



THE REPUBLIC OF UGANDA

**UGANDA NATIONAL EXPANDED
PROGRAMME ON IMMUNIZATION
MULTI YEAR PLAN
2010 – 2014**



(Revised April 2011)

Foreword

Immunization is a key priority of the Uganda Minimum Health Care Package of the health sector. Over the past ten years, 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 additional 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 measles, neonatal tetanus and Hib morbidity and mortality.

However, several challenges experienced over the past 2-3 years (2007-2009) 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 south Sudan 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.

The process of development of the new strategic multiyear plan 2010-2014, 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 vision for immunization (GIVS) 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 Plan. Focus will be made on sustaining availability of current vaccines offered by the programme; introduction of pneumococcal 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 development 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 objectives set.

Dr. Sam Zaramba
Director General Health Services

Table of Contents

FOREWORD	II
TABLE OF CONTENTS	III
EXECUTIVE SUMMARY	IV
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	6
3. PROGRAMME OBJECTIVES AND MILESTONES	18
4. STRATEGIES, KEY ACTIVITIES AND TIMELINE	32
5. COSTING AND FINANCING	41
5.1 MACRO ECONOMIC BACKGROUND.....	41
5.2 COSTING OF THE EPI MULTIYEAR PLAN.....	41
5.3 FINANCING OF THE EPI MULTI YEAR PLAN 2010 - 2014.....	46
5.4 FINANCIAL SUSTAINABILITY ANALYSIS.....	51
6.0 UNEPI WORKPLAN 2010	54

List of Tables

TABLE 1: UGANDA IMMUNIZATION SCHEDULE	5
TABLE 2: BASELINE AND ANNUAL TARGETS FOR EPI, 2008 – 2014.....	8
TABLE 3: SITUATION ANALYSIS OF ROUTINE EPI BY SYSTEM COMPONENTS, UGANDA, 2006-2008	9
TABLE 4: SITUATION ANALYSIS BY ACCELERATED DISEASE CONTROL INITIATIVES, UGANDA, 2006-2009	11
TABLE 5: STRENGTHS AND WEAKNESSES OF EPI BY SYSTEM COMPONENTS, UGANDA, 2009	13
TABLE 6: MULTIYEAR PLAN COSTING, UGANDA, 2010-2014	45
TABLE 7: MULTIYEAR PLAN COSTING FOR UGANDA BY PROGRAM COMPONENTS, 2010 – 2014	46
TABLE 8: RESOURCE REQUIREMENTS, FINANCING AND FINANCIAL GAPS, EPI MULTIYEAR PLAN 2010-2014.....	49
TABLE 9: COMPOSITION OF FUNDING GAP (IMMUNIZATION SPECIFIC ONLY)	50
TABLE 10: GOVERNMENT CO-FINANCING FOR NEW VACCINES.....	50

List of Figures

FIGURE 1: ORGANIZATIONAL STRUCTURE OF UNEPI.....	4
FIGURE 2: BASELINE COST PROFILE (ROUTINE IMMUNIZATION) UGANDA, 2004.....	43
FIGURE 3: PROJECTION OF FUTURE RESOURCE REQUIREMENTS.....	44
FIGURE 4: BASELINE FINANCING PROFILE (ROUTINE ONLY).....	47
FIGURE 5: FUTURE SECURE + PROBABLE FINANCING AND GAPS	48

Executive Summary

The Uganda EPI multiyear plan for 2010-2014 highlights the areas of focus for the immunization programme over the next 5 years based on previous programme performance, priorities for the health sector as stipulated in the Health Sector Strategic Plan 3 (2010/11 – 2014/15) and the global and regional goals set for child survival. The Global and Immunization Vision and Strategy (GIVS), Millennium development Goals on mortality and morbidity reduction and the WHO Regional Strategic Plan for 2006-2009 provided the overall strategic framework for development of the plan as well as priorities set in the HSSP III.

EPI performance in Uganda has stagnated after showing progressive improvement of routine immunization and surveillance indicators between 2000 and 2007, when DPT3 coverage increasing from 56% in 2000 to 85% in 2007. Several investments in to the programme over the years such as GAVI, 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) has declined by 95% at sentinel sites for Hib surveillance since introduction of Hib vaccine in 2002; the number of reported neonatal tetanus cases has declined by 100% in the first 5 high-risk districts that conducted supplemental immunization activities.

However challenges in routine service delivery have resulted in decline in performance during 2007-2009. 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 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 5 years the programme will focus on the district level to improve routine immunization and surveillance performance; strengthen logistics management at all levels; introduce pneumococcal and rotavirus vaccines; 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, neonatal tetanus elimination and pre-elimination measles targets. Strategies such as RED, integration of activities (outreaches, child days, supplemental immunization activities), and advocacy for the programme using evidence-based data will be used to achieve the targets set.

The programme cost for the 5 years is US\$256,913,788. 65% of the costs are for vaccines and supplies. The programme intends to introduce new vaccines and to construct new offices and stores at the national level, conduct polio and measles supplementary immunization activities, which contributes significantly to the increased costs in from 2012 to 2013. The programme is faced with a substantial funding gap. By the 2014, the apparent funding gap is expected to be US\$ 73,615,260, which is 29% of the total resource needs, excluding shared costs for personnel and transport. This gap will reduce to US\$ 5,480,772, if funding for Pneumococcal vaccines is secured from GAVI and Government of Uganda.

1. Introduction

1.1 Country profile

Uganda is located on the equator and covers an area of 241,039 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.

Administratively, by the end of Financial Year 2007/08, Uganda was divided into 80 districts. The districts are further divided into 167 counties, 975 sub-counties, 5,356 parishes and 50,117 LC1s/villages. The village forms the smallest political-administrative unit.

According to a census carried out in September 2002, the population of Uganda was 24,748,977, with 51.0% females and 49.0% males. The annual population growth rate of 3.4% is fuelled by a high fertility rate of 6.9 births per woman. Given a Crude Birth Rate of 47.3 births per 1000 inhabitants per year, 1,237,449 births were expected in 2002¹, a figure expected to rise annually, to 1,475,512 births by 2007. The infant mortality rate is estimated at 76 per 1,000 births with variations between regions in the country². The national literacy rate is estimated to be 71% for males and 51% for females. The majority (88%) of the population lives in rural areas. However, some of the districts in north and northeast of Uganda have been affected by a prolonged period of conflict resulting in 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.

The Poverty Eradication Action Plan (PEAP) is Uganda's Comprehensive Development Framework and it has guided the formulation of government policy since its inception in 1997. Increasing the quality of life of the poor is one of the goals of the PEAP because it is acknowledged that poor health leads to poverty and poverty leads to poor health. Poor health was the most frequently mentioned cause of poverty in the first and second Uganda Participatory Poverty Assessment³. Out of the 18 indicators for monitoring of the Health Sector Strategic Plan, five indicators were selected as specific PEAP monitoring indicators, of which DPT3 coverage is one.

1.2 The National Health System

The National Health System comprises all the institutions, structures and actors whose actions have the primary purpose of achieving and sustaining good health. The boundaries of Uganda's National Health System encompass the public sector including the health services of the army, police and prisons; the private health delivery system comprising of the private-not-for-profit organizations (PNFP), private health practitioners (PHP), the traditional and complementary medicine practitioners (TCMP); and the communities.

The core functions of a national health system are:

¹ Uganda Bureau of Statistics, Uganda Population and Housing Census, September 2002

² Uganda Demographic and Health Survey, 2006

³ MoFPED. Second Uganda Participatory Poverty Assessment. Deepening the Understanding of Poverty. 2002

- i) Stewardship of the sector including policy appraisal and development; oversight of health sector activities; assuring quality, health equity and fairness in contribution towards the cost of health care; harnessing the contribution of other health-related sectors; ensuring that the sector is responsive to expectations of the population; and to be accountable for the performance of the wider health sector.
- ii) Provision of preventive, promotive, curative and rehabilitative services.
- iii) Policy and planning, monitoring and evaluation.
- iv) Mobilization of resources including human resources, health infrastructure, medicines and other health supplies, data and information, etc

The Government of Uganda, through the Ministry of Health, has the lead role and responsibility for delivering the outputs of HSSP. Various other partners have defined roles to play and contributions to make. The Ministry of Health 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.

Far reaching restructuring of the National Health System (NHS) was achieved through implementing the National Health Policy (1999) and HSSP that are within the framework of the Constitution (1995), Local Government Act (1997) and the PEAP.

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 center without an intervening regional tier.

The Health Sector Strategic and Investment Plan (HSSIP) covering the period 2010/11 – 2014/15 is being developed based on the experiences of HSSPI&II The Uganda National Minimum Health Care Package (UNMHCP) that consists of interventions that are demonstrably cost-effective and have the largest impact on reducing mortality and morbidity will be the basis of implementation of HSSIP III with immunization placed in the Maternal and Child Health Cluster.

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 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.

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. An organogram of the UNEPI structure 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 are tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus, measles, hepatitis B and *Haemophilus influenzae* type b (Hib), the last two diseases having been introduced into the programme in June 2002. Vaccination against Human Papilloma Virus (HPV) has been carried out in 2 districts targeting girls 10 – 12 years. The immunization schedule for infants is as shown in Table 1.

The programme has 3 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.

Immunization is a countrywide programme covering all districts of Uganda. Ministry of Health/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.

Figure 1: Functional organizational structure of UNEPI

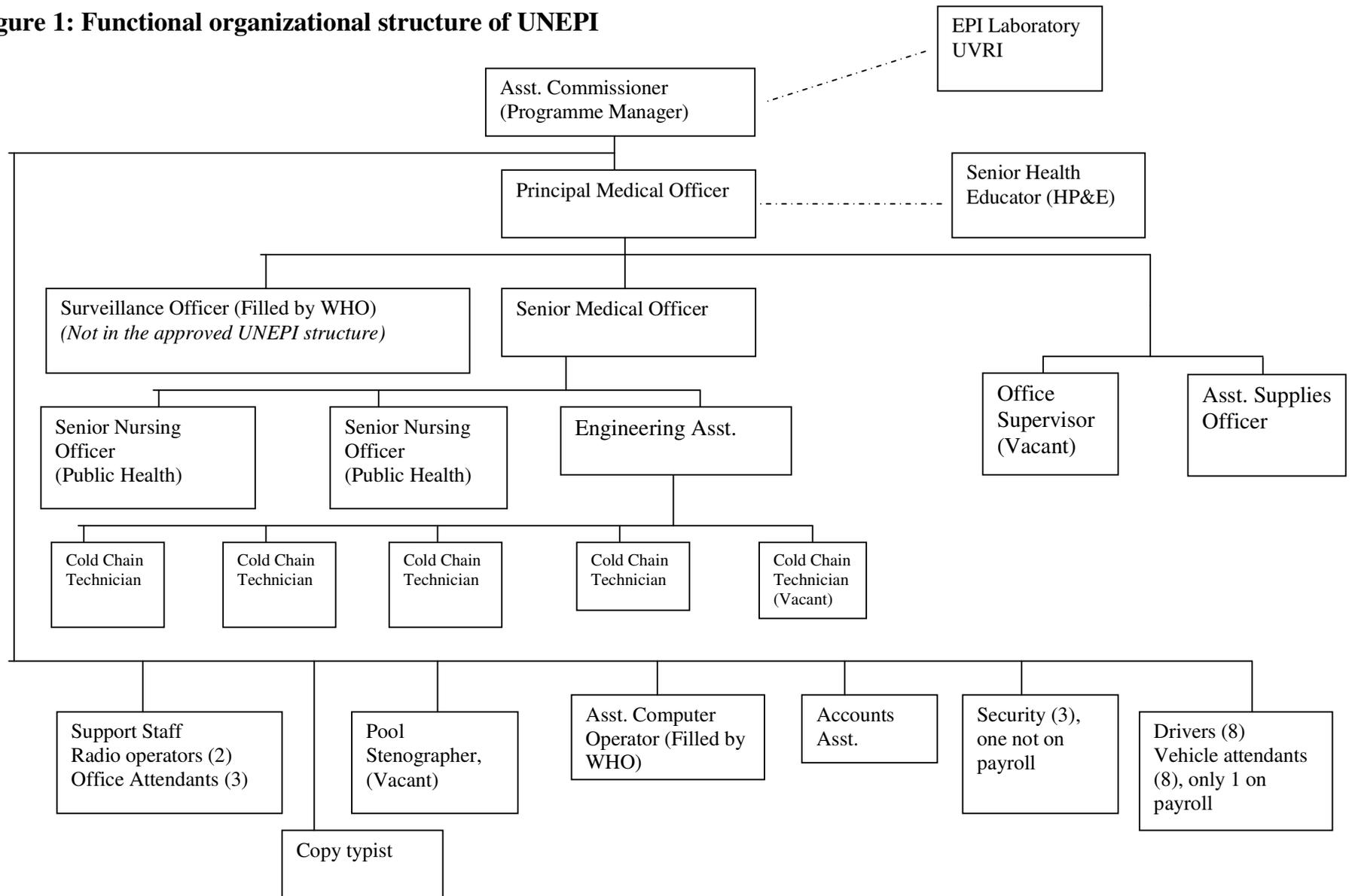


Table 1: Uganda Immunization Schedule

Vaccine/ Antigen	Dosage	Doses Required	Minimum Interval Between Doses	Minimum Age to Start	Mode of Administration	Site of Administra- tion
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- HepB+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)	Sub-cutaneously	Left Upper Arm
Tetanus Toxoid	0.5 ml	5	TT1 & TT2; 4 weeks TT2 & TT3; Six months TT3 & TT4; One year TT4 & TT5; One year	At first contact with a pregnant woman or women of child bearing age (15- 45 years)	Intra-muscularly	Upper Arm

2. Situation Analysis

Routine immunization coverage in Uganda suffered a downward trend between 1996 and 2000, with DPT 3 coverage decreasing from 72% in 1996 to 56% in 2000. Several studies were carried out to identify the causes of the decline. The studies attributed the decline to factors that included the following:

- Inadequate community awareness on the benefits of immunization coupled with circulation of rumors and misconceptions about immunization spread on local radios with some people making allegations that the vaccines contain HIV.
- Poor accessibility to immunization services
- Inadequate capacity for management and delivery of immunization services
- Poor cold chain maintenance and injection safety practices
- Inadequate logistics
- Weak community involvement and initiatives.
- The war in the north that had displaced many people and mobilization for priority interventions including immunization was very difficult.

The EPI revitalization plan was initiated in 2000 and then a strategic plan 2001 – 2005 was developed to address the weaknesses identified. The key areas addressed in the revitalization plan were;

- Ensuring availability of potent and safe vaccines and other related supplies
- Improving infrastructure
- Expansion of service delivery points
- Capacity building at all levels
- Monitoring and evaluation including giving feedback
- Strengthening management capacity
- Support supervision
- High level advocacy and social mobilization with a multi-sectoral approach
- Disease surveillance and response

EPI performance in Uganda has stagnated after showing progressive improvement of routine immunization and surveillance indicators between 2000 and 2007, when DPT3 coverage increasing from 56% in 2000 to 85% in 2007. Several investments in to the programme over the years such as GAVI, 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) has declined by 95% at sentinel sites for Hib surveillance since introduction of Hib vaccine in 2002; the number of reported neonatal tetanus cases has declined by 100% in the first 5 high-risk districts that conducted supplemental immunization activities.

However challenges in routine service delivery have resulted in decline in performance during 2007-2009. 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 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 5 years the programme will focus on the district level to improve routine immunization and surveillance performance; strengthen logistics management at all levels; introduce pneumococcal and rotavirus vaccines; 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, neonatal tetanus elimination and pre-elimination measles targets. Strategies such as RED, integration of activities (outreaches, child days, supplemental immunization activities), and advocacy for the programme using evidence-based data will be used to achieve the targets set. The targets for routine immunization are as shown in Table 2.

Table 2: Baseline and annual targets for EPI, 2008 – 2014

	2010	2011	2012	2013	2014
Total population	31,784,700	32,939,200	34,131,100	35,355,900	36,615,800
Births (4.9%)	1,541,558	1,597,551	1,655,358	1,714,761	1,775,866
Infant deaths	117,158	121,414	125,807	130,322	134,966
Surviving infants (4.5%)	1,424,400	1,476,137	1,529,551	1,584,439	1,640,900
Pregnant women (5%)	1,541,558	1,597,551	1,655,358	1,714,761	1,775,866
BCG coverage	1,320,165 86%	1,469,747 92%	1,539,483 93%	1,611,875 94%	1,687,073 95%
DPT-HepB+Hib1	1,235,829 87%	1,387,569 94%	1,453,073 95%	1,521,061 96%	1,591,673 97%
DPT-HepB+Hib3	1,134,443 80%	1,269,478 86%	1,346,005 88%	1,425,995 90%	1,509,628 92%
OPV3	1,123,779 79%	1,269,478 86%	1,346,005 88%	1,425,995 90%	1,509,628 92%
Measles	1,036,637 73%	1,180,910 80%	1,284,823 84%	1,362,618 86%	1,443,992 88%
TT2+ (Pregnant)	813,981 53%	1,038,408 65%	1,158,751 70%	1,286,071 75%	1,420,693 80%
DPT1-3 dropout	8%	9%	7%	6%	5%
PCV 1				1,521,061 96%	1,591,673 97%
PCV3				1,425,995 90%	1,509,628 92%

Tables 3 – 5 summarize the situation analysis by system components and accelerated disease control initiatives.

Table 3: Situation analysis of routine EPI by system components, Uganda, 2006-2008

Component	Suggested indicators	National		
		2006	2007	2008
Service delivery	National DPT3 coverage ⁴	80%	85%	79%
	National DPT3 coverage ⁵	64%		
	Proportion of districts with DPT3 coverage \geq 80%	34/69 (49.3%)	50/80 (62.5%)	40/80 (50%)
	National DPT1-3 dropout rate	10%	10%	11.6%
	Proportion of districts with DPT1-3 dropout rate \leq 10%	33/69 (47.8%)	39/80 (48.8%)	36/80 (45%)
	Vaccination card retention rate (12-23 months)	63% (UDHS 2006)		
Vaccine supply, quality and logistics	National stock out of vaccines reported during the last year	No	No	No
	Proportion of districts reporting stock out of the following antigens at DVS at least once a year: BCG OPV DPT-HepB+Hib Measles TT	NR	20%	60%

⁴ Source of data: MOH Health Management Information System

⁵ Source of data: Uganda Demographic and Health Survey in 2006

Component	Suggested indicators	National		
		2006	2007	2008
	Number of districts using AD syringes for immunization	All	All	All
Advocacy and communication	Availability of a communication plan at national level	Yes	Yes	Yes
Surveillance	Completeness of district reporting to national level	90%	94%	90.7%
	Timeliness of district reporting to national level	72%	76%	76%
Programme Management	Number of HPAC meetings held	12	12	12
	Percentage of total routine vaccine spending financed using government funds	100% (BCG, Measles, OPV, TT); 0% DPT-HepB +Hib vaccine	100% (BCG, Measles, OPV, TT); 7% DPT-HepB +Hib vaccine	100% (BCG, Measles, OPV, TT); 7% DPT-HepB +Hib vaccine

Table 4: Situation Analysis by Accelerated Disease Control Initiatives, Uganda, 2006-2009

Component	Suggested indicators	National		
		2006	2007	2008
	National OPV3 coverage ⁶	81%	84%	79%
	Proportion of districts with OPV3 coverage ≥ 80%	33/69 (47.8%)	50/80 (62.5%)	40/80 (50%)
	Non polio AFP rate per 100,000 children under 15 years of age	2.24	2.00	2.38
	Proportion of districts with non polio AFP rate > 1 per 100,000	51/69 (74%)	49/80 (61%)	62/80 (78%)
	Number of confirmed wild polio virus cases	0	0	0
	NIDS/ SNIDS conducted	Integrated NIDs (measles and polio)	No Campaigns	Polio SNIDs in 9 districts
Maternal and Neonatal Tetanus Elimination	TT2+ pregnant women coverage	50%	57%	50%
		76% (UDHS)		
	Number of districts reporting > 1 case per 1,000 live births	0/69 (0%)	0/80 (0%)	0/80 (0%)
	SIAs conducted	2 rounds in 5 high-risk district		2 rounds in 5 high-risk districts
Measles Control	Measles coverage ³	89%	85%	77%

⁶ Source of data: MOH Health Management Information System

Component	Suggested indicators	National		
		2006	2007	2008
	Proportion of districts with measles coverage $\geq 90\%$	26/69 38%	29/80 (36.3%)	19/80 (23.8%)
	Reported suspected measles cases (HMIS)	5,736	3,378	2,927
	Proportion of suspected measles cases with serum investigation	2,299 (40%)	1,898 (51%)	1560 (53%)
	Proportion of districts that have investigated at least 1 measles case	65/69 (94.2%)	72/80 (90%)	78/80 (98%)
	NIDS/ SNIDS conducted; Coverage attained	NIDS (integrated polio and measles): 101%	0	0

N.B. The number of districts increased from 56 in 2005 to 80 in 2007

Table 5: Strengths and weaknesses of EPI by system components, Uganda, 2009

System component	Strengths	Weaknesses
Vaccine supply and quality	<p><u>Procurement and distribution</u></p> <ul style="list-style-type: none"> - Timely forecast and procurement for vaccines and injection safety materials through UNICEF - GOU paying 100% for the BCG, OPV, Measles and TT vaccines, and injection safety materials and co-financing for DPT-HepB+Hib vaccine since 2007 - Distribution plan for monthly delivery of vaccines and other EPI logistics from center to districts available - Introduced gas tracking/monitoring mechanism <p><u>Vaccine management</u></p> <ul style="list-style-type: none"> - Main tool (Vaccine and Injection Materials Control book) for stock control available at all levels - Introduced vaccine stock management tool at the centre, which has helped to identify gaps to be addressed - VVM on all vaccines; Multi Dose Vial Policy (MDVP) introduced in 2002 and is practiced at service delivery level. - Inclusion of vaccine wastage monitoring for DPT-HepB+Hib vaccine in the revised HMIS. - Conducted vaccine management assessment in 2007, which showed availability of vaccine management tools. - Vaccine potency testing being carried out at national level 	<ul style="list-style-type: none"> - Stock control system for vaccines and other EPI logistics not fully functional at all levels. - Bundling concept not adequately practiced at district and lower levels. - High costs for clearing vaccines and injection materials. - Increased number of districts has constrained the aging transport fleet and delivery system at the national level. - Varying systems for delivery of vaccines and vaccination logistics especially at district and service delivery levels. - Occasional delays in distribution of vaccines due to delayed process of procurement of gas and disbursement of funds at national level - Inadequate cold and dry storage space and hence the programme depends on hired space for routine dry supplies and SIA supplies - Construction of UNEPI offices and stores has delayed, which may have repercussions for installation of the new cold rooms. <ul style="list-style-type: none"> - Inadequate capacity for vaccine stock management at district level and lower levels contributed by a high turnover of health workers and lack of training of health workers. - Vaccine potency testing for lower levels not being carried out. - Vaccine wastage monitoring data reported through HMIS is not utilized at district and central level. - Sentinel districts for Vaccine utilization / wastage monitoring not functional - Lack of appropriate material for packaging of vaccines for storage at peripheral level and during transportation for immunization sessions.

System component	Strengths	Weaknesses
Logistics	<p><u>Cold Chain</u></p> <ul style="list-style-type: none"> - Carried out inventory of cold chain equipment in 2007 and the data was further updated in 2009. - Procured 2 cold rooms (50 cubic meters each) for the national level as well as refrigerators and spare parts for district and lower levels through support from USAID. This has created adequate storage space for introduction of PCV at national level. - Procured 1,500 gas cylinders by the center and 328 by districts. - Existence of cold chain corrective and maintenance teams at central level and in 79/80 districts - Improvement in the frequency and regularity technical support for cold chain maintenance to the districts by the central technicians. <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. 	<ul style="list-style-type: none"> - Lack of integrated LMIS for immunization which has resulted in irregular updating of cold chain equipment. - Irregular cold chain maintenance at district level due to lack of funds and transport. - Many districts recruited new Cold Chain Assistants hence the need for continuous training. - Irregular gas supply at district and lower levels - Untapped use of hydroelectric power for electric refrigerators - Inadequate supply of spare parts especially for solar powered refrigerators. - Aging equipment of which 22% are not CFC free. - 55% of cold chain equipment needs replacement at health facility level due to age, malfunction, inadequate storage capacity and change from gas energy to electricity; - Storage capacity at national level is not adequate for introduction of rotavirus vaccines that are bulkier. <ul style="list-style-type: none"> - 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.
Service delivery	<ul style="list-style-type: none"> - Good access to immunization services as evidenced by BCG coverage of 86% and DPT1 coverage of 89%. - Reduction in morbidity due to VPDs e.g. measles reduced by 93% and Hib meningitis reduced by 99%. 	<ul style="list-style-type: none"> - 50% of districts attained DPT3 coverage less than 80% in 2008. - High Dropout Rates (DOR) in many districts – 44% of the districts had DOR of > 10% in 2008 - Immunization delegated to non-skilled health workers at service

System component	Strengths	Weaknesses
	<ul style="list-style-type: none"> - Integration of EPI with other Child survival strategies e.g. Vit A supplementation, deworming, growth monitoring through child days. - Vaccination of girls aged 10 – 12 years with HPV vaccine carried out in 2 districts using the school-based and Child Days Plus strategy with overall coverage above 80%. 	<ul style="list-style-type: none"> - delivery level - Minimal involvement of the private sector and community in planning and implementation of services especially outreaches. - Poor utilization of data for decision making at point of collection - Catchment area for some h/facilities not clearly defined. - Irregular functioning of outreaches due to lack of transport and delayed payment of allowances.
Advocacy and communication	<ul style="list-style-type: none"> - The impact of immunization on the decline of VPDs had led to increase in community demand and confidence in immunization services. - Involvement of high level political and cultural leaders. - Assigned personnel for communication at central and district levels - Village Health Teams being used to mobilize for outreaches in some districts. - Availability of media houses (local FM radios) in almost all the districts that are used for dissemination of health messages including immunization. 	<ul style="list-style-type: none"> - Inadequate interpersonal communication (IPC) skills among health workers - Lack of IEC materials for routine immunization - Some of the existing IEC materials are not in local languages - Inadequate audio-visual equipment including film vans - Most districts do not have EPI communication included in their district work plans. - Misconceptions about EPI still exist in some communities. - VHTs have not been scaled up in all districts. In addition, there is inadequate motivation of VHTs.
Surveillance	<ul style="list-style-type: none"> - Surveillance for vaccine preventable diseases is being implemented within the Integrated Disease Surveillance (IDSR) framework. - System for establishing burden of disease for vaccines planned for introduction is ongoing (pneumococcal and rotavirus surveillance) - Declared free of indigenous circulating wild polio virus by the ARCC in October 2006 - Functional National polio Certification Committee (NCC), National Polio Expert Committee (NPEC) and National Polio Laboratory Containment Task Force (NTF) - Standard OPD registers available in 98% of health facilities - Case definition guidelines for MOH priority diseases have been developed 	<ul style="list-style-type: none"> - Active surveillance for EPI target diseases is not adequate. - High disease burden for Invasive Pneumococcal Disease (IPD) and diarrheal diseases due to severe rotavirus in Uganda from sentinel sites, with growing resistance of S. pneumonia to commonly used antibiotics. - Private sector not involved in surveillance activities. - Community based surveillance system is weak - High costs of transportation of specimens to the laboratory in Entebbe. - Irregular supply of data collection tools (Tally sheets, Child health Cards, Summary sheets) causing stock out at health facility and district level. - Lack of updating of the central data base of the late HMIS reports from districts.

System component	Strengths	Weaknesses
	<ul style="list-style-type: none"> - Introduced child registers at every health facility for tracking drop outs and coverage verification. - External review of surveillance system carried out 	<ul style="list-style-type: none"> - Monitoring of AEFIs is inadequate. - Child registers are not being used to track drop outs. - Data Quality Audits and self assessment not being done regularly
Programme management	<p><u>Policy, planning and management</u></p> <ul style="list-style-type: none"> - Presence of EPI standards and guidelines at all levels - Structures for partner coordination are in place: HPAC, Technical Working Groups, with strong collaboration between UNEPI and the partners. - Regular EPI technical meetings at national level - Integrated bottom up planning within the districts - Strong managerial skills at the district level in majority of the districts <p><u>Supervision</u></p> <ul style="list-style-type: none"> - Integrated supervision plan and checklist at national and district level - Regional supervision operational in 8 regions - Feedback provided to the districts on a regular basis - Technical assistance provided by partners for specific areas. <p><u>Operational Research</u></p> <ul style="list-style-type: none"> - On-going research to support new vaccine introduction and other operational issues. 	<ul style="list-style-type: none"> - The current policy does not address the upcoming new vaccines and technologies - EPI documents not widely circulated to lower levels. - Adhoc activities disrupt planned activities at national and district level. - Inadequate coordination of partners at district level. - Lack of routine review meetings at district & lower levels <ul style="list-style-type: none"> - Irregular technical support supervision especially from center to districts, from district to HSDs and from HSD to health facilities. - Lack of transport to carry out support supervision especially at district level. <ul style="list-style-type: none"> - Minimal Operational research being done
Strengthening human and institutional resources	<ul style="list-style-type: none"> - The structure of the Ministry of Health is being reviewed and this could provide an opportunity for more personnel at UNEPI. - 3 Posts of Central Cold Chain Technicians filled. - Human Resource structure/ staffing norms at all levels available with skilled manpower at the implementation level (HSD). - 20 trainers for MLM trained and MLM modules adapted with support from UITP. There is plan to train 450 in the next 4 years. - OPL training manuals available and OPL training carried out in 	<ul style="list-style-type: none"> - The existing structure of EPI at national level is too constricted to cope with the increasing number of districts and desired activities - Staffing norms not attained at national, district and health facility levels - Surveillance and Logistics Officer posts filled by partners (not in UNEPI structure) - More emphasis on on-job training versus pre-service training - Insufficient and outdated EPI content in the pre-service training

System component	Strengths	Weaknesses
	selected districts.	curriculum.
Sustainable financing	<ul style="list-style-type: none"> - A budget line for UNEPI operations was re-established (FY2007/08) - GOU is co-financing the costs of the DPT-HepB+Hib vaccine and will co-finance the Pneumococcal and rotavirus vaccine. - Funds available at district level for implementation of EPI activities through the Primary Health Care (PHC) conditional grant 	<ul style="list-style-type: none"> - GOU contribution to the programme routine operational costs is inadequate. - Few partners supporting EPI at national level. - The PHC funds to the districts have remained stagnant since 2004/05 and is not adequate for routine EPI operational costs at district and health facility levels - Delays in disbursement of PHC funds to the districts resulting in delays in implementation - Currently the districts have minimal local revenue and they are not contributing much financially to immunization.
Accelerated Disease Control	<p><u>Polio Eradication</u></p> <ul style="list-style-type: none"> - Polio importation and preparedness plan available. - Preventive and outbreak response activities successfully implemented in 2008 and 2009. <p><u>Maternal and Neonatal Tetanus Elimination</u></p> <ul style="list-style-type: none"> - Gradual increase in TT2+ coverage among pregnant women - Phased implementation of TT SIAs targeting women 13-49 years has been implemented in 25 high-risk districts in 4 phases since 2002 <p><u>Measles Control</u></p> <ul style="list-style-type: none"> - Measles control efforts resulted in >90% reduction in measles morbidity and mortality, This resulted in confidence building among the community in the EPI programme - Case based measles surveillance has been well established. - Measles campaign 2009 	<ul style="list-style-type: none"> - After 13 years of polio-free status, a WPV outbreak was confirmed in 2 districts following importation from South Sudan. - Decline in national OPV3 coverage in 2008 with 50% (40/80) of the districts at OPV3 coverage less than 80%. - A number of districts have a non-polio AFP rate below 2/100,000; - Six districts did not report any AFP case in 2008. - National TT2+ coverage among pregnant women still below 80%. - Some few districts where TT campaigns were implemented did not attain the 80% TT3 coverage required. - TT card retention is still poor among WCBA - There was a decline in routine measles coverage in 2008. 76.2% (61/80) of districts have routine measles coverage of < 90%. - Only 53% of the reported suspected measles cases had serum investigation carried out in 2008

3. Programme Objectives and Milestones, Uganda Multi Year Plan, 2010-2014

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p>Service delivery</p> <p>1. 50% of districts have not attained 80% DPT-HepB+Hib3 coverage</p> <p>2. 44% of districts have high dropout rates (>10%)</p>	<p>- To achieve at least 80% coverage for all routine childhood antigens (using DPT-HepB+Hib3 as a measure) in 80 % of districts by 2014</p> <p>- To achieve at least 90% of districts with a dropout rate of less than 10% by 2014</p>	<p>2010:</p> <p>- National DPT3/OPV3 coverage at 80%; 58% districts above 80% coverage;</p> <p>2011:</p> <p>- National DPT3/OPV3 coverage at 86%; 62% districts above 80% coverage;</p> <p>2012:</p> <p>- National DPT3/OPV3 coverage at 88%; 68% districts above 80% coverage;</p> <p>2013:</p> <p>- National DPT3/OPV3 coverage at 90% ; 74% districts above 80% coverage;</p> <p>2014:</p> <p>- National DPT3/OPV3 coverage at 92%; 80% districts above 80% coverage;</p> <p>2010: 56% districts with DOR <10%</p> <p>2011: 70% districts with DOR</p>	<p>By 2010 or sooner, all countries will have routine immunization coverage at 90% nationally with at least 80% coverage in every district (GIVS 2005)</p> <p>By 2009, at least 80% of countries will attain at least 80% DPT3 coverage in all districts (AFRO)</p> <p>Reduce child mortality by two-thirds between 1990 and 2015 (MDG4)</p> <p>By 2009, at least 80% of countries will attain a minimum of 80% TT2+ coverage among women of child bearing age</p>	<p>1</p> <p>2</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
3. 10% of districts have TT2+ coverage among pregnant women of 80% and above	- To achieve at least 50% of districts with 80% TT 2+coverage for pregnant women by 2014	<p><10% 2012: 80% districts with DOR <10% 2013: 90% districts with DOR <10% 2014: 90% districts with DOR <10%</p> <p>2010: 11% of districts with 80% TT2+ coverage and above; 2011: 26% of districts with 80% TT2+ coverage and above; ; 2012: 34% of districts with 80% TT2+ coverage and above; ; 2013: 42% of districts with 80% TT2+ coverage and above; ; 2014: 50% of districts with 80% TT2+ coverage and above; ;</p>		<p>2</p> <p>2</p>
Logistics 1. Lack of integrated LMIS for immunization	- To establish a logistics management information system (LMIS) at all levels by	<p>2010: Establish LMIS at national level 2011: Establish the LMIS in</p>		2

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p>2. Inadequate transport for supplies and vaccine delivery, monitoring and supportive supervision at all levels.</p>	<p>2014</p>	<p>25% of the district vaccine stores. 2012: Establish the LMIS in 50% of the DVS. 2013: Establish the LMIS in 75% of the DVS. 2014: Establish the LMIS in 100% of the DVS.</p>		
	<ul style="list-style-type: none"> - To strengthen the transport system for logistics and field monitoring of EPI services by 2012 - Effective and efficient storage and distribution system for EPI vaccines and logistics 	<p>2010– 2012: Procure and maintain 6 field vehicles, 9 trucks, 68 district multi-purpose vehicles, 584 motorcycles and 10,000 bicycles in line with expanding administrative levels and the transport replacement plan</p> <p>2010-2014: Storage and distribution strategy adapted and implemented</p>		<p>2</p> <p>2</p>
<p>3. Inadequate waste management at health facility level</p>	<ul style="list-style-type: none"> - To attain 100% safe disposal of open and closed unusable vaccine vials. 	<p>2010-2014: Attain and maintain 100% safe disposal</p>	<p>By 2009, all countries will adopt and implement</p>	

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
		of open and closed unusable vaccine vials.	technologies for safe disposal and destruction of injection materials and other sharps	3
<p><u>Vaccine supply and quality</u></p> <p>1. 60% of districts reported stock outs of at least one vaccine during 2008.</p> <p>2. Vaccine stock control system not fully functional at operational level</p>	<ul style="list-style-type: none"> - To achieve zero stock out of all vaccines at district level by 2010 - To develop and implement a cost effective cold chain energy utilization source by 2014 - To achieve 100% of districts monitoring vaccine stocks and utilization monthly by 2014 	<p>2010: 0% of districts reporting vaccine stock out; 2011: Implementation of recommendations from the review on energy utilization in place</p> <p>2010: 20% of districts adequately monitoring vaccine stocks and utilization 2011: 40% of districts adequately monitoring vaccine stocks and utilization 2012: 60% of districts adequately monitoring vaccine stocks and utilization 2013: 80% of districts adequately monitoring vaccine stocks and utilization 2014: 100% of districts adequately monitoring vaccine stocks and utilization</p>	<p>By 2007, all countries will adopt the multi dose vial policy</p>	<p>1</p> <p>2</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p>3. 30% gap in the national storage capacity</p> <p>4. 55% of cold chain equipment is old and needs replacement</p> <p>5. Inadequate storage capacity to accommodate introduction of new vaccines at district and peripheral levels</p>	<ul style="list-style-type: none"> - To attain 100% storage capacity at national level by 2012 - To procure and replace all cold chain equipment (more than 10 years) by 2010 - To expand the district and peripheral storage capacity required to introduce pneumococcal and rotavirus vaccines into the routine EPI program by 2010 and 2013 respectively 	<p>2010: Install 2 cold rooms of 40 cubic meters each; 2011: Procure and install 2 additional cold rooms of 120 cubic meters for new vaccines and 1 freezer room of 60cubic meters</p> <p>2010: 100% of districts with adequate vaccine storage capacity and functional cold chain equipment 2013: 100% of districts with adequate vaccine storage capacity and functional cold chain equipment</p>		<p>1</p> <p>1</p>
<p><u>Advocacy and communication</u></p> <p>1. Inadequate IPC skills among health workers</p>	<ul style="list-style-type: none"> ▪ To achieve at least 100% of districts with health workers who are trained in IPC by 2014. 	<p>2010: Health workers in 20% of districts trained in IPC and disseminate the 5 key messages on EPI during immunization sessions;</p>		<p>2</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
2. Low community participation in planning for EPI services	<ul style="list-style-type: none"> ▪ To sensitize village health teams (VHTs) on EPI in 50% of districts by 2014 	<p>2011: Health workers in 40% of districts trained in IPC and disseminate the 5 key messages on EPI during immunization sessions;</p> <p>2012: Health workers in 60% of districts trained in IPC and disseminate the 5 key messages on EPI during immunization sessions;</p> <p>2013: Health workers in 80% of districts trained in IPC and disseminate the 5 key messages on EPI during immunization sessions;</p> <p>2014: Health workers in 100% of districts trained in IPC and disseminate the 5 key messages on EPI during immunization sessions;</p> <p>2010: VHTs sensitized in 10% of districts</p> <p>2011: VHTs sensitized in 20% of districts</p> <p>2012: VHTs sensitized in 30% of districts</p> <p>2013: VHTs sensitized in 40% of districts</p> <p>2014: VHTs sensitized in 50% of districts</p>		3

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
3. Lack of IEC materials for routine immunization	To develop and disseminate immunization messages to all districts using electronic and print media by 2014	2010: Immunization messages reviewed and produced; 2014: 100% districts with electronic and printed messages on immunization.		
<p>Surveillance</p> <p>1. 22% of districts did not achieve the target non polio AFP rate</p> <p>2. Only 53% of reported measles cases are investigated for laboratory confirmation</p> <p>3. Only 45% of reported suspected NNT cases are investigated</p>	To attain and maintain WHO standard quality performance indicators for targeted Vaccine Preventable Diseases (VPDs) in 80% of districts/sentinel sites by 2014	<p>2010: 80% of districts with non-polio AFP rate of 2/100,0000 ; 50% of suspected measles cases serum investigated; 55% of reported NNT cases investigated;</p> <p>2011: 90% of districts with non-polio AFP rate of 2/100,0000 ; 60% of suspected measles cases serum investigated; 65% of reported NNT cases investigated;</p> <p>2012: 100% of districts with non-polio AFP rate of 2/100,0000 ; 70% of suspected measles cases serum investigated; 70% of</p>	<p>By 2007, all countries will achieve at least 2 cases of AFP notification per 100,000</p> <p>By 2009, all countries will have established case based surveillance for neonatal tetanus</p>	1

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p>4. Incomplete compilation of HMIS data and updating at district and national level</p> <p>5. Only 2 districts reported AEFIs in 2008</p>	<ul style="list-style-type: none"> ▪ To participate in annual HMIS data quality audits ▪ To integrate AEFI surveillance with pharmacovigilance 	<p>reported NNT cases investigated;</p> <p>2013; 75% of suspected measles cases serum investigated; 75% of reported NNT cases investigated;</p> <p>2014; 80% suspected measles cases serum investigated; - 80% of reported NNT cases investigated</p> <p>2010-2014: Data quality self assessment conducted each year</p> <p>2010: 50% of districts reporting at least 1 AEFI, including zero reporting 2011: 60% of districts reporting on AEFI, including zero reporting 2012: 70% of districts reporting on AEFI, including zero reporting 2013: 80% of districts reporting on AEFI, including zero reporting 2014: 100% of districts reporting on AEFI, including zero reporting</p>	<p>By 2009, all countries will report cases of AEFI from all districts</p>	<p>2</p> <p>3</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p><u>Programme Management</u></p> <p>A) Policy, Planning and Management</p> <p>1. Current policy does not address the upcoming new vaccine and technologies</p> <p>2. Inadequate infrastructure at central level</p> <p>B) Monitoring and supervision</p> <p>1. Irregular technical support supervision at all levels</p> <p>C) Operational research</p> <p>1. Inadequate operational research</p> <p>2. Capacity for research at district level not adequate</p>	<ul style="list-style-type: none"> ▪ To update and disseminate the EPI policy by 2010 ▪ To provide office and storage space closer to the MoH for easier communication by 2014 ▪ To conduct supportive supervision at district level on a quarterly basis and provide feedback on coverage, dropout rates and vaccine wastage ▪ To strengthen operational research capacity at national and district levels, and promote use of research findings 	<p>2010: Policy finalized and presented to TWG; Policy presented to Senior Mgt, HPAC and Top Mgt; printed and disseminated;</p> <p>2012: Construction of central offices completed</p> <p>2010-2014: 4 quarterly visits per year conducted; Feedback to districts provided quarterly; Biannual review meetings (post supervision) on performance</p> <p>2010-2014: All regional hospitals implementing EPI/IDSR support supervision strategy</p> <p>2010:</p> <ul style="list-style-type: none"> - Develop operational research plan involving national and district levels 		<p>1</p> <p>2</p> <p>1</p> <p>3</p>
<p>Uganda EPI Multiyear Plan, 2010 – 2014</p>	<p>26</p>	<p>2010-2014:</p>		

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p><u>Strengthening human and institutional resources</u></p> <ol style="list-style-type: none"> 1. Outdated EPI component in the pre-service curriculum 2. MLM and OPL training inadequate 3. Absence of Logistics manager and Surveillance officer posts in GOU structure 	<ul style="list-style-type: none"> ▪ To build capacity for pre and in-service health workers at national and district levels by 2014 ▪ To advocate for establishment of key EPI positions within the MOH structure at national and district levels 	<p>2010: MLM training carried out in 20% of districts; OPL training carried out in 20% of the districts 2011: MLM training carried out in 40% of districts; OPL training carried out in 40% of the districts 2012: MLM training carried out in 60% of districts; OPL training carried out in 60% of the districts 2013: MLM training carried out in 80% of districts; OPL training carried out in 80% of the districts 2014: MLM training carried out in 100% of districts; OPL training carried out in 100% of the districts</p> <p>2010: Dialogue with MOH on establishment of key positions initiated</p>		<p style="text-align: center;">2</p> <p style="text-align: center;">2</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p><u>Sustainable Financing</u></p> <ol style="list-style-type: none"> 1. Inadequate GOU allocation for UNEPI operational costs 2. Few partners supporting EPI 	<ul style="list-style-type: none"> ▪ To increase GOU allocation for UNEPI operational costs ▪ Explore alternative sources for EPI funding 	<p>2010-2014: Increase and sustain GOU budget support for operations from 1.49 bn to 3bn Ushs; Sustain GOU funding for procurement of traditional vaccines (V.I.I); Sustain GOU contribution to DPT-HepB+Hib vaccine 2010: Advocate and obtain GOU contribution towards pneumococcal vaccines 2012: Advocate and obtain GOU contribution towards rotavirus vaccines</p>	<p>By 2009, countries will be contributing at least 30% of annual vaccines purchase costs</p>	<p style="text-align: center;">1</p>
<p><u>Introduction of new vaccines and technologies</u></p> <p>High disease burden due to: - Invasive Pneumococcal Disease (IPD) - Severe diarrhea disease due to rotavirus. - High direct Medical cost of Pneumococcal and Rota Virus diseases</p>	<ul style="list-style-type: none"> ▪ To introduce pneumococcal vaccine into the routine immunization schedule by 2010 	<p>2013: To reach 90% of the surviving children having received PCV 3 2014:To reach 92% of the surviving children having received PCV 3</p> <p>2010: Programmatic evaluation of HPV vaccination 2014: Develop implementation plan for</p>	<p>By 2009, 50% of countries will report trends in hepatocellular carcinoma based on cancer registries</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
	<ul style="list-style-type: none"> ▪ To introduce rotavirus vaccine into the routine immunization programme by 2013 ▪ To support vaccination of wider age groups and new target populations as the need arises and resources become available 	introduction of the HPV vaccine		3
Accelerated disease control activities <ul style="list-style-type: none"> • Decline in national OPV3 coverage in 2008 with 50% (40/80) of the 	<ul style="list-style-type: none"> ▪ To achieve and sustain polio eradication status by 2010 ▪ To attain and sustain MNT elimination status by 2014 	2010: - OPV3 coverage at 80% nationally with 58% of districts above 80% - 80% districts with AFP	By 2006 there will be no case of paralytic polio caused by circulating polio virus in the region	1

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
<p>districts at OPV3 coverage < 80%</p> <ul style="list-style-type: none"> A number of districts have a non-polio AFP rate below 2/100,000 	<ul style="list-style-type: none"> To attain MNT elimination status by 2010 To achieve near zero measles morbidity and mortality by 2014 	<p>certification level indicators.</p> <ul style="list-style-type: none"> Updated inventory of laboratories with polio virus and other potentially infectious materials <p>2011: OPV3 coverage at 84% nationally with 62% of districts above 80%; 90% districts with AFP certification level indicators</p> <p>2012: OPV3 coverage at 86% nationally with 68% of districts above 80%; 100% districts with AFP certification level indicators</p> <p>2013: OPV3 coverage at 88% nationally with 74% of districts above 80%;</p> <p>2014: OPV3 coverage at 90% nationally with 80% of districts above 80%;</p> <p>2010: Achieve NNT rate of < 1 per 1,000 live births in every district; Certification status of NNT elimination achieved</p> <p>2010: achieve 35% of districts above 90% routine measles coverage</p>	<p>By 2009, the process of independent certification of polio-free status will lead to full regional certification</p> <p>By 2009, at least 80% of countries will achieve NNT incidence rate of less than 1 case per 1,000 live births in all districts</p> <p>By 2010 or earlier, mortality due to measles will have been reduced by</p>	<p>1</p> <p>1</p>

Description of problem or national priority	Programme objective	Targets and Milestones	Regional and global goals	Order of priority (By objective)
		<p>2011: 50% of districts above 90% routine measles coverage</p> <p>2012: 60% of districts above 90% routine measles coverage Conduct under-5 measles follow up campaign nationally;</p> <p>2013: 70% of districts above 90% routine measles coverage</p> <p>2014:80% of districts above 90% routine measles coverage</p>	<p>90% compared to the 2000 level (GIVS)</p> <p>By 2009, countries with high routine measles coverage (> 75%) and presumed low mortality will eliminate indigenous transmission of measles virus</p>	

4. Strategies, Key Activities and Timeline, Uganda Multi Year Plan, 2010-2014

Programme objective	Strategy	Strategic activities	Time line				
			2010	2011	2012	2013	2014
<p>Service Delivery</p> <p>- To achieve at least 80% coverage for all routine childhood antigens (using DPT-HepB+Hib3 as a measure) in 80 % of districts by 2014</p>	<p>Infant vaccination</p> <ul style="list-style-type: none"> • Build capacity at district level to implement RED/ REC strategies • Strengthen delivery of outreaches with emphasis on integrated outreaches • Private sector involvement • Accelerated Routine Immunization Activities (ARIAs) • Drop out monitoring 	<ul style="list-style-type: none"> - Integrated micro planning with the district, HSD and community levels including mapping of service areas per health facility including the private sector using the RED strategy - Identify hard to reach areas and make special arrangement to reach the populations - Audit performance of outreaches - Quarterly performance review (national, district) - Conduct sensitization/ training and planning for routine immunization for the private practitioners - Monitoring and evaluating private sector involvement in EPI - Conduct accelerated routine / catch up immunization activities using Child Days, SIAs & other opportunities in all districts - Provide child registers to every health facility for registration and follow up of defaulter target children 	X	X	X	X	X
<p>- To achieve at least 90% of districts with a dropout rate of less than 10% by 2014</p>			X	X	X	X	X

Programme objective	Strategy	Strategic activities	Time line				
			2010	2011	2012	2013	2014
<ul style="list-style-type: none"> - To achieve 90% card retention by 2014 - To achieve at least 50% of districts with 80% TT 2+coverage for pregnant women by 2014 	<ul style="list-style-type: none"> • Reduce missed opportunities for immunization • Availability of Immunization cards • Mainstream TT vaccination during ANC 	<ul style="list-style-type: none"> - Daily immunization at static units with screening for immunization status at OPD - Public sensitization on the importance of card retention using print and electronic media - Collaborate with Ministry of Education to institute a policy on screening for immunization status at school entry 	X	X	X	X	X
		<ul style="list-style-type: none"> - Work with RH to review strategies for immunizing women during ANC attendance 	X				
Logistics							
<ul style="list-style-type: none"> - To establish a Logistics Management Information System (LMIS) at all levels by 2014 - To strengthen the transport system for logistics and field monitoring of EPI services by 2012 	<ul style="list-style-type: none"> - Establish an effective and efficient logistics management information system. - To expand and maintain an efficient transport fleet for EPI operations at national and district level 	<ul style="list-style-type: none"> - Design, implement and maintain LMIS at all levels - Update the cold chain equipment inventory annually 	X	X	X	X	X
		<ul style="list-style-type: none"> - Procure 6 vaccine trucks(2 national, 4 regional) 3 field vehicles; 1 multipurpose vehicle per district (68); 300 motorcycles; 5,000 bicycles - Procure 3 vaccine trucks; 3 field vehicles; 284 motorcycles; 5,000 bicycles 	X		X		

Programme objective	Strategy	Strategic activities	Time line				
			2010	2011	2012	2013	2014
<ul style="list-style-type: none"> - To establish an effective and efficient storage and distribution system for EPI vaccines and logistics - To attain 100% safe disposal of open and closed unusable vaccine vials 	<ul style="list-style-type: none"> - Develop and implement a new strategy for storage and distribution of vaccines and supplies from national level to districts and within districts. - Collaborate with MOH infrastructure division, and partners to ensure adequate disposal of open and closed unusable vaccine vials 	<ul style="list-style-type: none"> Explore bi-monthly distribution plan and establishing of regional stores - Conduct review on the cost effective methods for disposal of open and closed unusable vaccine vials - Implement use of the cost effective methods for disposal of open and closed unusable vaccine vials 	X				
<u>Vaccine Supply and Quality</u>							
<ul style="list-style-type: none"> - To achieve zero stock out of all vaccines at district level by 2010 - To adopt a cost effective energy source for cold chain equipment by 2014 	<ul style="list-style-type: none"> • Bulk purchase of gas for refrigerators • Enhance efficient utilization of gas <ul style="list-style-type: none"> ▪ Regular replacement, repair and maintenance of old and non functional equipment • Progressively increase alternative sources of energy (electricity and solar) 	<ul style="list-style-type: none"> - Procure 4,000 empty gas cylinders - Strengthen the established gas tracking system - Institute alternative and quicker means of payment to gas suppliers - Procure cold chain equipment, spare parts and workshop consumables - Support central and district teams to carry out routine and timely maintenance and repair of equipment - Conduct studies on the cost effective energy sources for EPI cold chain - Implement use of the cost effective cold chain energy source 	X	X	X	X	X
			X	X	X	X	X
			X				
			X	X	X	X	X
			X	X	X	X	X
			X		X	X	X

Programme objective	Strategy	Strategic activities	Time line					
			2010	2011	2012	2013	2014	
<ul style="list-style-type: none"> - To achieve 100% of districts monitoring vaccine stocks and utilization monthly by 2014 - To attain 100% storage capacity at national level by 2012 - To expand the district and peripheral storage capacity required to introduce pneumococcal and rotavirus vaccines into the routine EPI program by 2010 and 2013 respectively 	<ul style="list-style-type: none"> - Capacity building at all levels for vaccine management 	<ul style="list-style-type: none"> - Timely procurement and storage vaccines and vaccination logistics for routine immunization 	X					
		<ul style="list-style-type: none"> - Training and follow up on vaccine management at all levels 		X	X	X	X	
		<ul style="list-style-type: none"> - Computerize the vaccine and supplies distribution system from central level to districts and within districts 		X	X	X	X	
	<ul style="list-style-type: none"> - Increase cold and dry storage capacity at national level 	<ul style="list-style-type: none"> - Construct new offices and stores at central level - Install 2 cold rooms of 50 cubic meters each at central level - Procure and install 2 additional cold rooms of 120 cubic meters for new vaccines and 1 freezer room of 50cubic meters 		X				
				X				
				X	X	X		
	<ul style="list-style-type: none"> - Increase cold storage capacity at district and peripheral levels 	<ul style="list-style-type: none"> - Determine the district needs/ gaps - Procure and install additional cold chain equipment 		X	X	X	X	
				X	X	X	X	
	<u>Advocacy and Communication</u>							
	<ul style="list-style-type: none"> ▪ To achieve 100% of districts 	<ul style="list-style-type: none"> • Capacity building for 	<ul style="list-style-type: none"> - Training of health workers in IPC 	X	X	X	X	X

Programme objective	Strategy	Strategic activities	Time line					
			2010	2011	2012	2013	2014	
with health workers who are trained in IPC by 2014.	communication for EPI							
	<ul style="list-style-type: none"> • Institutionalize health worker - community dialogue • Communication for behavior change 	- Sensitization of Community Development Assistants, religious, cultural and civil societies in EPI	X	X	X	X	X	
		- Focused mobilization for urban populations	X	X	X	X	X	
	<ul style="list-style-type: none"> • Provide tools for monitoring communication 	- Monitoring of communication activities at all levels and providing feedback	X	X	X	X	X	
	<ul style="list-style-type: none"> • Widen the base for social mobilization for EPI 	- Conduct advocacy meetings with service organizations like Lions club, Rotary clubs, Parliamentarians, Local Leaders	X	X	X	X	X	
	<ul style="list-style-type: none"> • Building partnerships with the media for EPI activities 	- Orientation/sensitization of broadcasters, reporters and managers	X		X		X	
	<ul style="list-style-type: none"> • Enhance school involvement in EPI activities • Private sector involvement 	- Develop guidelines on EPI for essay competition and drama in schools	X					
	<ul style="list-style-type: none"> ▪ To sensitize village health teams (VHTs) on EPI in 50% of districts by 2014 	- Sensitization of VHTs	X	X	X	X	X	
	<ul style="list-style-type: none"> ▪ To review, produce and disseminate immunization IEC materials to all districts by 2013 	- Development of communication materials and messages	X		X		X	
		- Production and dissemination of communication materials including radios/telecommunication companies (CFD communication for development)	X	X	X	X		

Programme objective	Strategy	Strategic activities	Time line				
			2010	2011	2012	2013	2014
<u>Surveillance</u>							
<ul style="list-style-type: none"> ▪ To attain and maintain WHO standard quality performance indicators for targeted Vaccine Preventable Diseases (VPDs) in 80% of districts/sentinel sites by 2014 ▪ To participate in annual HMIS data quality audits ▪ To integrate AEFI surveillance with pharmacovigilance 	<ul style="list-style-type: none"> • Provide focused support to districts to achieve/maintain AFP certification level indicators. • Capacity building for surveillance of EPI target diseases within the IDSR framework • Expansion of the community surveillance system • Capacity building in immunization Data Quality Self Assessment (DQSA) • Strengthen collaboration with the National Drug Authority 	- Technical and financial support for surveillance activities in all districts.	X	X	X	X	X
		- Training and follow up of training institutions in disease surveillance.	X	X	X	X	X
		- Implementation of recommendations of the study of Private sector involvement in disease surveillance.	X	X	X	X	X
		- Capacity building of VHT members in events-based reporting of priority diseases and conditions in low AFP detection districts	X	X	X	X	X
		- Training and follow up of DQSA	X	X	X	X	X
		- Conduct national EPI coverage survey	X	X	X	X	X
- Computerization of monitoring of AEFIs at national and regional referral hospitals (vigiflow system)	X	X	X	X	X		
<u>Programme Management</u>							
<ul style="list-style-type: none"> ▪ To update and disseminate the EPI policy by 2010 	<ul style="list-style-type: none"> • Avail the EPI policy to all service points 	- Update, print and disseminate the EPI policy to all service points	X				

Programme objective	Strategy	Strategic activities	Time line				
			2010	2011	2012	2013	2014
<ul style="list-style-type: none"> ▪ To conduct supportive supervision at district level on a quarterly basis and provide feedback on coverage, dropout rates and vaccine wastage ▪ To strengthen operational research capacity at national and district levels, and promote use of research findings 	<ul style="list-style-type: none"> • Use evidence-based decision making to improve programme performance • Expand regional supervision strategy to the whole country • Identify critical programme areas that require research 	- Monitor district performance and provide feedback	X	X	X	X	X
		- Quarterly technical support supervision to every district using the whole site strategy and exchange visits	X	X	X	X	X
		- Initiate regional supervision and monitoring where non existent	X	X			
		- Development of research protocols by national and district personnel	X	X	X	X	X
		- Resource mobilization for research	X	X	X	X	X
		- Conduct operational research and disseminate findings	X	X	X	X	X
<u>Strengthening human and institutional resources</u>							
<ul style="list-style-type: none"> ▪ To build capacity for pre and in-service health workers at national and district levels by 2014 ▪ To advocate for establishment of key EPI positions within the MOH structure at national and levels 	<ul style="list-style-type: none"> • Equip pre- and in-service health workers and mid-level managers with knowledge, skills and competencies in EPI service delivery. Dialogue with the relevant key stakeholders at MOH and Ministry of public Service 	- Work with the Ministry of Education to update the pre-service health-training curriculum.	X				
		- Training health tutors in EPI.	X	X	X	X	X
		- Conduct EPI MLM and OPL training.	X	X	X	X	X
		- Develop terms of reference and hold discussions with relevant stakeholders for key unfilled positions at national level	X	X			
<u>Sustainable Financing</u>							
	<ul style="list-style-type: none"> • Make an investment case to 	- Conduct a cost-benefit and cost	X				

Programme objective	Strategy	Strategic activities	Time line					
			2010	2011	2012	2013	2014	
		introduction of the HPV vaccine						X
<u>Accelerated Disease Control</u>								
<ul style="list-style-type: none"> ▪ To achieve and sustain polio eradication status by 2010 ▪ To attain and sustain MNT elimination status by 2012 ▪ To achieve near zero measles morbidity and mortality by 2014 	<ul style="list-style-type: none"> • Achieve and maintain high routine immunization coverage for OPV3 • Conduct supplemental immunization activities • Strengthen disease surveillance for AFP • Strengthen involvement of the Polio committees 	<ul style="list-style-type: none"> - Implement preventive and response nationwide polio campaigns - Conduct regular risk assessments - Reviewing and updating the national polio preparedness plan - Support NCC, NPEC and NTF - Support to the laboratory to maintain accreditation 	X	X	X	X	X	
			X	X	X	X	X	
			X	X	X	X	X	
			X	X	X	X	X	
			X	X	X	X	X	
	<ul style="list-style-type: none"> • Evaluate progress towards MNT elimination • Scale up Involvement of other Stakeholders in MNTE e.g. Reproductive Health, Ministry of Education, School Health 	<ul style="list-style-type: none"> - Conduct NNT risk assessment/ data validation - LQA for MNT elimination - Implement TT campaigns in high risk districts. - Scale up TT vaccination in schools to sustain elimination 	X	X	X	X	X	
			X		X			
				X	X	X	X	
	<ul style="list-style-type: none"> ▪ Achieve high routine measles immunization coverage ▪ Provide a 2nd opportunity for measles vaccination ▪ Strengthen case based surveillance performance indicators 	<ul style="list-style-type: none"> - Review and update the Measles Control Plan - Conduct integrated measles follow up SIAs - Capacity building for measles case based surveillance at all levels 	X		X			
			X					
X			X	X	X	X		

5. Costing And Financing, Uganda Multi Year Plan, 2010-2014

5.1 Macro economic background

Uganda has experienced strong economic growth averaging 6.5% per annum since 1991/92. Inflation fell from 150% per annum in 1985/86 to an annual average of 4.8% over the past decade. However the percentage of the population living below the poverty line, which had been on the decline from 52% in 1992/93 to 44% in 1997/98 and to 35% in 2000, has risen slightly to 38% in 2003⁷. With the rising population, the total number of people living in poverty has increased.

The Health Sector Strategic 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 WHO tool for costing of multiyear plans⁸. 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

⁷ Poverty Eradication Action Plan 2001-2003 and Uganda National Household Survey 2003.

⁸ Comprehensive Multi-Year Planning (cMYP) Costing and Financing Tool (Version 2.2 – February 2009).

- 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
- 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 campaigns) in the baseline year of the plan (2008), as in the previous years, were vaccines (new and underused vaccines) 65% and personnel (14%).

Figure 2: Baseline cost profile (routine immunization) Uganda, 2008

Baseline Cost Profile (Routine Only)*

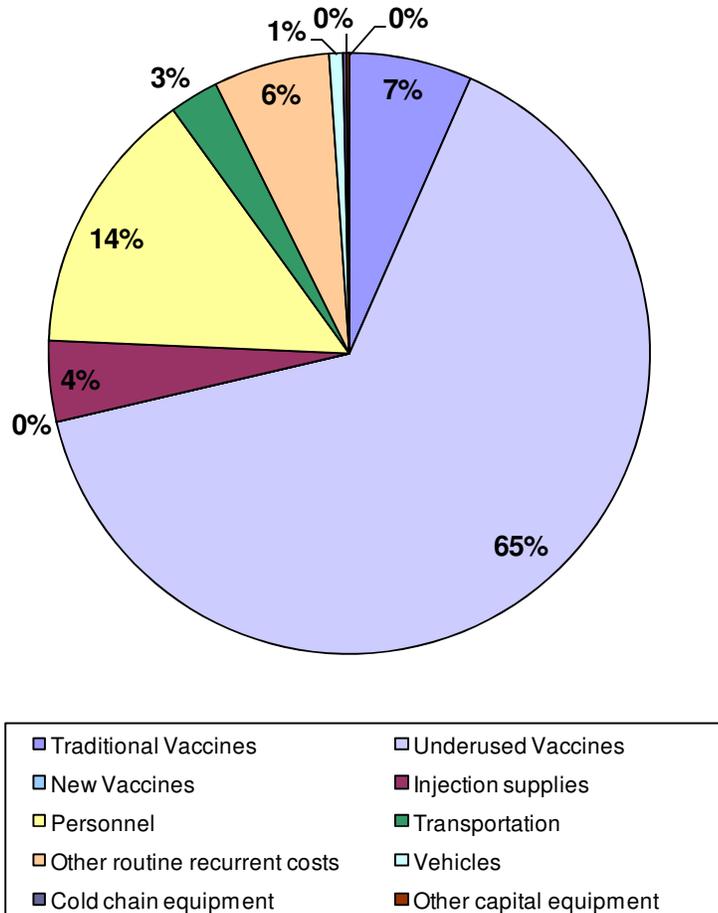


Figure 3 shows the projection of future resource requirements for the next five years, which are further summarized in tables 5 and 6. The total budget for the programme ranges from **USD 21,782,379** in 2010 to **USD 78,061,549** in 2014.

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

- The costs for vaccines - DPT-Hep B+Hib (already introduced in the programme), pneumococcal vaccines to be introduced in 2013.
- Construction of new EPI offices and cold rooms in 2010 to 2013.
- Activities planned in preparation for introduction of the new vaccines starting in 2010 to 2013 that include cold chain expansion, training, social mobilization, monitoring and evaluation.
- The planned integrated supplemental immunization activities for polio in 2010 and 2011; and measles in 2012.

Figure 3: Projection of Future Resource Requirements

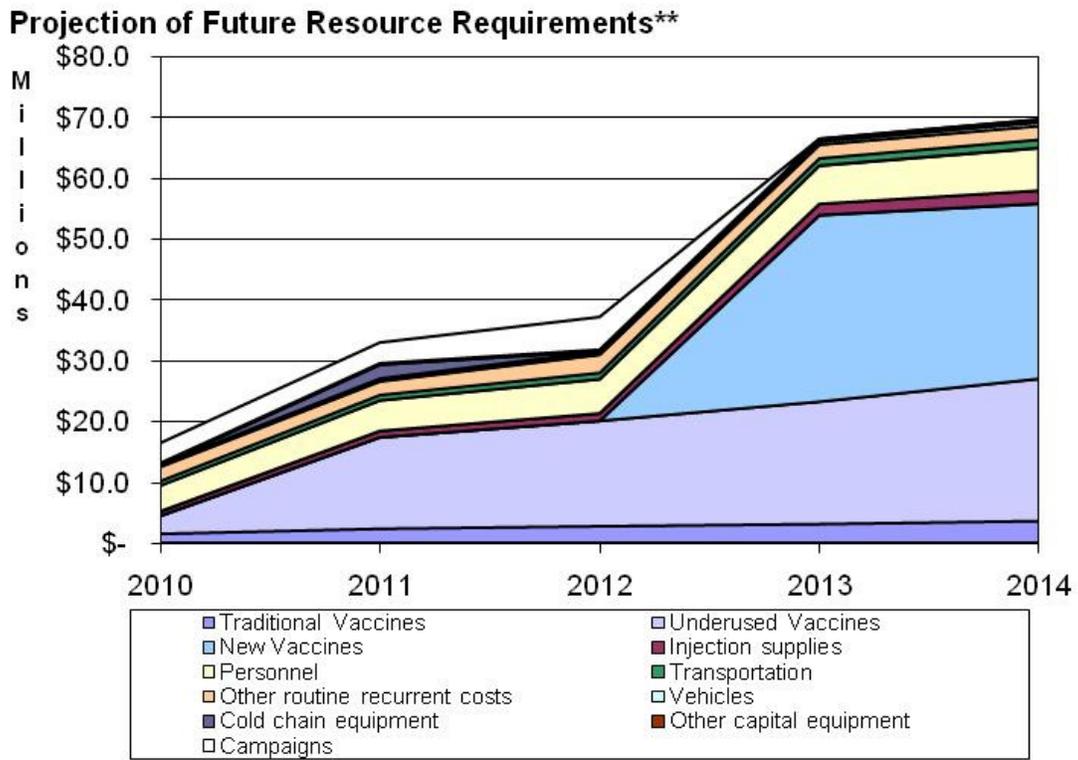


Table 7: Multiyear plan costing for Uganda by Program Components, 2010 – 2014

		Costs	Future Cost Projections					
cMYP Component		2008	2010	2011	2012	2013	2014	Total 2010-2014
		US\$	US\$	US\$	US\$	US\$	US\$	US\$
	Vaccine Supply and Logistics	\$18,800,871	\$5,910,905	\$22,029,426	\$22,764,117	\$57,331,302	\$59,604,505	\$167,640,255
	Service Delivery	\$4,136,803	\$5,075,958	\$6,003,741	\$6,765,214	\$7,550,457	\$8,419,058	\$33,814,428
	Advocacy and Communication	\$155,690	\$377,110	\$161,980	\$392,346	\$168,524	\$171,894	\$1,271,854
	Monitoring and Disease Surveillance	\$762,985	\$836,276	\$840,932	\$870,061	\$863,919	\$881,198	\$4,292,386
	Programme Management	\$496,948	\$943,608	\$508,489	\$989,380	\$537,006	\$543,521	\$3,522,004
	Supplemental Immunization Activities	\$1,235,261	\$3,282,530	\$3,421,741	\$5,377,309			\$12,081,580
	Shared Health Systems Costs	\$4,255,714	\$5,355,993	\$6,031,226	\$6,856,295	\$7,606,393	\$8,441,373	\$34,291,280
GRAND TOTAL		\$29,844,272	\$21,782,379	\$38,997,536	\$44,014,721	\$74,057,602	\$78,061,549	\$256,913,788

5.3 Financing of the EPI Multi year plan 2010 - 2014

The sources of financing of the program include government (central and sub-national) budget and donors. Donor agencies that have supported the program include UNICEF, WHO and USAID. The majority of funding during the baseline year (2008) was from GAVI (64%) for the DPT-HepB+Hib vaccine (Figure 4). 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 4: Baseline Financing Profile (Routine Only)

Baseline Financing Profile (Routine Only)*

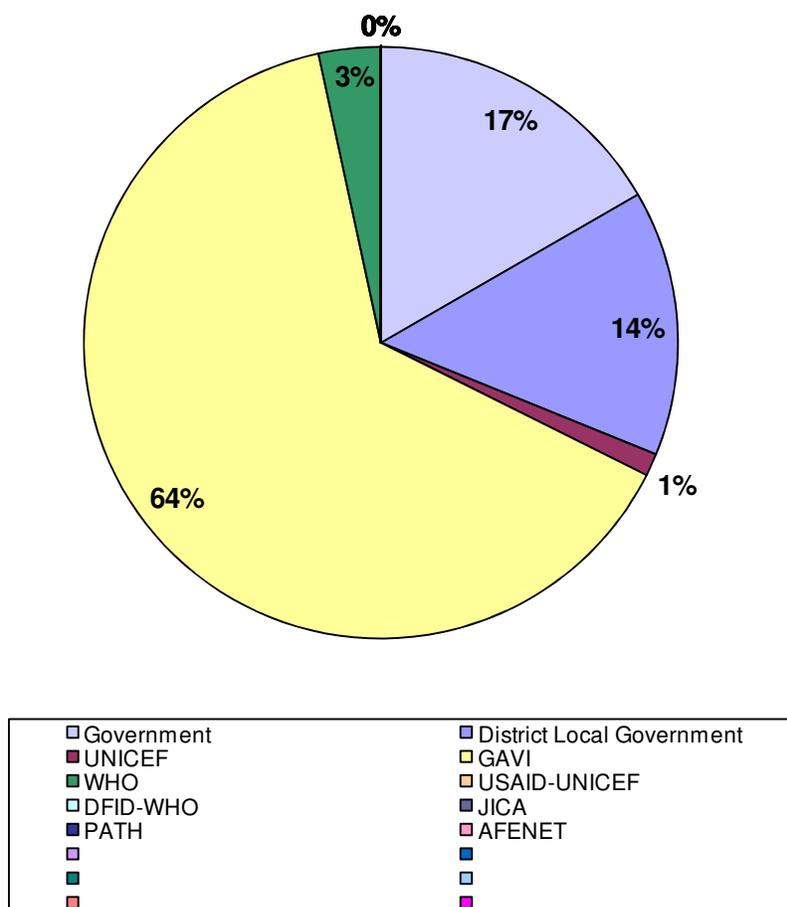
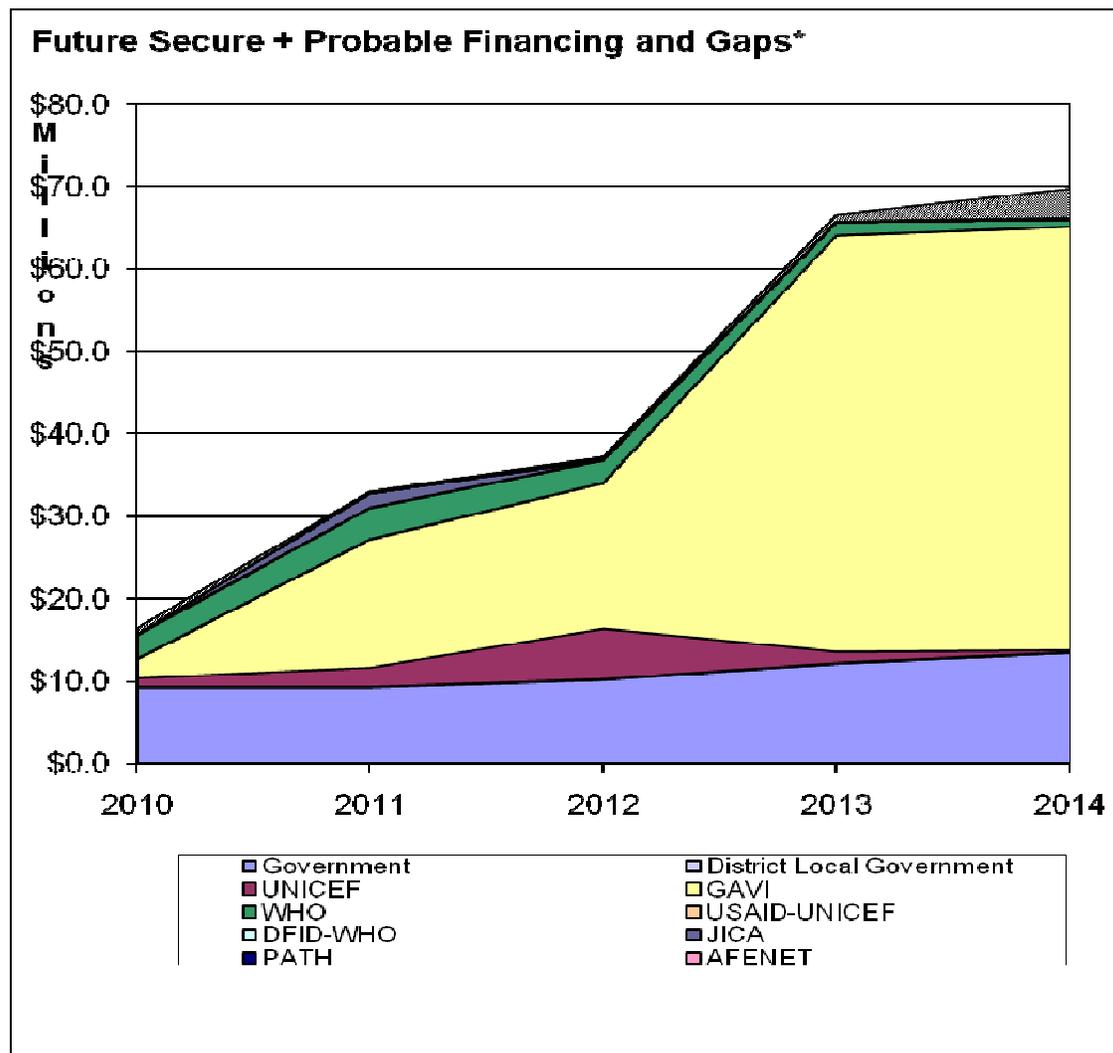


Figure 5: Future Secure + Probable Financing and Gaps



Of the USD 222,622,508 required for the programme from 2010-2014 (excluding shared costs), 67% is classified as secure funding, 31% as probable funding and 2% as unsecured funds. Considering only the secured funds, there is a significant increase in the funding gap from 2011 to 2014 ranging from 11 – 52%. The funding gap is largely for the new vaccines and injection materials, and for supplemental immunization activities in 2012 - 2014 for both the secure and probable funding (Tables 7-9).

Table 8: Resource requirements, Financing and Financial Gaps, EPI Multiyear Plan 2010-2014⁹

Resource Requirements, Financing and Gaps*	2010	2011	2012	2013	2014	Avg. 2010 - 2014
Total Resource Requirements	\$16,426,386	\$32,966,310	\$37,158,427	\$66,451,209	\$69,620,176	\$222,622,508
Total Resource Requirements (Routine only)	\$13,143,856	\$29,544,569	\$31,781,117	\$66,451,209	\$69,620,176	\$210,540,928
per capita	\$0.4	\$0.9	\$0.9	\$1.9	\$1.9	\$1.2
per DTP targeted child	\$11.5	\$23.3	\$23.6	\$46.6	\$46.1	\$31.5
Total Secured Financing	\$15,298,741	\$32,755,042	\$33,211,237	\$31,750,812	\$35,991,417	\$149,007,249
Government	\$8,808,923	\$9,176,023	\$9,951,877	\$10,685,645	\$12,199,667	\$50,822,135
District Local Government						
UNICEF	\$1,118,445	\$2,428,850	\$4,493,747			\$8,041,042
GAVI	\$2,299,366	\$15,519,014	\$17,675,049	\$21,065,167	\$23,670,934	\$80,229,530
WHO	\$2,915,985	\$3,813,563	\$883,562			\$7,613,110
USAID-UNICEF	\$25,000					\$25,000
DFID-WHO						
JICA	\$43,787	\$1,817,592				\$1,861,379
PATH						
AFENET	\$87,235		\$207,002		\$120,816	\$415,053
Funding Gap (with secured funds only)	\$1,127,645	\$211,268	\$3,947,190	\$34,700,397	\$33,628,759	\$73,615,260
% of Total Needs	7%	1%	11%	52%	48%	33%
Total Probable Financing	\$377,110		\$3,735,920	\$33,889,811	\$30,131,647	\$68,134,488
Government	\$377,110		\$170,595	\$1,399,598	\$1,231,627	\$3,178,930
District Local Government						
UNICEF			\$1,701,518	\$1,456,538	\$327,037	\$3,485,093
GAVI				\$29,409,365	\$27,702,984	\$57,112,349
WHO			\$1,863,807	\$1,624,310	\$869,999	\$4,358,116
USAID-UNICEF						
DFID-WHO						
JICA						
PATH						
AFENET						
Funding Gap (with secured & probable funds)	\$750,535	\$211,268	\$211,270	\$810,586	\$3,497,112	\$5,480,772
% of Total Needs	5%	1%	1%	1%	5%	2%

⁹ Immunization specific resource requirements, financing and gaps. Shared costs not included.

Table 9: Composition of funding gap (Immunization Specific Only)

Composition of the funding gap	2010	2011	2012	2013	2014	Avg. 2010 - 2014
Vaccines and injection equipment				\$30,597,694	\$28,723,342	\$59,321,036
Personnel	\$0		\$1,595,891	\$1,543,182	\$2,607,156	\$5,746,227
Transport		\$0		\$0	\$0	\$0
Activities and other recurrent costs	\$674,948	\$211,270	\$2,180,704	\$1,748,936	\$1,408,305	\$6,224,163
Logistics (Vehicles, cold chain and other equipment)	\$452,698		\$170,595	\$810,585	\$889,956	\$2,323,834
Campaigns			\$0			
Total Funding Gap*	\$1,127,645	\$211,268	\$3,947,190	\$34,700,397	\$33,628,759	\$73,615,260

* 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. The mobilization of resources from GAVI for health systems strengthening, USAID and JICA for cold chain rehabilitation during 2008, has contributed to reduction of the funding gap for logistics, cold chain and transport.

Once the application for new vaccine support is approved by GAVI then funding for pneumococcal vaccines both from GOU and GAVI will change from being probable to secured. GAVI will be procuring the new vaccines (pneumococcal) and Government will start co-financing the new vaccines in 2012. The amounts to co-finance for both DPT-HepB + Hib and Pneumococcal vaccines are as shown in Table 10.

Table 10: Government Co-Financing for New and Under used vaccines

Government Co-Financing Amounts							
GAVI supported Vaccines	Vaccine	Classification	2010	2011	2012	2013	2014
			\$	\$	\$	\$	\$
1	DTP-HepB+Hib	Underused	\$0		\$867,474	\$1,024,347	\$1,071,812
2	Pneumococcal	New	\$0			\$1,198,000	\$1,014,000
	Total		\$0		\$867,474	\$2,222,347	\$2,085,812

* Source APR 2010 and NV Application proposal 2011

5.4 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.

5.4.1 *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 campaigns 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 campaigns 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.

5.4.2 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.

5.4.3 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.

6.0 UNEPI WORKPLAN 2010

No.	Activity description	Time Frame	Budget (USD)	Proposed source of funding				
				GOU	UNICEF	WHO	GAVI	Other
1.0	Service Delivery							
1.1	Integrated micro planning with the district, HSD and community levels including mapping of service areas per health facility including the private sector using the RED strategy	Jan - July	150,000		30,000	20,000	100,000	
1.12	Support districts to conduct accelerated routine / catch up immunization activities using Child Days, SIAs & other opportunities in all districts	Apr - May, Oct – Nov	200,000				200,000	
1.3	Provide child registers to every health facility for registration and follow up of defaulter target children	Feb - Mar	100,000	30,000	50,000		30,000	
2.0	Logistics							
2.1	Update the cold chain equipment inventory	Jan - Feb	62,000		62,000			
2.2	Procure 6 vaccine trucks(2 national, 4 regional) 3 field vehicles; 1 multipurpose vehicle per district (68); 300 motorcycles; 5,000 bicycles	May	1,507,200				1,507,200	
3.0	Vaccine Supply and Quality							
3.1	Procurement and storage vaccines and injection safety materials for routine immunization	Jan - Dec	21,306,564	4,728,622			16,577,942	
3.2	Monthly delivery of vaccines and other EPI logistics to districts	Jan - Dec	180,000	180,000				
3.3	Refill gas cylinders for fridges	Jan - Dec	420,000	420,000				
3.4	Procure cold chain equipment, spare parts and workshop consumables	Apr - June	3,000,000					3,000,000
3.5	Support central and district teams to carry out routine and timely maintenance and repair of equipment	Jan - Dec	90,000	30,000				60,000
3.6	Conduct studies on the cost effective energy sources for EPI cold chain	Aug - Sept	21,000					21,000
3.7	Construct new offices and stores at central level	Jan - Dec	3,632,641				3,632,641	

3.8	Install 2 cold rooms of 50 cubic meters each at central level	Sept	30,000					30,000
3.9	Procure 2 additional cold rooms of 120 cubic meters for new vaccines and 1 freezer room of 50cubic meters	July - Dec	100,000				100,000	
4.0	Advocacy and Communication							
4.1	Focused mobilization for urban populations	Apr - Sept	52,000		52,000			
4.2	Monitoring of communication activities at all levels and providing feedback	Jan - Dec	65,000	20,000	30,000	15,000		
4.3	Conduct advocacy meetings with service organizations like Lions club, Rotary clubs, Parliamentarians, Local Leaders	Sept	12,000			12,000		
4.4	Orientation/sensitization of broadcasters, reporters and managers	Sept	8,000		8,000			
4.5	Development of communication materials and messages	Mar	20,000	20,000				
4.6	Production and dissemination of communication materials including radios/telecommunication companies (CFD communication for development)	Apr - May	150,000		150,000			
5.0	Surveillance							
5.1	Technical and financial support for surveillance activities in all districts.	Jan - Dec	670,000	20,000		65,000		
5.2	Training and follow up of DQSA	July - Sept	74,000			74,000		
5.3	Conduct national EPI coverage survey	Oct - Dec	195,000		195,000			
5.4	Computerization of monitoring of AEFIs at national and regional referral hospitals (vigiflow system)	Nov - Dec	45,000					45,000
6.0	Programme Management							
6.1	Update, print and disseminate the EPI policy to all service points	Jan - Mar	25,000		25,000			
6.2	Quarterly technical support supervision to every district using the whole site strategy and exchange	Jan- Dec	240,000	100,000	50,000			90,000

	visits							
7.0	Strengthening human and institutional resources							
7.1	Training health tutors in EPI.	Jan - Dec	3,000	3,000				
7.2	Conduct EPI MLM training in 10 districts	Jan - Dec	42,500					42,500
7.3	Conduct EPI MLM OPL training in 20 districts	Jan - Dec	32,000					32,000
8.0	Sustainable Financing							
8.1	Use evidence-based advocacy for resource mobilization from government and partners at national and district levels.	Jan - Dec						
8.2	Explore and secure GOU commitment to contribute to funding of new vaccines.	Jan - Dec						
9.0	Introduction of New Vaccines							
9.1	Implement PCV vaccine introduction plan	Jan - Dec	819,400	42,500	224,000	86,500	466,400	
9.2	Programmatic evaluation of HPV vaccination	Oct - Dec						
10.0	Accelerated Disease Control							
10.1	Implement preventive and response nationwide polio campaigns	April, May, June	4,389,918	526,315	1,889,673	1,973,930		
10.2	Support NCC, NPEC and NTF	Jan - Dec	91,000			91,000		
10.3	Support to the laboratory to maintain accreditation	Jan - Dec	135,000			135,000		
10.4	Conduct NNT risk assessment/ data validation	May - June	25,000		25,000			
10.5	LQA for MNT elimination	Sept - Oct	125,000		125,000			
10.6	Support case based surveillance for measles and AFP	Jan - Dec	132,000	12,000		120,000		
	TOTAL		38,150,223	6,132,437	2,915,673	2,592,430	22,614,183	3,320,500

