | | | |
| Inputs & Activities | INPUT INDICATORS | | | | | | | |
| Integrated support supervision checklist | Available integrated checklist | | | | | | | |
| Training a pool of central level supervisors | Number of central level supervisors trained | | | | | | | |

Demand generation, communication and advocacy

| Goal | IMPACT INDICATORS | | | | | | | |
|---|--|--|--|--|--|--|--|----------------------------|
| | | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| % increase in the number of VHTs mobilizing communities to take their children for immunization before they are one year old by the end of 5 years | Number of communities that report VHTs as major source of information regarding Immunization | | | | | | | surveys/communi interviews |
| % increase in the number of health workers who counsel mothers and caretakers and inform them about the dates for the next immunization session by the end of 5 years | Increase in the No. of health workers who counsel mothers and caretakers and inform them about the dates for the next immunization session | | | | | | | surveys/communi interviews |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Capacity building of health workers | Number of health workers trained | | | | | | | |
| Inputs & Activities | INPUT INDICATORS | | | | | | | |
| Training workshops | Number of workshops conducted | | | | | | | |

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | |
|--|---|----------|------|-----------------|---------|------|------|-----------------|
| | | Result | Year | Source | 2014 | 2015 | 2016 | Means of |
| Accelerated disease control activities | | | | | | | | |
| Goal | IMPACT INDICATORS | | | | | | | |
| A polio free country | | | | | | | | |
| Achieve measles elimination | | | | | | | | |
| Sustain MNT elimination status | | | | | | | | |
| Achieve yellow fever control in at risk population | | | | | | | | |
| Objective | OUTCOME INDICATORS | | | | | | | |
| To achieve and sustain polio eradication status by 2015 | | | | | | | | |
| To achieve near zero measles morbidity and mortality by 2015 | | | | | | | | |
| To sustain and maintain MNT elimination status by 2016 | | | | | | | | |
| To develop a national YF vaccination policy for Uganda based on the risk assessment findings by 2014 | Availability of YF vaccination policy | N | 2012 | MOH documents | Y | Y | Y | MOH documents |
| Strategies | OUTPUT INDICATORS | | | | | | | |
| Achieve and maintain routine immunization coverage for OPV3 | Proportion of districts achieving OPV3 coverage of 90% and above | | | | | | | |
| To achieve high routine measles immunization coverage | Proportion of districts achieving measles coverage of 90% and above | | | | | | | |
| Sustain MNT elimination status | Proportion of districts with NNT rate less than 1 per 1,000 live births | 0% | 2012 | Program reports | 0% | 0% | 0% | Program reports |
| Inputs & Activities | INPUT INDICATORS | | | | | | | |
| PIRI including SIAs focusing on poor performing districts | | | | | | | | |