DEMOCRATIC REPUBLIC OF SAO TOME AND PRINCIPE
MINISTRY OF HEALTH
DIRECTORATE OF HEALTH CARE
EXPANDED PROGRAM ON IMMUNIZATION

COMPREHENSIVE MULTI-YEAR PLAN
2016 – 2020

January 2016

Contents

LIST OF ABBREVIATIONS USED

STP:	Sao Tome and Principe
RED:	Reach Every District
IL AIME:	Exclusive breastfeeding
APM:	Association for Preventive Medicine
ODA:	Official Development Assistance
ARIVA:	Support for strengthening the immunization initiative in Africa
ARV:	Anti Retroviral
BCG:	Bacillus Calmette-Guerin (Antituberculosis Vaccine)
WB:	World Bank
SB:	Safety Box
ICC:	Inter-agency Coordination Committee
CC:	Cold Chain
DOT:	Direct Observed Treatment
HD:	Health District
DDH:	Department for District Health
VT:	Vaccination teams
DSSP:	Directorate of Primary Health Care
DTP3:	Diphtheria, tetanus and pertussis vaccine (3rd dose)
FIC:	Fully immunized child
GAVI:	Global Alliance of Vaccination and Immunization
GIVS :	Global Immunization and Vision Strategy
Hep B:	Hepatitis B
Hib:	Haemophilus influenza type B
BI:	Bamako Initiative
IEC:	Information Education Communication
HDI:	Human Development Index
NID:	National Immunization Day
AEFI:	Adverse Events Following Injection
MICS:	Multiple Indicator Cluster Survey
ITN:	Insecticide-treated nets
MLM:	Mid-level management (intermediate level courses for EPI managers)
MDGs:	Millennium Development Goals
WHO:	World Health Organization
NGO:	Non-Governmental Organization
IMCI:	Integrated Management of Childhood Illnesses
EPI:	Expanded Program on Immunization
FP:	Family Planning
AFP:	Acute flaccid paralysis
GDP:	Gross Domestic Product
LDCS:	The least developed countries
UNDP:	United Nations Development Program
NHDP:	National Health Plan
HIPC:	Heavily Indebted Poor Countries
PTMC:	Prevention of Transmission from Mother to Child
FVP:	Financial sustainability plan
ADS:	Auto-disable syringe
DS:	Dilution Syringe
NDIEC:	National Department of Information, Education and Communication

HIV/AIDS:	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
EOC:	Emergency obstetric care
RH:	Reproductive Health
NSPR:	National Strategy for Poverty Reduction
PHC:	Primary Health Care
MNT:	Maternal and neonatal tetanus / neonatal tetanus
UNICEF:	United Nations Children's Fund
UNFPA	United Nations Fund for Population Activities
YFV:	Yellow fever vaccine
MCV:	Measles containing vaccine
TTV2+:	Anti tetanus vaccine (2nd dose and more)
OPV3:	Polio vaccine (3rd dose)
DHE:	District Head of Epidemiology
US$:	USD

PREFACE

With an estimated population of 189,819 inhabitants in 2015, and a gross domestic product per capita of US$ 1456 (2015, INE) the authorities of Sao Tome and Principe are involved in the growing fight against poverty among their people. They give priority to initiatives that promote the survival of children and women as well as measures to improve the living conditions of populations and thus ensure sustainable development with the goal of achieving the Millennium Development Goals (MDG)

The high level of infant mortality, 30.2 per thousand live newborns, infant and child mortality of 34/1000 live infants and maternal mortality of 70/100,000 live newborns (GCPH 2012), are one of the country's leader's major concerns and has been taken into consideration in the fight against poverty in the PRSD 2002 - 2015.

Faced with these challenges, priority is given to strengthening the access to health services and the quality of basic health care services. This would stimulate community involvement in management and in making decisions favorable to improving the health condition of the people. Immunization represents an essential service and the introduction of new vaccines: the one against pneumococcal infections in 2012; the one against rotavirus infections in 2016, and the one against cervical cancer, rubella, and measles in 2016, contribute noticeably to achieving the MDGs.
Also, to increase the spectrum of protection of vaccine-preventable diseases and increase the immunity of children, the country also plans to introduce the PCV-13 in 2012 and the second dose of measles vaccine in routine EPI in 2013.
Another challenge the country is facing it to maintain very high vaccination coverage for all antigens and improve the level of coverage of fully-immunized children to prevent the spreading of wild poliovirus and outbreaks of yellow fever and measles.

Responsibility for the Inter-Agency Coordinating Committee (ICC) will be through the mobilization of resources, and analysis and approval of plans for monitoring and evaluating the implementation of the cMYP.

The current cMYP will cover the next 5 years (2016-2020) and will target children from 0 - 11 months and pregnant women for routine activities, whilst larger targets will be considered for supplementary immunization and immunity-strengthening activities.

Government support for EPI will come from the state budget allocated to the Ministry of Health, approved annually by the National Assembly. The budget in question supports personnel costs, operations, overall investment in the public health sector and the purchase of vaccines and immunization supplies.

The State Budget allocated to health in the past five years is approximately US$ 13 million with an implementation rate of 88%. It is important to note that in the years 2012 and 2013, the implementation rate was 100%, with a proposed budget of US$ 10 million and US$ 16 million respectively.

The EPI expenses are mostly provided with financial, material, and logistical resources from partners in the health sector (UNICEF, GAVI, WHO, Institute VALE FLORES, etc.) Nevertheless, the favorable context in which the country finds itself and the Government's commitment to increase spending on the health sector, which increased from US$ 544,357 in 2010 to US$ 647,113 in 2015, a 20% increase, represent very positive factors for the Ministry of Health to take an active part in achieving the objectives of this multi-year plan under the new vaccination strategies (GIVS); the Global Vaccine Action Plan 2011-2020 (GVAP) and the Regional Strategic Plan for Immunization 2014-2020.

Prepared at Sao Tome on
The Minister of Health

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Dr. Maria de Jesus Trovoada dos Santos

SUMMARY

The Government of Sao Tome and Principe, aware of its responsibilities towards women and children, and following the agreements signed with the international community as part of its commitment to reaching the Millennium Development Goals (MDG), in order to reduce poverty and promote economic growth and social development, adopts the comprehensive Multi-Year Plan (cMYP) 2016-2020 of the EPI, to mobilize resources for the implementation of immunization activities and other packages of services essential to the survival and development of children.
This comprehensive multi-year plan for 2016 - 2020 for EPI Sao Tome and Principe is structured as follows:

1. Introduction
2. General information about the country
3. The organization of the national health system
4. The situation analysis of EPI
5. Strengths, weaknesses, opportunities and threats
6. National priorities
7. The vision of the cMYP
8. Strategies
9. The schedule of activities
10. Analysis of costs and financing of the program
11. The mechanism of monitoring and evaluation of CMYP
12. The Plan of Action for 2016

Analysis of the situation is presented according to the basic components of the immunization system; the five operational components are (i) Provision of services (ii) The integrated epidemiological surveillance of the disease; (iii) Logistics; (iv) Vaccine supply and quality; (v) Communication and the three supporting components: (i) management; (ii) capacity building and (iii) financing the general cMYP objective for 2016-2020 is to contribute to reducing morbidity and mortality related to diseases preventable by vaccination. National targets are presented in stages.

Table No. I: National goals and milestones of the cMYP 2016- 2020

	Vaccination coverage objectives				
Vaccine type	**2016**	**2017**	**2018**	**2019**	**2020**
Routine immunization	(%)	(%)	(%)	(%)	%
Traditional vaccines					
BCG	99%	99%	99%	99%	99%
TT- Pregnant women	95%	95%	95%	95%	95%
Measles	95%	95%	95%	95%	95%
Polio (OPV3)	98%	98%	98%	98%	98%
Measles 2nd dose	80%	82%	85%	90%	90%
Underused vaccines	_				
Yellow fever	95%	95%	95%	95%	95%
DTP-HepB-Hib (3)	98%	98%	98%	98%	98%
New Vaccines					
PCV-13	98%	98%	98%	98%	98%

ROTAVIRUS (1)	98%	98%	98%	98%	98%
IPV	98%	98%			
HPV	70%	70%			

Note: The introduction of the new vaccine may cause a slight decrease in immunization coverage. Despite this, efforts will be made to maintain coverage of at least 98%.

1. INTRODUCTION

The progress of a nation is measured by its ability to prevent events that could negatively affect the quality of life for its population. Vaccination is one of the most economically efficient and accessible medical interventions available to humans. In other words, vaccination offers the best cost-benefit relationship universally known in reducing morbidity and mortality. Vaccinating a child living in conditions of poverty and misery protects him from the pathogens that prey on young children.

The Government of Sao Tome and Principe, aware of its responsibilities towards women and children, and following the agreements signed with the international community for the eradication/ elimination and control of diseases preventable by vaccination, has decided to make the greatest effort to strengthen the Expanded Program on Immunization (EPI) and develop a plan for the period from 2016 - 2020.

This plan takes into account strategies for maintaining very high vaccination coverage for all antigens and improving the level of coverage of children fully vaccinated to prevent the introduction of wild poliovirus and outbreaks of yellow fever and measles.

This plan was created with a view to respond to the new approaches contained in the Global Vaccine Action Plan 2011-2020 (GVAP) and the Regional Strategic Plan for Immunization 2014-2020 on improving the quality of immunization and more specifically, to respond to the challenge of introducing new vaccines, especially: pneumococcal vaccine in 2012, second dose of measles vaccine in 2013, IPV and rotavirus vaccine in 2016, as well as the progressive inclusion of new global vaccination strategies included in the challenges taken into account in this plan.

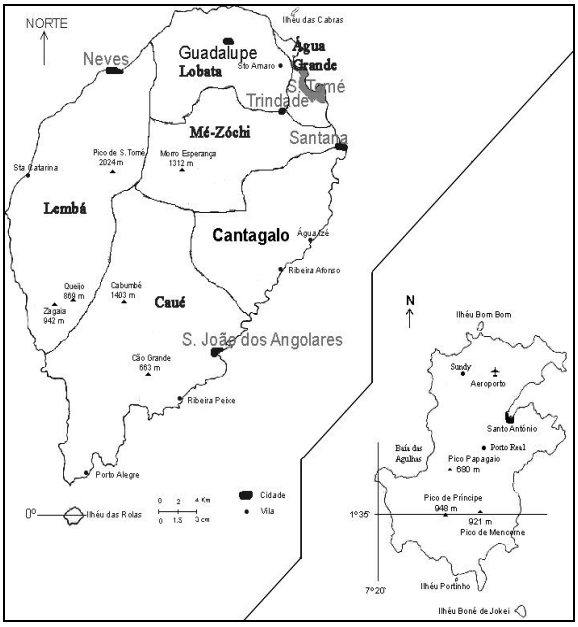
The main objective of this plan is to maintain immunization coverage and improve wastage rates in order to improve children's health and well-being. It includes the global initiative to eradicate poliomyelitis, the goals of eliminating maternal and neonatal tetanus (NMR) and the control / elimination of measles. Thus another objective is to take measures so that the funding of traditional vaccines and supplies is insured and guaranteed by the Government, in agreement with the commitments assumed under the project ARIVA and the guidelines set by the Global Alliance for Vaccines and Immunization (GAVI).

2. OVERVIEW OF COUNTRY

2.1 Geographic Overview

Sao Tome and Principe (STP) is an archipelago formed by two islands and their adjacent islets, located in the Gulf of Guinea, about 350 km to the west coast of Africa. The archipelago covers an area of 1001 km^2: The island of S. Tome has a surface area of 859 km^2 and the island of Principe, 142 km^2**.**

Figure 1; Geographic Map



The islands lie between the latitudes 1° 45 ' to the north and 0° 25' to the south and meridians 6° 26’ to the east and 7º 30' to the west. They are all volcanic islands with rugged terrain, whose highest points are "Pico de Sao Tome" (2,024 m), on Sao Tome and "Pico do Prince" (948m) on the island of Principe. These factors do not negatively influence the implementation of immunization activities.

The climate is tropical humid, characterized by the existence of two seasons: first, a rainy season, with a duration of about nine months, from September to May; and the other, the dry season called "Gravana", lasting about three months (June-August). There is, however, an intermediary season called "Gravanito" which occurs briefly between the months of December and January according to the movement of the intertropical convergence zone. It is characterized by lower rainfall and higher mean air temperature which favors the EPI activities.

Given the characteristics of the terrain, there are many microclimates. The most mountainous areas have high rainfall around 7,000 mm per year, while the lower areas (North and Northwest) are the least watered with approximately 1,000 mm of rainfall per year. The average annual temperature is 26º C. In coastal areas it is around 27º C and in mountainous areas 21º C.

2.2. Demographic data

Following the general census for population and housing conducted in 2012, the country's population was estimated at 178,739 - in 2015, with an annual growth rate of 2.0%, is estimated at 189,879. The birth rate decreased, from 5.9 children per woman in 1991 to 4.7 in 2001. In 2012 it was 3.5%. The prevalence rate of contraception with modern methods increased from 28.7% in 2005 to 48.2% in 2014 - (DHS, -MICS).
Girls are confronted with problems of unwanted teenage pregnancy, low levels of education, poverty and limited employment opportunities. Most sexual and reproductive health problems in adolescents result from limitations in the supply and access to services and information.

The population increase has been accompanied by the phenomenon of a rural exodus; the average population density is 178.6 inhabitants/Km2 but with strong variance from one district to another. The population is predominantly urban, approximately 58% (estimate based on the census of 2012), however, half of urban residents live in urban and suburban neighborhoods. In the structure of the population in 2012, women are a majority (51%) and is found primarily in urban areas and on the other hand, stands out the fact that the population is very young with 50% under 16 years.

Table No. I: Projection of the number of target groups of EPI and other packet services associated with vaccination (RGPH *2012*)

Target groups	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Total population	189,819	193,712	197,700	201,785	205,965	210,240
Women of childbearing age (23%)	43,359	44,554	54,471	46,411	47,372	48,355
Pregnant women (3, 4%)	6,457	6,586	6,722	6,861	7,003	7,148
Children 0-15 years (40.1%)	76,234	77,679	79,278	80,916	82,592	84,306
Children 0-5 years (13.3%)	25,300	25,764	26,294	26,837	27,397	27,962
Children < 1 year (3%)	5,695	5,831	5,931	6,054	6,179	6,307
Surviving infants (2.9%)	5,505	5,637	5,772	5,911	6,053	6,198

*** Source:** Total population: National Statistical Agency

This new database is the official source at the national level and is used by all partners.

2.3. Economic overview

STP is one of the Least Developed Countries (LDCs), with a GDP growth rate in the order of 4.8% (INE 2009). GDP per capita in 2008 and 2009 is USD 1154 and USD 1231, respectively (INE 2009). During the period 2008 - 2009, GDP increased by about 12.57%, and estimated in 2015 to be in the order of US$ 1671. And the country reached an annual growth rate of 7% (Central Bank estimate).
The country is going on over two decades facing a macroeconomic imbalance characterized by the chronic deficit in its balance of payments, forcing it to resort to external debt, which reached USD 139 million in 2009, almost 251% of its GDP (in 2009). This growth is also supported by a prudent budget policy that provides for the use of only a part of the signing bonus on petrol in 2012 on Block 1 of the Exclusive Economic Zone of the country. In 2012, the total budget deficit was estimated at

11.6% of the GDP as against 11.1% of the GDP in 2011, mainly due to an increase in capital expenditure. The deficit in 2013 was 14.8% of the GDP, 15.4% in 2014 and 16.9% in 2015, showing the positive effect of the oil production and export projections from 2016.

Inflation is in double digits, 13.7% in 2009. Such high inflation creates more and more poor, 15% of whom lived on less than 1 USD per day in 2001. Despite the effects of the past three years, the inflation rate settled at a figure, around 5 to 6%; the level of poverty is fairly high, around 48% as compared to 58% in 2002.
According to ENRP (National Strategy for Poverty Reduction), the incidence of poverty and extreme poverty is more pronounced in families headed by women, with 55.7% and 15.6% respectively, compared to 53% and 14.9% in households headed by men.
But still, there are signs of a better future for STP, taking into account the following indicators:

- STP has become eligible for debt relief under the HIPC initiative since 2000. A paper on the Strategy for Poverty Reduction was adopted by the government in 2002;
- In 2010, the government prepared a document on the Second-Generation Poverty Reduction Strategy and lately the government was involved in the development strategy based on the Development Agenda 2015-2030. It is a document that has health care as a high priority and should inspire the confidence and support of development partners.
- Some successes in structural reform related to creating an environment conducive to business and the consolidation of the government.
- Favorable developments in the political realm.
- Debt relief under the HIPC (Heavily Indebted Poor Countries) initiative.

In the ranking based on the HDI, STP occupied the 133th position with an index of 0.525 in 2013.
Sao Tome and Principe may be about to experience a major change in its economy with offshore oil production planned to go operational in 2013.

In July 2009 the Government signed an agreement with Portugal to ensure monetary parity between the Dobra (the local currency) and the Euro starting in January 2010. Under the agreement, Portugal is prepared to support Sao Tome and Principe, with a line of credit under a joint agreement of sustainable macroeconomic policies.

3. ORGANISATION OF THE HEALTH SYSTEM

3.1 Health Structures and their functioning

STP's health care system is based on the implementation of Primary Health Care (PHC) in health districts. Its different levels, mentioned above, are complemented with a double pyramidal, administrative and technical organization. This health system includes the central and the peripheral level, commonly called the district level.

3.1.1 Central level

It consists of the Ministry of Health, which has an essentially normative and strategic role. It includes:

- Office of the Minister, the central departments including administrative and financial management, management of health care, the national center against endemic diseases and the central hospital.
- The Directorate of Health Care consists of reproductive health programs, epidemiological surveillance, mental health, the sector for the regulation of pharmaceuticals, and the National Center for Health Education (CNES). The EPI program is part of the reproductive health program.
- The National Centre for the Fight against Endemic Diseases in charge of the following programs: Fight against Malaria, HIV/ AIDS and Tuberculosis.

3.1.2 The district level

This is the operational level; it includes **7** health Districts, including the Autonomous Region of Principe (RAP). The district consists of a set of structures intended to meet the primary [1] needs of populations. There are:

- The Health Centers (SC), the most differentiated structures in the districts, with a well-defined basic functional content and has a permanent interdisciplinary team including general practitioners, organized to provide promotional and preventive care, but also has an inpatient unit;
- The Health Posts (HP), a sort of extension of the SCs, which receive support and supervision. They are active under the direct responsibility of a general nurse and the district team who goes there regularly.
- The Community Health Post (CRP), belonging to rural communities, receives support in order to provide basic care, first aid and the promotion of health.

3.2 Health and infrastructure staff

[1] Integrated primary health care services include health promotion, disease prevention, and health recovery. These services are either offered in specialized set-ups, or as the district team moves among the various communities.

In terms of human resources, the health sector continues to face a shortage of human resources and it is a serious problem for the whole sector, particularly when it concerns the physicians. Indeed the number of doctors per capita increased from 1 doctor per 2284 inhabitants in 2004 to 1 doctor per 2112 inhabitants in 2006, and the current figure is 68 physicians representing 1 physician for 2790 inhabitants. For the same period (2004-2006), we have from 1 nurse per 908 inhabitants to 1 nurse per 800 inhabitants, and currently it is 1 nurse per 419 inhabitants, but they are not evenly spread. The country currently has 40 care delivery units, 1 of which is a referral hospital, 7 health centers and 32 health posts. These health facilities are distributed across the country so that access to care is guaranteed for the vast majority of the population within an average of 60 minutes walking distance. There are also some private health posts which support the system.

Immunization services are available in 39 of the 40 health facilities in the country. Furthermore, immunization units at central and district levels are equipped with tools, including transport, equipment and computer equipment, and communication technology (phone, fax, Internet)

3.3 National Health Policy and National Health Plan

In 1999, Sao Tome and Principe adopted a new national health policy. The national health policy is based on values defined by the constitution of the Democratic Republic of Sao Tome e Principe and strategies contained in international health strategies. This policy supports the principles that lay the theoretical foundations of the country's health system and those governing the organization of services. The principles advocated by the national health system and included in the national health policy advocate universal coverage to all levels of attention, without any prejudice or privilege, the integrity of the benefits articulated in a set of actions and promotional, preventive and curative services, individual and collective, as required in each case to all levels of the system and optimizing resources for each level of intervention.

In turn, the principles governing the organization of the National Health Service are: decentralization, the hierarchical organization of the health services network, the ability to solve problems at all practical levels, the use of epidemiological and statistical criteria for rulemaking, the allocation of resources and pragmatic organization on every level, the complementarity between the private and public health sectors and co-participation of the population through health cost recovery, directly or through Social Security institutions, according to each household’s level of income.

In 2000, a health development plan (NHDP) covering the period of 2001-2005 was developed. The plan aimed to improve the health of the population by strengthening the district health system. Its implementation has allowed for several projects especially in centers and health posts. The country intends to carry out the review of the national health policy and the NHDP, in order to update them.
On a national level, a document entitled "grandes opçoes do plano" covering the period of 2014 -2016 sets out policy guidelines, notably involving health. To meet the requirements of the new plan, a central committee was established at the Ministry for

Health to develop the 2012-2016 NHDP, in which immunization activities occupy a prominent place. A new document has to be developed for the next 5 years.

3.3.1 State Funding

The level of government commitment to the health sector is reflected in the state budget. From 2007 to 2010, there was a significant increase of 45.4%. However, the implementation rate went from 88% in 2008 to 72% in 2010. The data table below shows the trend in State financing of the health sector. The average growth rate during the period shows an average increase of 14% in the five years under analysis. The level of funding oscillates during the period, meanwhile the implementation trend is acceptable.

3.3.2 *Health Funding*

There are three types of funding: State funding, supplemented by funding by the communities and the Partners. Sao Tome and Principe has endorsed the Millennium Goals for Development which consist in reducing maternal mortality by three quarters, cutting the mortality of children under 5 by two thirds, stopping and measuring trends in the spread of HIV/ AIDS between now and 2015.

Table II: Development of the general budget and part of the budget allocated to health sector (in USD)

3.3.3 Community Health Funding

Medical assistance and the provision of medicine are provided free within the country's constitution. The Government, on the other hand, has authorized the participation of the population in health care spending through the cost recovery system.
Although this mechanism enables health facilities to participate in the financing of their operating expenses, it is nonetheless arbitrary and disorganized. Indeed, the amount of partial cost recovery in the district health facilities is undervalued due to lack of fulfillment of accounting record procedures. For these reasons, this funding

Budget of the Ministry of Health

YEAR	Programmed (USD)	Executed (USD)	Execution (%)
2014	15,318,548	12,498,803	82%
2013	16,627,965	16,515,036	99%
2012	10,469,070	11,191,828	107%
2011	16,666,370	13,201,333	79%
2010	13,559,671	10,367,343	76%

does not reflect in improved care.

3.3.4 Financial Collaboration of Partners

The health system is highly dependent on external support, in financial, technical and material terms. About 40% of the financing of health programs and activities are provided by the partners' contribution. Compared to EPI financing, until 2006, the contribution of partners was over 85%. The main partners in developing the health sector are: WHO, UNICEF, UNFPA, GAVI, World Bank, the Portuguese Cooperation, Taiwanese Cooperation, ADB and Community Associations.

4. ANALYSIS OF THE SITUATION OF THE EXPANDED PROGRAM ON IMMUNIZATION

EPI began in Sao Tome and Principe in 1977 and had as targets children aged under 1 year and women of childbearing age. Since the establishment of EPI in STP, the program has always operated as a vertical program.
Since 1997, the EPI was integrated within the Program for Reproductive Health (PSR), under the supervision of the Directorate of Health Care.
The EPI is composed of a central core coordinated by a manager and sub-nuclei in the 6 Districts and the Autonomous Principe Region under the responsibility of medical directors of each district.
During the past decade, the Program has significantly improved its performance, reflected by the very high vaccination coverage rates as shown in the table below.

Table III: Vaccination coverage for all EPI antigens from 2006 to 2014(%)

Year	BCG	PENTA 3	POLIO3	MCV1	MCV2
2006	99	NA	96.8	83.8	N/A
2007	98		98	86.8	
2008	99.8		98.6	93.3	
2009	99.7	98.4	98.7	90	
2010	99	96.1	96.1	92.5	
2011	99.3	96.2	96.2	91.3	
2012	98.9	96.4	96.4	91.6	
2013	97.4	97.3	97.3	90.1	
2014	95.2	95.4	95.4	92	71.4

4.1. Provision of services

Immunization services are provided in all the Health Posts and Health Centers of the Districts.
In remote communities, activities are conducted with the support of mobile vaccination teams. Vaccination strategies for STP include: vaccination strategies in

the fixed posts and health centers and immunization strategies by mobile teams that reach the target of outlying, hard-to-access villages; The latter have enabled supply services to improve.

4.2. Vaccination schedule

The national immunization schedule (table 3) includes 9 antigens, that is, traditional vaccines (BCG, OPV, and Td) and the new vaccines (DTP-HepB-Hib, pneumococcal vaccine, rubella vaccine, rotavirus vaccine, and inactivated anti-polio vaccine).

Table IV: Immunization schedule in STP

CHILD		**PREGNANCY**	
Age of administration	**Vaccines**	**Period of administration**	**Vaccine**
At birth	BCG; POLIO 0	1st consultation	Td1
6 weeks	DTP1-HepB1-Hib1, POLIO1, PCV1, ROTA1	4 weeks following	Td2
10 weeks	DTP2-HepB2-Hib2, POLIO 2, PCV2, ROTA2	6 months following	Td3
14 weeks	DTP3-HepB3-Hib3, POLIO 3, PCV3, ROTA3, IPV	1 year following	Td4
9 months	RR1, YFV	1 year following	Td5
18 Months	RR2, OPV4 (oral polio vaccine)	9 months following	

The last case of measles dates to 1994 as per the anecdotal data from the hospitals and Health Centers. Follow-up and remedial campaigns for measles were organized with a high coverage rate: 95.5% in 2002, () in 2007, and 98.7% in 2012.

However, according to the epidemiological surveillance data of January to June 2015, all the 3 suspect cases of measles were negative for the anti-measles IgM, but the other 3 cases were positive for the anti-rubella IgM.

Table V: Projection of the number of target groups of EPI and other packet services associated with vaccination (RGPH *2012*)

Target groups	**2016**	**2017**	**2018**	**2019**	**2020**
Total population	193,712	197,700	201,785	205,965	210,240
Women of childbearing age (23%)	44,554	54,471	46,411	47,372	48,355
Pregnant women (3, 4%)	6,586	6,722	6,861	7,003	7,148
Children 0-15 years (40.1%)	77,679	79,278	80,916	82,592	84,306
Children 0-5 years (13.3%)	25,764	26,294	26,837	27,397	27,962
Children < 1 year (3%)	5,831	5,931	6,054	6,179	6,307
Surviving infants (2.9%)	5,637	5,772	5,911	6,053	6,198

The situation analysis of the EPI has been made by the method of Strengths, Weaknesses Opportunities and Threats (SWOT) and covers the period from 2011 to 2014. It focused on the five essential components of the immunization system, and the three support components. The five key components are: provision of services,

supply and quality of vaccines, Communication, Surveillance and Logistics. The three support components are: program management, financing and capacity development.

4.1 Provision of services

Immunization services are provided in all the posts and health centers of the country. In remote communities, activities are conducted with the support of mobile vaccination teams. Vaccination strategies for STP include: vaccination strategies in the fixed posts and health centers and immunization strategies by mobile teams that reach the target of outlying, hard-to-access villages; The latter have enabled supply services to improve.

4.1.1 Vaccination schedule

The national immunization schedule (Table III) consists of 9 antigens: traditional vaccines (BCG, OPV, DTP-HepB + Hib, TTV and MCV) and more recently (2003, 2012) vaccines against hepatitis B and yellow fever (YFV) and against PCV13.

Table VI: Immunization schedule in STP

CHILD		**PREGNANCY**	
Age of administration	**Vaccines**	**Period of administration**	**Vaccine**
At birth	BCG; POLIO 0	1st consultation	TTV1
6 weeks	DTP1-HepB1+Hib1, POLIO1+PCV1+ROTA1	4 weeks following	TTV2
10 weeks	DTP2-HepB2+Hib2, POLIO 2+PCV2+ROTA2	6 months following	TTV3
14 weeks	DTP3-HepB3+Hib3, POLIO 3 +PCV3+ROTA3+IPV	1 year following	TTV4
9 months	MCV1 + YFV	1 year following	TTV5
15 Months	OPV4		
18 Months	MCV 2	9 months following	

4.1.2 Vaccination coverage

Since the year 2000 immunization coverage for BCG antigens, DTP3 and OPV3 has increased to over 80%. In 2004, 85% of health districts had coverage of over 80% compared to a single district within 75%. Since the implementation of the strategy "Reaching Every District (RED) in 2005, coverage is above 90% for all antigens and in all districts. This performance of the program allowed demand in STP to be met for the introduction of vaccines against hepatitis B and yellow fever in 2003, Hib 2009, PCV13 in 2012 and the SAR2 in 2013. - the same growth trend as for the rest.

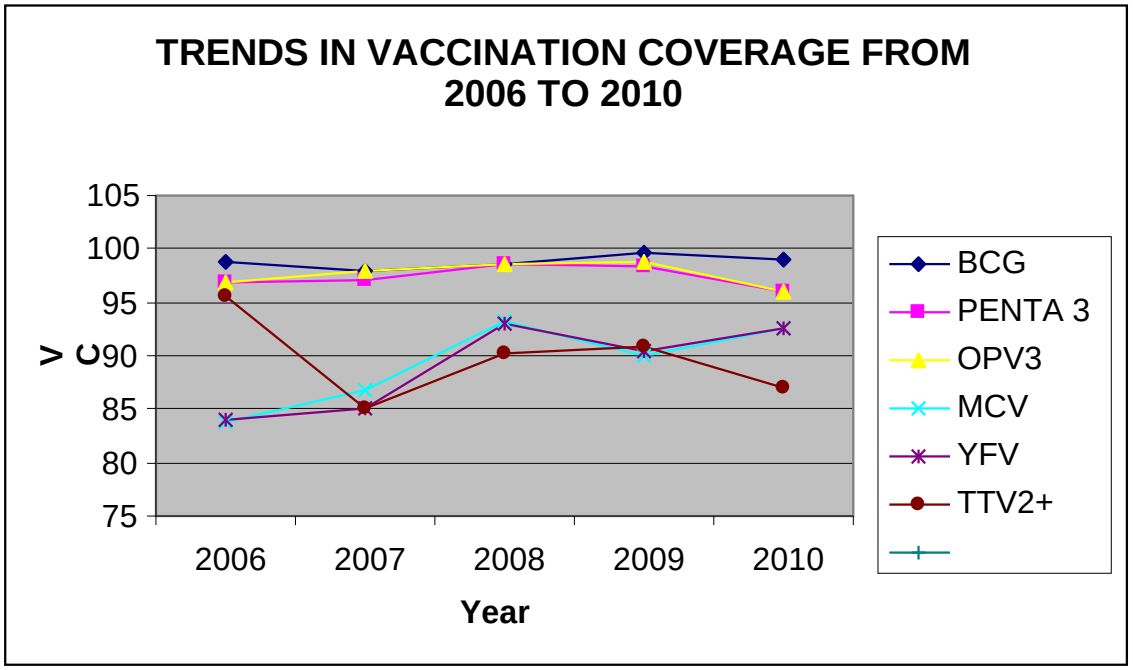
Trends in vaccination coverage from 2006 to 2013

Based on administrative data, the evolution of the vaccination coverage between 2006 and 2014 is as shown below:

Table No. VII: Changes in vaccination coverage for 2006-2014 (%)

Year	BCG	DTP3	OPV3	MCV	YFV	HEP B3	PENTA3	TTV2&+
2006	98.7	96.8	96.8	83.8	84	75		95,5
2007	98	97	98	86.8	85.0	108.0		85.0
2008	99.8	98.6	98.6	93.3	93.1	98.6		90.2
2009	99.7	98.4	98.7	90.0	90.4	98.4	98,4-	90.8
2010	99.0		96.1	92.5	92.5		96,1	86.9
2011	99,3		96,2	91,3	91,3		96,2	89,6
2012	98,9		96,4	91,6	91,6		96,4	92
2013	97,4		97,3	90,1	90,1		97,3	90
2014	95.0		95.0	92.0	92.0		95.0	91.0

Graph no. 1: Trends in vaccination coverage from 2006 to 2014



Performance of districts

Table No VIII: ***Performance of Health Districts for 2011-2014***

Antigens	**DTP3<50%**				**50<DTP3<80%**				**DTP3>=80%**			
Year	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
No. of health districts	0	0	0	0	0	0	0	0	7	7	7	7

Source: JRF

Table No XIX : DTP3-Penta3 vaccination coverage per Health District

Health District						
D1	**99.0**	**96.8**	**95.3**	**97**	**94**	**92**
D2	**93.5**	**99.2**	**96.6**	**96**	**97**	**94**
D3	**97.2**	**93.4**	**98.1**	**96**	**98**	**96**
D4	**97.1**	**91.7**	**97.7**	**96**	**98**	**96**
D5	**98.6**	**97.1**	**95.8**	**98**	**98**	**97**
D6	**98.8**	**92.4**	**96.4**	**96**	**98**	**96**
D7	**98.4**	**90.0**	**94.2**	**97**	**97**	**95**

Vaccination coverage shown in the table above shows the steady maintenance of program performance, if not an improvement, having always remained above 90% for all antigens. It is important to highlight the availability of monthly immunization reports and an administrative coverage for all antigens and in all districts > 90%. Proper use and continuity of immunization services (Penta3 > 90%). Use of an advanced strategy and door-to-door strategy or a controlled strategy in routine immunization.
The level of coverage reflects the positive impact of training on management of EPI and vaccines from which this service has benefited. To maintain current levels of coverage achieved, it will be necessary to strengthen the outreach of monitoring and evaluation with community participation.

The immunization coverage survey conducted in November 2014 confirmed the high vaccination coverage reported by routine EPI. Given the high rate of vaccination coverage by antigen at 1 year of age, the lowest is of 92% (Measles and yellow fever). Previous investigations also show a gradual and steady increase in immunization coverage. However, the MICS- 2014 Survey data indicate an immunization coverage of 97.3% for BCG, 93% for Penta 3 and for Polio3, 89.0% for measles.

In sum, the different vaccination strategies applied in the country led to a gradual and steady improvement of vaccination coverage for all antigens. Covers current

levels reflect improved access to immunization services and use of services by the community.
For STP, it is imperative to maintain performance in terms of antigens and provide new challenges: respect for the immunization schedule and achieving a proportion of a minimum of 80% of children fully immunized on their first birthday.

4.1.3 Dropout rate

The DTP1 dropout rateDTP3 in STP is constant and stable at <10% in all districts, which reflects a good use of services. **The** BCG / MCV dropout rate has improved significantly from 6.5% in 2010 to 3% in 2014 at the national level. In 2013, 100% of districts had BCG / MCV dropout rates of <10%, which reflects good continuity of immunization services. This trend was observed during the immunization coverage survey in 2014. The national average dropout rate of these is illustrated in Table 2 below:

Dropout rate	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
(DTPI-DTP3)/DTP1	2%	1.4%	2%	2%	2%	2%

4.1.4 Introduction of new and underused vaccines

EPI SAO TOME AND PRINCIPE had previous experience in the introduction of new vaccines. This experience will be considered in the current context of the introduction of the IPV, Rotavirus and HPV vaccines. Since September 2003, EPI has successfully introduced yellow fever and hepatitis B vaccines with the support of GAVI. In 2009, the vaccine against Haemophilus influenzae in its lyophilized Pentavalent form (DTP-HepB + Hib), the pneumococcal vaccine (PCV13, 2012) and the second dose of measles vaccine (2013) was also introduced into the routine EPI. Prior to the introduction of these underused vaccines, activities related to training staff on the management of vaccines, the mode of administration and surveillance of AEFI were held. Activities have also been implemented to raise public awareness through advertisements and radio broadcasts, including the mobilization of proximity with the organization of focus for healthcare providers and clinicians. The introduction strategy adopted has been to begin integration of the vaccine over the entire national territory.

A post introduction evaluation of the Haemophilus influenzae B vaccine was made in October 2010 and the lessons learned such as the extension of the cold chain, community involvement in educating and training officers will serve to improve the introduction of the vaccine against pneumococcal disease, and the measles vaccine second dose in 2013 and the rotavirus vaccine in 2016. The introduction of the HPV vaccine for adults aged 10 years by a demonstration at the national level in 2016 and 2017. In addition to vaccination against yellow fever, the hepatitis B and Pentavalent vaccines (DTP-HepB-Hib), the EPI has successfully introduced vitamin A to the routine immunization, via the use of AD syringes and safety boxes.

These new vaccines will be administered according to the updated schedule below:

Immunization schedule in STP after introduction of Pentavalent, the 2nd dose of measles and new vaccines (pneumococcal and rotavirus)

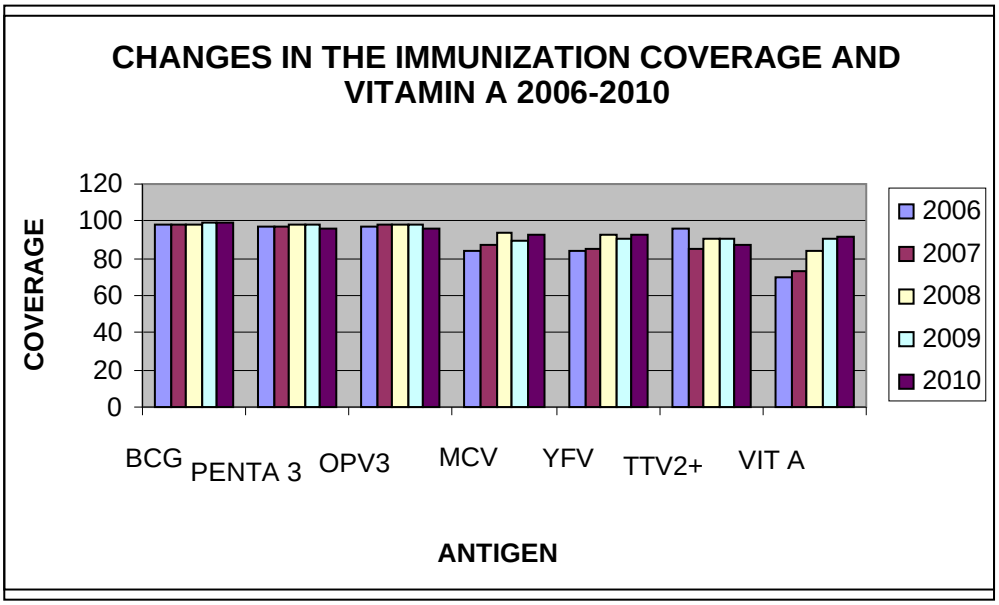
Vaccines	Age of administration
BCG, OPV 0	At birth
OPV 1, DTP-HepB-Hib 1, Pneumo1, Rota1	At 6 weeks
OPV 2, DTP-HepB-Hib 2, Pneumo2, Rota2	At 10 weeks
OPV 3, DTP-HepB-Hib 3, Pneumo3, Rota3, IPV	At 14 weeks
MCV1 + YFV	At 9 months
OPV4	At 15 months
MCV2	At 18 months

4.1.5 Integration of other program activities

As part of the integration of EPI activities with the nutrition program, vitamin A has been introduced in the provision of routine services in 2000. Vitamin A was incorporated into the routine EPI from 2003; coverage increased from 70% in 2006 to 90.1% in 2014 for children under 1 year. The vitamin A supplementation is also administered to women postpartum. Management and monitoring of vitamin A are the same as those for EPI antigens. The chart below shows the monitoring of the administration of vitamin A, as well as different antigens, in children under one year.

2011	2012	2013
90%	91%	90%(vit.A)

Chart No. 5. Changes in immunization coverage and Vitamin A supplementation, 2006-2013



Similarly, other activities such as the distribution of mebendazole and insecticide-treated nets and the implementation of IMCI are all integrated with the EPI.

The supply and distribution of vaccines and other consumables, Vitamin A, mosquito nets, Fansidar, Ferrous Salt + Folic Acid is made in accordance with the needs of each Centre and Health Post

4.2. Epidemiological surveillance

Surveillance of EPI target diseases is conducted within the overall framework of integrated disease surveillance (GIIS). Eight diseases (measles, hemorrhagic fever, Shigellosis, Cholera, Meningitis, AFP, yellow fever and NMR) are being monitored weekly using the telephone network.
Epidemiological surveillance of AFP is the core for developing integrated disease surveillance during the last five years. All districts have focal points for monitoring (RDE) which have been operationalized through the implementation of GIIS and use available data-collecting tools and are an integral part of the monthly report of the districts. The completeness and timeliness of these reports vary between 80% to 100%. It may be noted in the table below that no cases of poliomyelitis, whooping cough, measles, MNT, or yellow fever have been reported since 2003.
However, the health information system of the country is experiencing difficulties in coordinating the different data from different programs.

4.2.1 Surveillance of AFP

The last case of polio was reported in 1983. Since 2002, AFP surveillance has been restructured and strengthened by the recruitment of focal detection points as part of the global initiative to eradicate polio worldwide. Following the implementation of this initiative, various committees, most notably the certification committee (NCC), the committee of scientific experts on Polio (CPC) and the Containment Group (GC), which were created to ensure monitoring. For suspected cases, stool samples are sent to a reference laboratory for WHO (Institut Pasteur in Yaoundé / Cameroon), because the country does not have a suitably equipped laboratory.

Table XI. Performance level of AFP surveillance in STP from 2006 to 2014 (to be completed)

Year	Population <15 years	No. of AFP cases treated	Total No. of AFP cases reported	No. of confirmed polio cases	Total non-polio AFP cases reported	Rate of non-polio AFP	AFP cases with adequate stool samples	
							Nº	%
2006	66,421	2	1	0	1	1.5	2	100%
2007	66,609	2	0	0	0	0	NA	NA
2008	67,784	2	4	0	4	6.0	4	100%
2009	69,953	2	0	0	0	0	NA	NA
2010	70,427	2	0	0	0	0	NA	NA
2011	71,693	2		0		0		
2012	72,999	2		0		0		
2013	74,596	2		0		0		
2014	82,646	2		0		0		

Source: Directorate of Health Care Health Min

The table above shows the performance of AFP surveillance. It is observed that the last case notification dates back to 2008. Does the absence of AFP cases in 2009 and 2010 show that WPV stopped spreading or that AFP surveillance was inadequate? In any case, efforts to strengthen surveillance are undertaken at all levels for better performances

4.2.2 Surveillance of measles, yellow fever and maternal and neonatal tetanus

The last case of measles dates to 1994 and that of neonatal tetanus to 1997. Until now, the country has recorded no cases of yellow fever. These diseases are monitored case-by-case, with laboratory confirmation if necessary. As part of TMN, the activities have been reinforced, particularly at the community level, to target women of childbearing age. The summary table below shows the level of key monitoring indicators from 2006 to 2014 and those above give an idea of efforts in the fight against diseases preventable by vaccination in the country.

Table XII: Evolution of the EPI target diseases 2010 - 2014 (to be completed)

Diseases	**2010**	**2011**	**2012**	**2013**	**2014**
Measles (suspected)	0	0	0	0	0
FJ (suspected)	0	0	0	0	0
MNT	0	0	0	0	0

Source: Directorate of Health Care Health Min

On the monitoring of other diseases the trend remains the same as for AFP surveillance and the same concerns remain. Strengthening surveillance of EPI target diseases should be prioritized in light of regional and global issues. However it is worth noting that the country eliminated MNT in 2005 and with the performance of measles vaccination the country is well situated for the elimination of measles

4.3 Supply of quality vaccines and cold chain

4.3.1 Supply of vaccines

The vaccines are received and stored in the central cold chain at the rate of one delivery per year, which ensures distribution.
Distribution at district level is done monthly.

Central Level → District cold chain → CS
Rate of supply-→ once/ month-→ once/ week

The supply of vaccine is based on the needs expressed by district or health post based on the monthly activity reports.

4.3.1.1 Central Level

The supply system is working satisfactorily via the UNICEF channel; the needs assessment and approval procedures for vaccine reception are well controlled at central level (the needs are identified in connection with coverage targets in effect) The information from UNICEF is received on time, and the steps taken on time for removal and transportation to the EPI facilities. Estimates are made and recorded in the multi-year plan. Staff in areas of collaboration are not trained and did not receive specific instructions on what to do in order to protect the vaccine. From the foregoing, we note that the criteria for effective management in particular as regards the criteria for pre-shipment are partially applied. There is no national regulatory authority (NRA) to enforce the minimum required functions.

The choice of the vaccine in small packaging is increasingly preferred to minimize loss from use. Vaccine management tools exist and are maintained (records and manual stock cards). However, the difficulties of using the software tool led to the computerized stock management file for vaccination inputs (SMT) being neglected. Only the vaccination data tracking file at the District level (DVDMT) is applied at the central level, but with great difficulty.

The central level has locally developed Excel spreadsheets to capture and track data, providing greater ease of reading and tracing of batches. Vaccine wastage by expiry is thus observed. Management reports and doses of vaccines are created, but often sent late to the coordination of the inter-country Support Team in Libreville (STI). The principle of "bundling" in the distribution of vaccine and injection equipment is not systematic in its application; the ratio of the number of doses distributed and syringes still shows the low application of this principle.

4.3.1.2 Peripheral level:

The supply is made by the central level. The arrangements for identifying needs seem poorly mastered; this opinion is justified by the hoarding of large quantities of vaccine at the base causing negative wastage rates observed at the central level.
The reports are prepared and sent very late, and the remaining stock is not always updated for fear of running out of stock. The instructions are not distributed so as to ensure proper reporting; bottles already opened are recorded in most centers. Little information documents the use of injection materials and the disposal of waste from immunization activities.

4.3.2 Standards and procedures for vaccine management and materials

Overall, there is a problem of lack of texts and management procedures at both central and peripheral levels. The country will have to make efforts in the adaptation and finalization of EPI regulations and standards. The tools for collecting management data exist at all levels, but present difficulties as to their standardization.

4.3.3 Vaccine wastage rate

The wastage rate is high for all vaccines of BCG (56-57%), MCV (43-39%) and YFV (19-22%). This is explained by the fact that these vaccines are multi dose. According to policy implementation and missed opportunities it is recommended to open a bottle before any child not vaccinated according to the immunization schedule. The small number of children needing to be caught up on vaccination will cause these losses, but the program intends to maintain these current coverage performances, given the country. The situation of wastage rates observed from 2008 to 2010 is presented in the table below.

Table XIII: Vaccine wastage rate (2008-2014)

Vaccines	2008	2009	2010	2011	2012	2013	2014
BCG	56%	57. 3%	57. 3%		58.9	44.7	
OPV	9.9%	9.2%	9.2%		5.10	10.1	
DTP	3.2%	2.7%					
DTP-HepB-Hib		nd	2.7%			1.4	
MCV	43%	39%	39.1%		36.2	31.8	
YFV	19.9%	22.8%	22.8%		15.7	21.4	
TTV	7.6%	6.2%	6.2%		3.4	11.7	

4.4 Logistics

4.4.1 Cold Chain

- Flexibility:

The flexibility is insufficient at all levels. With the introduction of Pentavalent in 2009 the storage capacity was sufficient at both national and district level. Although the cold chain at the district level does not require expansion even for the introduction of new vaccines, an extension will be necessary for the central level.
The supply system is working satisfactorily via the UNICEF channel; the needs assessment and approval procedures for vaccine reception are well controlled at central level. The needs are identified in connection with coverage targets in effect. Estimates are made and recorded in the multi-year plan. The vaccines are received and stored in the central cold chain at the rate of one delivery per year, which ensures distribution.

Distribution at district level is done monthly. The districts in turn supply health posts on a weekly basis. The supply of vaccines is based on the needs expressed by districts in line with the monthly activity reports.

The recent EPI review of 2013 showed a satisfactory stock management system, availability of good quality vaccines without any long duration stockouts recorded since 2012, and good vaccine preservation.

Lack of knowledge of the preservation period for opened lyophilized vaccines, absence of an operational incinerator to ensure safe destruction of vaccine waste, non-adherence to guidelines regarding management for immunization waste, and absence of a standardized operation plan at the central level were all recorded as weak points.

5.8 Vaccine management

Since the measles rubella vaccine substitute an existing vaccine in the schedule (MCV), it will be necessary to ensure the transition from one to another, in terms of vaccine management. Implementing the measles rubella vaccine will be done in compliance with the schedule and the supply modalities of the country with adherence to procedures. The annual requirement for measles rubella vaccine for routine immunization will be estimated and taken into account in the 2016 “Forecast” plan. These requirements will account for an important aspect that constitutes the development of a reserve stock since this concerns a first-time introduction of this vaccine in the country. The logistics bureau will look into the following factors in advance:

- Gradual reduction in the MCV supply while re-absorbing the existing reserve stock to avoid overstocking at the end of 2016; In fact, the measles rubella vaccine should be instituted without any excess in MCV being observed in the facilities.
- The quantity of MCV remaining after instituting the measles rubella vaccine in routine immunization will be withdrawn and put away safely outside the circuit to avoid cohabitation of the two antigens in the program.
- From January 1, 2017, the entire stock of MCV remaining at the health centers will have to be collected to be channelized to the district level. These stocks will have to be channelized to the central level.
- These remaining vaccines will be destroyed.

Following its introduction, the measles rubella vaccine will follow the trends of vaccination coverage and wastage rate of the measles containing vaccine (MCV).

5.9 Overview of cold chain capacity at the central and health district levels

5.9.1 Strengthening of the cold chain

Central Level
The equipment available as of today largely covers the capacity requirement for vaccine preservation till 2019.

Operational level - Districts

The country will have to acquire three new **Domestic** refrigerators of the **TCW 2000 SDD** model.

At the Health Posts, the country will have to plan for the gradual replacement of the gas-powered refrigerators currently in use with the **Dometic** solar-powered equipment of model **TCW 40 SDD.**

5.9.2 Procurement and distribution vaccines

The measles rubella vaccine is currently sold in a vial of ten doses in a lyophilized form. At the service points, the diluents should be stored between +2 and +8°C and the vaccines should be preserved between +2 and +8°C. Once they have been made available, these vaccines should be kept only for 6 hours. For the first year, the quantity planned for introduction and for the following months will be provided in one go. These vaccines will have to reach the central level in the month of August 2016.

The distribution of vaccines from the central level to the health districts will be carried out by the EPI team at least two weeks before the date of the official launch of the campaign. The health districts, at their end, supply to all the health facilities in their respective divisions. This activity requires the availability of transport at all levels. These means will be mobilized at the central level and the district level.

Vaccine storage capacity at the central level from 2015 to 2019 in Sao Tome and Principe

Table XIV: Capacity and costs (for positive storage)

Main warehouse

		Formulas	2016	2017	2018	2019	2020	2021
A	Total annual volume of vaccines in positive storage	*Figures obtained by multiplying the total number of vaccine doses by the volume per dose*	754 litr	799 litr	782 litr	801 litr	820 litr	0 litr
B	Total positive net capacity of the existing cold chain	#	3,570 litr	3,570 litr	3,570 litr	3,570 litr	3,570 litr	3,570 litr
C	Estimate of the minimum number of annual shipments required for real cold chain capacity	*A/B*	0.21	0.22	0.22	0.22	0.23	0.00

D	Number of shipments annually	*On the basis of the national vaccine shipping plan*	4	4	4	4	4	4
E	Difference (if applicable)	*((A* (1/D+Reserve/12) - B)*	**- 3,193 litr**	**- 3,170 litr**	**- 3,179 litr**	**- 3,169 litr**	**- 3,160 litr**	**- 3,570 litr**
F	Estimated cost of the expansion	*US$*	$0	$0	$0	$0	$0	$0

Table XV: Capacity (for negative storage)

Main warehouse

		Formulas	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
A	Total volume of below-zero vaccine storage	*Figures obtained by multiplying the total number of vaccine doses by the volume per dose*	25 litr	25 litr	26 litr	0 litr	0 litr	0 litr
B	Total existing net below-zero capacity (in liters or m3)	#	528 litr	528 litr	528 litr	528 litr	528 litr	528 litr
C	Estimate of the minimum number of annual shipments required for real cold chain capacity	*A/B*	0.05	0.05	0.05	0.00	0.00	0.00
D	Number of shipments annually	*On the basis of the national vaccine shipping plan*	4	4	4	4	4	4
E	Difference (if applicable)	*((A* (1/D+Reserve/12) - B)*	**- 516 litr**	**- 515 litr**	**- 515 litr**	**-528 litr**	**- 528 litr**	**- 528 litr**

Table XVI: Analysis of the gap and additional costs for the cold chain at the secondary depots over the next five years

		Additional refrigerated storage capacity					
Level	Name of warehouse	2016	2017	2018	2019	2020	2021
District	Água-Grande	*47 litr*	*53 litr*	*51 litr*	*50 litr*	*52 litr*	*0 litr*
District	Mé-Zóchi	*11 litr*	*14 litr*	*13 litr*	*12 litr*	*13 litr*	*0 litr*
District	Lobata	*26 litr*	*24 litr*	*24 litr*	*25 litr*	*23 litr*	*0 litr*
District	Cantagalo	*28 litr*	*27 litr*	*27 litr*	*28 litr*	*27 litr*	*0 litr*
District	Lembá	*4 litr*	*6 litr*	*5 litr*	*5 litr*	*6 litr*	*0 litr*
District	Cauê	*8 litr*	*8 litr*	*8 litr*	*8 litr*	*8 litr*	*0 litr*
District	Príncipe	*6 litr*	*5 litr*	*5 litr*	*6 litr*	*5 litr*	*0 litr*
National	Central Warehouse	*0 litr*	*0 litr*	*0 litr*	*0 litr*	*0 litr*	*0 litr*

F	Estimated cost of the expansion	*US$*	$0	$0	$0	$0	$0	$0

5.9.3 Waste management and injection safety

For routine immunization and the campaign, instructions regarding waste management are as follows:

- The systematic use of AD syringes for each injection;
- The disposal of used syringes and needles in safety boxes;
- Destruction of full safety boxes by burying the residue in a two-level pit, at the health facilities.
- Material and equipment used for waste management are as follows:

  1. Separation of wastes: safety boxes are available and in sufficient numbers in all health facilities ;

  2. Pre-collection: dustbins are available;

  3. Collection/transport: during the immunization campaigns, the waste at the advanced sites is collected and brought to the health facilities for destruction;

  4. Final elimination: The residue is collected and thrown in the pits.

Waste disposal is done through a collection of scrap materials into containers, burning and land filling. Acquiring and installing incinerators advised in the HSS plan for 2016-2020.
With support from WHO, the first incinerator in the district of Agua Grande, where the capital of the country is located, was built in 2011 at the central hospital. The incinerator will improve the system of waste disposal in accordance with WHO recommendations.

4.4.2 Equipment and infrastructure

Immunization services are available in all health facilities in good state of preservation with the required minimum of working equipment, despite being outdated, including vehicles. EPI as a whole is well covered by the telephone network.

4.4.3 Immunization safety

4.4.3.1 Injection safety:

The country has opted for auto-disable syringes (AD) since 2002. A national policy document on injection safety has been developed since then. ADS are used in 100% of health facilities.

4.4.3.2 Monitoring of AEFI

AEFI surveillance is not performed systematically. The latest survey of immunization coverage showed that fever is by far the most adverse effect cited by interviewees. Only during campaigns do health workers conduct this control.

As part of improving vaccine safety, special efforts must be undertaken to develop standards and procedures for vaccination to overcome the deficiencies noted in the immunization system.

4.4.3.3 Practices

Best nursing practice in handling materials and asepsis were discussed during the training of staff in 2012; but neither technical sheets nor the modules have been developed for this purpose. In the distribution practices of vaccines and diluents, monitoring is done centrally, but is not yet effective at the base. The introduction of the pneumococcal vaccine and the second dose of the measles vaccine will be a good opportunity for training/ retraining of staff

4.4.3.4 Open Vial Policy

This policy is known to most of the staff, but has not yet been officially recorded in the operating records for a strict application to the base. While this policy is not necessary for the PCV-13, it is quite important for measles vaccine second dose.

4.5 Communication

The advocacy for change in behavior of the segment of the population that avoids vaccination is inadequate, including those conducted by service providers and the media. In EPI, there is no focal point responsible for communication. In the national health system, there is a National Center for Health Education which deals with disclosure of all health programs, including EPI. At the level of health districts, there is a focal point that coordinates outreach activities including the EPI. Advocacy activities were conducted with policy makers, for routine EPI, and also for supplementary immunization activities and the introduction of new vaccines.

NGOs, health workers, community health workers, religious leaders, teachers and journalists have been trained in order to strengthen social mobilization activities and awareness on immunization. A major obstacle to awareness is the fact that dissemination of messages through the media is not free and often financial resources are lacking.

Despite the good performance of its routine EPI, Sao Tome and Principe is part of a sub-region where the average immunization coverage is less than 90% nationally (57% CV for the entire sub-region of Central Africa between January and June 2010). Given the challenges to EPI associated with the introduction of new vaccines and the second dose of measles planned from 2012 and 2013 respectively, and the worsening of wild polio virus spread and importation, particularly in Angola and DRC, and given the high population movement between Angola and Sao Tome and Principe, it is urgent to strengthen routine immunization through a strategic communication plan for immunization in order to achieve the objectives both nationally and regionally. This is the context for the adoption of a strategic EPI communication plan for 2011-2015. This plan aims to improve public support for various immunization interventions by making them sustainable through capacity-building programs for EPI managers, those involved in immunization, community

involvement and media professionals at all stages of planning, implementation, monitoring and evaluation.
Other factors also justify the strategic communication plan for immunization:

- Communication for Immunization currently has few health and media professionals trained in its implementation;
- The minimum package of activities (MPA) in Health Centers and Health Posts includes the communication component;
- Immunization activities in fixed positions or as part of mobile teams and vaccination campaigns require the involvement and participation of the community;
- NGOs operate in the country to fight against diseases preventable by vaccination;
- The need to integrate data collection tools with communication activities among the EPI tools;

Opportunities exist in Sao Tome and Principe for the implementation of this fight against other endemic diseases with epidemic potential.
Issues relating to knowledge, skills and practices (KAP) were raised during the latest survey of immunization coverage. It appears that almost 98% of people who care for children and respondents to the questions are either the father or mother. The number of diseases mentioned is low (2 on average). Only 7 people listed all 8 diseases. The diseases most cited are measles and yellow fever. The unavailability of the mother is the most important reason for non-vaccination of children followed by a lack of information.

4.6 Program management

EPI began in Sao Tome and Principe in 1979 and had as targets children aged under 1 year and women of childbearing age. Since the establishment of EPI in STP, the program has always operated as a vertical program. Since 1997, the EPI was integrated within the Program for Reproductive Health, under the supervision of the Directorate of Health Care. The EPI is composed of a central core coordinated by 1 manager and sub-nuclei in the 7 Districts, under the responsibility of medical directors of each district.

4.6.1 Planning

Immunization activities are identified as priorities in the National Health Plan. A multiyear plan for immunization covering 2003-2007. To face the new challenges contained in the GIVS, the GVAP 2011-2020 and the sub-regional vaccination 2014-2020, the cMYP 2016 - 2020 was developed, approved and implemented. It contained the following objectives:

- Maintain the end of the spread of wild polio virus;
- Maintain the elimination of maternal and neonatal tetanus;
- Reduce measles morbidity by 90% and mortality by 95%;
- Improve routine immunization coverage to reach 98% for all antigens in all districts;
- Introduce new vaccines (rotavirus, HPV, and injectable polio) and rubella vaccine.

4.6.2 Coordination

Coordinated response at national level is ensured by the Inter Agency Coordinating Committee (IACC), chaired by the Minister of Health and composed of most of the partners that support the EPI. This Committee is supported by a Technical Committee consisting of senior EPI, UNICEF and WHO technicians who prepare technical files on the different aspects (technical, communication, finance and logistics). The ICC meets regularly 3 times a year to validate, monitor and evaluate the annual action plan program. However, there is a weak commitment from civil society

4.6.3 Monitoring and Evaluation

Monitoring helps to ensure the monthly collection of a series of indicators in 100% of districts. Data management at the operational level is reasonable. Despite some delays, we see a completion percentage of monthly immunization reports to a good level (100%). Inspections at all levels are signs of good quality and quantity.

In 2006, the scheduled inspections were performed at 100%:100% of inspectors were trained in inspection techniques and 100% of these supervisors have a monitoring guide.

MICS surveys conducted have helped make the comparison between the data from the information system and those from MICS. This comparison revealed that there was no significant difference between these two sources of information. This has again been confirmed by recent immunization coverage survey conducted from October 20 to November 15, 2007, which proves in a certain way the reliability of the system.

4.6.4 Strengthening of capabilities

To meet demand satisfactorily, EPI needs qualified and available human resources. Ever since the EPI was integrated into the reproductive health program and decentralization was implemented, on-the-job training activities have been conducted in all health facilities targeting middle management in terms of planning, logistics, cold chain, monitoring and evaluation.

Some executives have followed, externally, training in management of immunization services at district level called *MLM Training*; They provide considerable support to the implementation of continuing education programs nationally. However, the newly hired staff is not trained. In this regard, an EPI module was also integrated into the curricula of the School of Health Management Training. It remains to adapt this module to the content of MLM.

4.7. Financing of the immunization system

Three types of funding for EPI activities exist: the contribution of the state, the community and the development partners.

4.7.1 State

Until 2006, much of EPI financing was provided by government partners. From 2008 the government began to invest in the purchase of traditional vaccines and the co-financing of new and underused vaccines with GAVI.
It is important to note that in the structure of expenditure on conventional vaccines used in routine EPI, the share of state funding increased from USD 334,199 USD in 2006 to 453,710 in 2010. The section devoted exclusively to the purchase of vaccines and vaccination materials has been created.
The dependence of the EPI on aid from partners results in the following:

- Lack of financial independence in immunization
- Incomplete implementation of a strategic and clear annual EPI plan of action
- Delays in funding and in implementing activities
- A decrease in the effectiveness of the EPI

Other state contributions in financing the EPI relate to shared expenses (personnel expenses, costs of repair and maintenance and operating costs of the program structures). The Government's determination regarding vaccine independence is obvious.
The adoption of the strategy for reducing poverty in the framework of the * Heavily Indebted Poor Countries Initiative (HIPC) offers the country an opportunity to access additional funding.

4.7.2 Partners

Main partners who have funded the expenses of the EPI have been: GAVI, UNICEF, WHO, and Portuguese NGO Valle-Flor, UNFPA. The figures available are those of WHO, UNICEF, GAVI, UNFPA and the government which we represent here.
In 2010, of the aggregate of the total funding of EPI activities, 60% is attributed to the government, 3% to UNICEF, 13% WHO, 25% to GAVI and 2% to UNFPA.

Table No.: represents expenditure from partners and the Government of EPI from 2008 to 2013 including the purchase of vaccines

Funding sources (US$)	**Years**						
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
GOVERNMENT	**92,544**	**105,911**	**271,615**				
WHO	**18,000**	**19,000**	**58,850**				
UNICEF	**29,861**	**18,600**	**13,090**				
GAVI	**32,759.5**	**83,088.5**	**167,536**				
UNFPA	**9,000**	**11,000**	**10,000**				
TOTAL	**164,165**	**135,511**	**449,151**				

SUMMARY OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF EPI

The analysis previously made on the demographic, political, institutional, economic and health context has helped to highlight the strengths, weaknesses, opportunities and threats of the EPI system.

5.1 Internal environment

Table XVI: Summarizes the strengths and weaknesses of the EPI

	Strengths	Weaknesses
Health System	• Availability of documents particularly pertaining to the health infrastructures network, adequate and well distributed • EPI program decentralized • Immunization services are available in 36 of the 40 health facilities in the country. • Provision of tools, including transport, equipment and computer equipment, communication technology (phone, fax, Internet)	• Absence of a national policy docume vaccination • Strong financial dependency on the EPI part • Low staff motivation • Inadequate data collection on Health Infor System
Provision of Vaccination services	• Vaccination coverage >90% in all districts and for all antigens • Dropout rate DTP1/DTP3 and BCG / MCV <10% • 100% completeness and timeliness of reporting at the national level • Integrated Health Services (ITNs, Vitamin A and deworming) at all levels • Ability to vaccinate children during the visits of mothers to health centers including children hospitalized • Use of an advanced strategy and door-to-door strategy or a controlled strategy in routine immunization.	Lack of knowledge about the population targe the Health workers at the HC and HP • Absence of an immunization schedule on t page of the immunization record book
Supply and quality of vaccines	• Vaccine supply by UNICEF. • Availability of good quality vaccines without any long term stockouts recorded since 2014, and good vaccine preservation. • • Vaccine wastage rate in general, is lower than 20%, except for BCG at the Health Center where the outreach is often 45%. Presence of a distribution and supply plan for vaccines and other inputs, jointly developed with the partners at the central level	• Absence of decision-making during u temperatures • Absence of incinerators for the destruct vaccination wastes • Lack of knowledge about the Vaccine Vial M and the utilization stages of this decision-m tool • Alert thresholds are not taken into acco ordering vaccines • Weak enforcement of bundling
Logistics • **DC Cold Chain** • **Injectio n safety** • **Transpo rtation**	• Good vaccine storage capacity at the central warehouse • Good vaccine preservation at the central level and in all health facilities • In all the health facilities visited, the refrigerators and other cold chain equipment are available, operational, have sufficient capacity, and are well-maintained	. Absence of formal training in vaccine logistics Supply In-charge at the national level • The staff at the operational level do not kno to handle the refrigerator thermostat • Absence of stock sheets for vaccines and inputs. Bad vaccine preservation durin immunization sessions

	• Existence and use of safety boxes at all health facilities	
Epidemiological surveillance	• Presence of an integrated surveillance service at the central level with a trained in-charge • Presence of a quick response system if required to investigate in case of a suspect case diseases under an 'obligatory notification'. • Availability of notification sheets in case of AEFI at the health centers and health posts. Operational epidemiological surveillance network. • Proper completeness and promptness of surveillance reports	. Lack of qualified human resources (numbe quality) at the central level. Central level personnel not trained in the anal risk of the spreading of polio virus . Personnel not yet trained in integrated surve nor in the analysis and interpretation of data . Poor notification of suspected cases of EPI diseases under surveillance . Definitions of disease cases targeted by E pasted on the walls of the service facilities visit in the Central hospital Absence of a national laboratory for simple tes for diagnosing measles . Health Post personnel inadequately involv investigating the disease cases targeted by EPI
Social mobilization	• Existence of focal points of the National Centre for Health Information and Education (Centre National de l'Education pour la Santé - CNES) in all the Districts • Lack of system of routine surveillance of AEFI	• Insufficient human resources at central level • High cost of production and disseminat communication materials • Low activity of the IEC • Lack of social mobilization component with EPI
Coordination/Management	• High political will • Budgeted planning exercise for activities, jointly with all players under EPI (WHO, UNICEF, UNFPA, GAVI) • Availability of basic documents regarding standards, procedures, and EPI standards • Introduction of a minimum immunization services package in all healthcare facilities. •	• Lack of National Regulation Authorit immunization • No involvement of civil society • Insufficient staff at the coordination of the EP • Poor coordination of different partners
Development of capacities	• Despite the reduced number and quality of personnel, they ensure that immunization services are offered on a daily basis even with innovative strategies for finding those lost-to-sight • A national team in MLM outside country	• Absence of a personnel training plan at the and operational levels • Low staff motivation • Overload of work for some workers
Supervision	• Supervision of active surveillance of AFP functional	• Lack of s supervisory training and monitoring • Inadequate supervision at the operational lev
Financing	• Availability of government budget financing line for EPI	• Absence of innovative mechanisms for mo resources for immunization • Low amount allocated • Poor capacity of the State for fundin requirements • High dependence on external financial resou

5.2 External environment

Table XVIII: Opportunities and threats to the EPI

Areas	Opportunities	Threats
National level	• Availability of financial and technical partners • Availability of potential sources of funding such as the European Union • Presence of technical potential to support the program (WHO, UNICEF, and Saude para Todos) • Presence of a joint planning and budgeting framework for program activities which could also serve as a framework for technical proposals to improve program management • Adherence of the population to the integrated activity package offered through the immunization services	• World financial crisis that could lea a break in external support • National coordination still inadequa • Poor involvement of civil society • Low economic growth • Increased poverty
World level	• Adoption of GIVS • Reforming UN System • GAVI Funding	• Global Financial Crisis • Resurgence of FSP circulation i countries of the Sub-region • Resurgence of outbreaks of meas the region

Table XIX: Problem identification and prioritization criteria

Areas	Problems listed in order of priority	Priority
Coordination/Management	• Poor collaboration with civil society	3
	• Poor coordination of different partners	3
Development of capacities	• Health personnel not trained on new integrated management of the EPI	2
Service Delivery	• Low percentage of children fully immunized	1
	• Inadequate and irregular supervision	1
Logistics Supply and quality of vaccines	• Persistence of vaccine wastage rates for MCV, YFV and BCG	1
	• Inadequate incinerators	3
	• Lack of ambient storage space/store at the central	3
	• Outdated vaccination equipment at 50%	3
	• Inadequate capacity of the cold chain at central level	2
	• Lack of regulations and standards for the	3

	CDF and EPI vaccine management	
	• Means of transport outdated	3
	• Insufficient HR at the central level	1
Epidemiological surveillance	• Low funding of monitoring activities	3
	• Lack of AEFI monitoring system	3
	• Lack of analytical capacity to analyze fecal samples in suspected cases of polio by the national laboratory	4
	Lack of notification of suspected cases of diseases preventable by vaccination	2
Awareness and Social mobilization	• Lack of social mobilization component within the EPI	2
	• Requirements for payment by the media	2
	• Low level of awareness	2
Financing	• High dependence on external financial resources	1
	• Low funding of monitoring activities	3

Priority level: 1 = High priority; 2 priority; 3 lowest priority; 4 low priority

6. NATIONAL PRIORITIES, GOALS, STEPS, REGIONAL AND GLOBAL GOALS

Table XIV: National Priorities, Objectives, Steps, Regional and global goals

<table>
<tr><th>Problems / Priorities</th><th>Objectives</th><th>Steps</th><th>Regional and global goals</th><th>O pr</th></tr>
<tr><td>Small percentage of children fully immunized at 1 year</td><td>Increase the percentage of children fully immunized at 1 year from 77% to 90% by 2020</td><td>2016: 82%
2017 : 85%

2018 : 90%
2020 : 90%
(pour toes les antigens)</td><td>No later than 2020, all countries shall have a routine immunization coverage rate of 95% at the national level and at least 95% in all districts</td><td>1</td></tr>
<tr><td>Increased wastage rate with respect to the regional targets</td><td>By 2020 reduce the antigen wastage rate:
BCG: 57 to 40%

MCV: 39 to 20%
YFV: 20 to 10%</td><td>
<table>
<tr><td></td><td colspan="5">Vaccine wastage rate objectives</td></tr>
<tr><td>Vaccine type</td><td>2016</td><td>2017</td><td>2018</td><td>2019</td><td>2020</td></tr>
<tr><td>Traditional vaccines</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>BCG</td><td>40%</td><td>40%</td><td>40%</td><td>40%</td><td>40%</td></tr>
<tr><td>Polio (OPV)</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td></tr>
<tr><td>Measles</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
<tr><td>TT- Pregnant women</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td></tr>
<tr><td></td><td colspan="5"></td></tr>
<tr><td>Yellow fever</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
<tr><td>DTP-HepB-Hib3</td><td>5%</td><td>5%</td><td>5%</td><td>5%</td><td>5%</td></tr>
<tr><td>Measles</td><td>20</td><td>20%</td><td>20%</td><td>20%</td><td>20%</td></tr>
</table>
</td><td>Reduce the antigen wastage rate according to the recommended standards</td><td>1</td></tr>
</table>

		<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PCV-13</td><td>5%</td><td>5%</td><td>5%</td><td>5%</td><td>5%</td></tr><tr><td>ROTAVIRUS</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td><td>10%</td></tr></table>		
Outdated and insufficient maintenance of vaccination and transport equipment	By 2020 provide sufficient storage capacity at the central and district levels.	2016- 2018 acquire 50% of computer equipment 2018 to 2020 acquire the remaining 50%	No later than 2020, all countries shall have a routine immunization coverage rate of 95% at the national level and at least 95% in all districts	1
High dependence on external financial resources	By 2020, increase national funding for immunization activities	The Government should honor its commitments with respect to funding GAVI	Ensure the financial sustainability for vaccination	1

7. VISION AND OBJECTIVES OF THE EPI

7.1 Vision

By 2020:

- Vaccination as a priority for achieving the Millennium Development Goals (MDG)
- Vaccinate more people against more diseases
- Fairness and equal access to immunizations under the national schedule is guaranteed to all children, all adolescents and all adults
- The integration of immunization activities to priority interventions in health development is a reality regardless of the social, political and economic environment.

7.2 Objectives

7.2.1 General objective:

Contribute to reducing morbidity and mortality related to diseases preventable by vaccination.

7.2.2. Specific objectives:

1. With regard to vaccination coverage

- By 2020, maintain immunization coverage at 95% for all antigens at the national level among children aged 0 to 11 months and TTV for pregnant women according to Table XV below

Vaccination coverage objectives

Table XX: Database and projections of the vaccination coverage objectives contained in the comprehensive multi year plan 2016-2020

Vaccine type	**2016**	**2017**	**2018**	**2019**	**2020**
Routine immunization	(%)	(%)	(%)	(%)	(%)
Traditional vaccines					
BCG	98%	98%	98%	99%	99%
TT- Pregnant women	95%	95%	95%	95%	95%
Measles	95%	95%	95%	95%	95%
Polio (OPV3)	96%	96%	96%	97%	97%
IPV	96%	96%	96%	97%	97%
Underused vaccines					
Yellow fever	95%	95%	95%	95%	95%
DTP-HepB-Hib (3)	96%	96%	96%	97%	97%

Measles 2nd dose	80%	82%	85%	90%	90%
New Vaccines					
PCV-13	96%	96%	96%	97%	97%
ROTAVIRUS (1)	96%	96%	96%	97%	97%

- By 2020, increase from 77% to 90% the percentage of children fully immunized at 1 year of age:
- Reduce the vaccine wastage rate for all antigens according to Table XVI below

Table XXI : Targets for reducing wastage rate of vaccines 2016-2020

	Vaccine wastage rate objectives				
Vaccine type	2016	2017	2018	2019	2020
Traditional vaccines					
BCG	40%	40%40%	40%	40%	40%
Polio (OPV)	10%	10%	10%	10%	10%
Measles	20%	20%	20%	20%	20%
TT- Pregnant women	00%	10%	10%	10%	10%
Underused vaccines					
Yellow fever	20%	20%	20%	20%	20%
DTP-HepB-Hib3	5%	5%	5%	5%	5%
2nd dose measles		20%	20%	20%	20%
New Vaccines					
PCV-13		5%	5%	5%	5%
ROTAVIRUS	10%	10%	10%	10%	10%

2 With regard to the introduction of new vaccines

- By the end of 2016, introduce the IPV vaccine, rotavirus and HPV and the combined measles and rubella vaccines (RR).

3. In the area of the acceleration of global initiatives

- By 2020, increase national funding for immunization activities from US$ 647,113 in accordance with the cMYP costing tool.
- By 2020, maintain and enhance the level of current epidemiological surveillance

8. STRATEGIES AND ACTIVITIES BASED ON GOALS BY COMPONENT

Table XXII: Strategies, activities and indicators of cMYP 2016 - 2020 by component.

OBJECTIVES	STRATEGIES	ACTIVITY	INDICATORS
By 2020, maintain the vaccination coverage for all antigens at national level over 95%.	**Strengthening of national capabilities**	Train all staff of health facilities linked to vaccination, in MLM	Number of health personnel in MLM form
		Organize training of health staff on the introduction of new vaccines by levels	Report levels of training on the introduction of new vaccines
		Implement the integral communication plan for EPI	Activities of the integrated communication plan for EPI implemented
		Produce communication packets	Packet communication products
		Train 185 Community Health Workers (CSA) on communication strategies for communities	Number of ASC formed on communication strategies
		Evaluate the implementation of the Communications Plan in 2016	Evaluation report on the implementation of the Communications Plan
By 2020, maintain the vaccination coverage for	**Strengthening of program monitoring and evaluation**	Relaunch the quarterly meetings of monitoring and evaluation of EPI activities	Number of meetings for monitoring and evaluation reread
		Revise/update the monitoring tools	Updated monitoring tools

all antigens at national level over 95%.		Perform supervisory visits in every 6 months for the central level and quarterly at the District level	No. of supervisory visits carried out
By 2020, maintain the performance obtained under the supervision	**Strengthening of epidemiological surveillance**	Develop the Active Surveillance Plan	Active monitoring plan available
		Produce quarterly epidemiological bulletins to ensure feedback at all levels	Number of epidemiological newsletters produced
		Revise/update the monitoring tools	Updated monitoring tools
		Carry out 7 training sessions for trainers on surveillance of AFP cases for communities	Number of training sessions for trainers on surveillance carried out by trainers
		Organize a response in case of discovery of wild poliovirus and yellow fever	Existence of the response plan in case of discovery of wild poliovirus and yellow fever
By 2020 reduce the wastage rates for all antigens.	**Strengthening of the vaccine management system**	Use small-dose vials	Small-dose vials are routinely used
		Popularize the open vial policy	Open Vial policy started in 7 Districts
		Providing health districts computerized tools for managing vaccines	The 7 districts are equipped with tools for vaccine management
		Adapt management tools with respect to new vaccines	Management tools are adapted from the new vaccines
By 2020, provide 100% of districts with cold chain (CDF) hardware	**Strengthening of the logistics system Acquisition of equipment and transport facilities**		
		Place order for the means of transport for EPI districts	Means of transport available for EPI districts.
		Develop a specific plan for maintenance facilities for the CDF and transport	Existence of specific plans for maintenance facilities for the CDF and transport

		Build a new store to store vaccines for the EPI Central	Existence of a storage of vaccines for the EPI Central
		Build 6 incinerators for the districts	Number of incinerators constructed
By 2020, increase national funding for immunization activities	**Strengthening of EPI permanent financing mechanisms**	Strengthen advocacy for the availability of resources in the State budget	Number of reports advocating for the availability of resources, given before decision makers
		Strengthen advocacy for increased national Budget allocated to health	Proportion of the State budget allocated to EPI

9. SCHEDULE OF MAJOR ACTIVITIES

Table XVIII: Calendar of Events for cMYP 2016-2020.

MAIN ACTIVITIES	2016	2017	2018	2019	2020
Provision of services					
Organize EPI micro-planning workshops	**X**	**X**	**X**	**X**	**X**
Expand the teams for advanced and mobile strategies	**X**	**X**	**X**	**X**	**X**
Perform supervisory visits in every 6 months for the central level and quarterly at the District level	**X**	**X**	**X**	**X**	**X**
Relaunch the quarterly meetings of monitoring and evaluation of EPI activities	**X**	**X**	**X**	**X**	**X**
Organize external evaluation of the EPI in 2018	**X**		X		
Revise/update the monitoring tools	**X**			**X**	
Strengthening of communications for EPI					
Implement the integral communication plan for EPI	**X**	**X**	**X**	**X**	**X**
Produce communication packets	**X**	**X**	**X**	**X**	**X**
Train 185 Community Health Workers (CSA) on communication strategies for communities	**x**	**X**	**X**		
Evaluate the implementation of the Communications Plan in 2016			**X**		
Strengthening of epidemiological					

surveillance					
Develop the Active Surveillance Plan	**X**	**X**	**X**	**X**	**X**
Produce quarterly epidemiological bulletins to ensure feedback at all levels	**X**	**X**	**X**	**X**	**X**
Revise/update the monitoring tools	**X**		**X**		**X**
Carry out 7 training sessions for trainers on surveillance of AFP cases for communities	**X**			**X**	
Organize a response program in case of discovery of wild poliovirus, rubella and yellow fever	**X**				
Strengthening of the vaccine management system					
Popularize the open vial policy	**X**	**X**	**X**	**X**	**X**
Providing health districts computerized tools for managing vaccines		**X**	**X**	**X**	**X**
Adapt management tools with respect to new vaccines	**X**				
Strengthening of the logistics system					
Order equipment and materials from CDF	**X**	**X**	**X**	**X**	**X**
Control the means of transport for EPI	**X**	**X**	**X**	**X**	
Procure 6 incinerators for the districts		**X**	**X**		
Strengthening of capabilities					

Train all staff of health facilities linked to vaccination, in MLM		**X**	**X**	**X**	
Organize training of health staff on the introduction of new vaccines by levels	**X**				
Strengthening of EPI permanent financing mechanisms					
Strengthen advocacy for the availability of resources in the State budget	**X**	**X**	**X**	**X**	
Strengthen advocacy for increased national Budget allocated to health	**X**	**X**	**X**		

10. ANALYSIS OF COSTS AND FINANCING OF THE PROGRAM

10.1 Methodology

Collection of data that have been introduced in the sheet No.1 "Data Entry" was made from the following sources:

Regarding:

- Macro-economic and population indicators (National Statistics Institute, 2012)
- The data relating to vaccines and injection materials (Ministry of Health, 2014)
- The data relating to staff costs (Ministry of Health, 2014)
- Data on cold chain equipment and transport logistics (Ministry of Health, 2014)

10.1.1 Cost of the base year

i. Basic indicators for the year of reference

According to Table XIX, the total program cost was US$ 1788,453, of which 50% is for the cost of immunization and 43% for shared costs for the year 2014. The cost of vaccines and injection materials represented 7% of the total cost of the program and 54.7 % of the government funding.

Table XIX: Basic indicators for the base year (2014)

Indicator for the reference year	2014
Total Expenditure for vaccination	1,788,453
Campaigns	$0
Routine immunization	$ 967,464
% vaccines and injection materials	7%
Total shared costs	$760,126
% of total shared costs	43%
TOTAL	$1,788,453

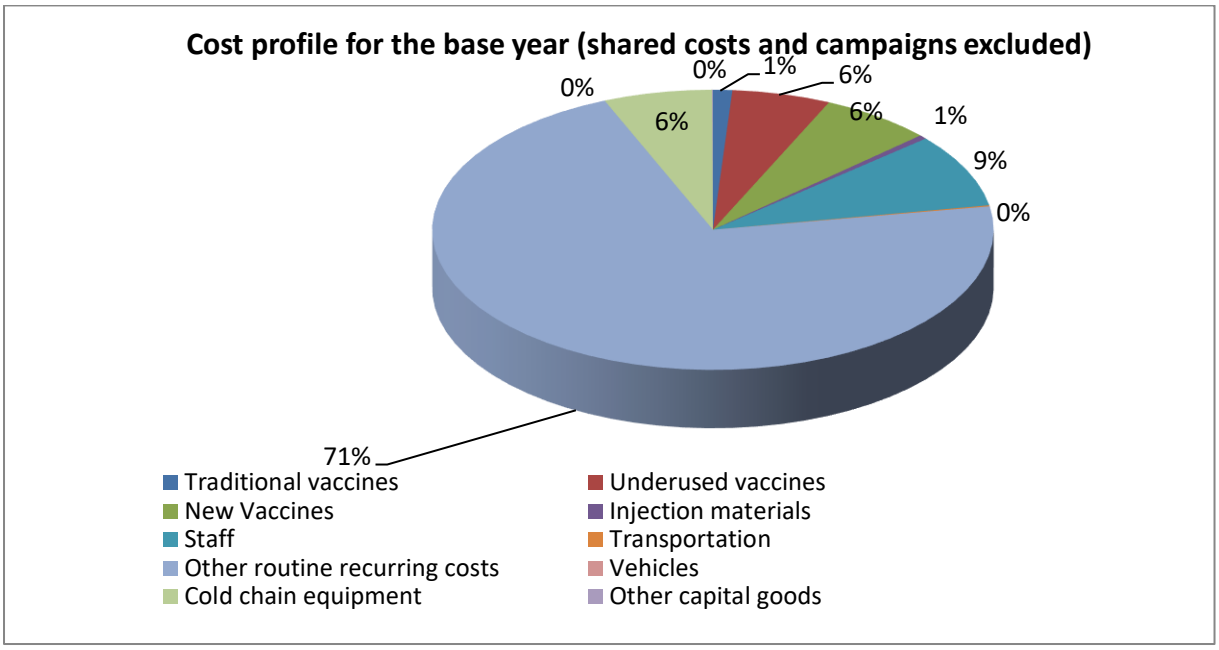
The cost of routine immunization has been estimated at US$ 3.1 per capita, equivalent to 0.26% of GDP for that year. The cost per child vaccinated with three doses of DTP amounts to US$ 93.9. Overall, the total cost of the program for the year 2015 amounts to **US$ 1,887,049**. The main challenge of the vaccination program in Sao Tome & Principe is the maintenance of high coverage above 90% nationally and in all Districts. Indeed, the country remains one of the countries of the region to have higher rates of high immunization coverage for all antigens. Maintaining this trend will require significant resources in terms of training, regular supervision, hence the heavy weight of other

recurrent costs (79%) in the cost profile for the base year.

Figure 6: Profile of the costs of vaccination in 2014 in STP by category

Nature of Expenditure	Expenditure US$ 2014
Vaccine and logistics supply (systematic vaccination only)	239,552
Provision of services	73,805
Advocacy and communication	10,000
Monitoring and control of diseases	19,830
Program management	685,140
Cost of Supplementary Immunization Activities (SIA)	-
Costs shared by health system (EPI share)	780,991
Grand total	1,809,318

ii. The funding profile for the base year

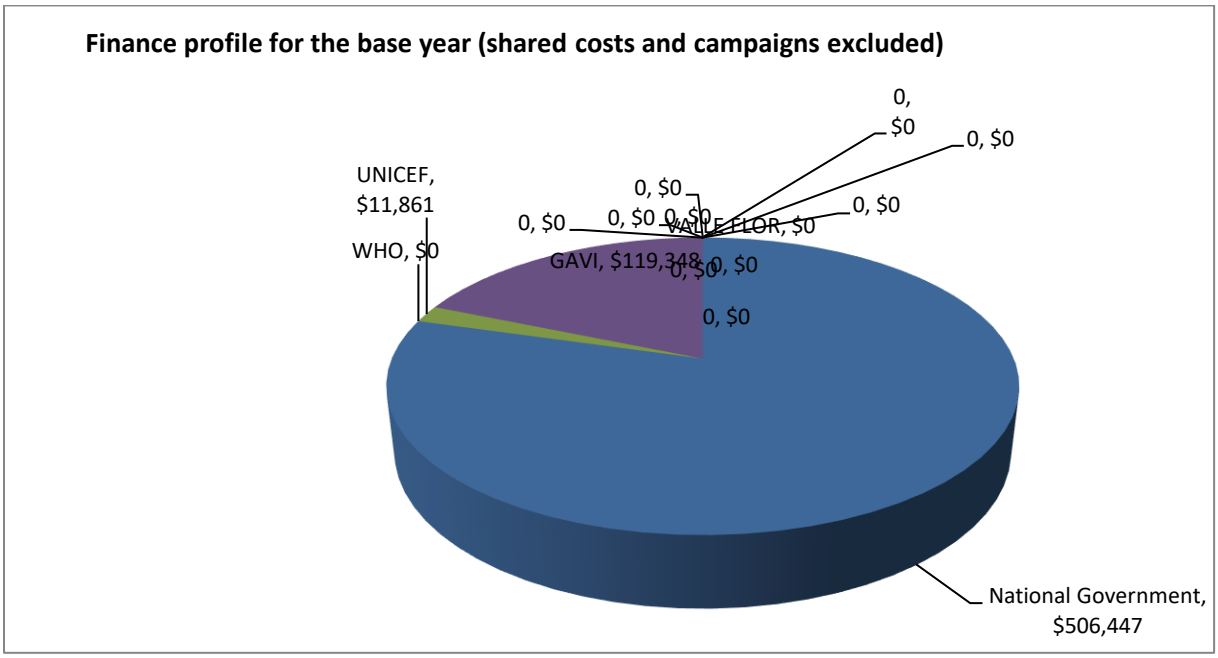


Several institutions involved in financing of health in general and immunization in particular in Sao Tome – mainly the State. This has contributed to about 55% of immunization expenses in 2014 compared to 34% for GAVI, 7% for WHO, 2% for UNICEF and 1.8% for UNFPA.

The state contributes to the purchase of basic vaccines through a budget line for vaccine procurement and strengthening the cold chain. The state uses the UNICEF channel, which enables to ensure quality and to obtain affordable prices. The state also participates in staff costs and supports virtually all expenses related to supervision and advanced strategy activities.

UNICEF funds a part of basic vaccine. The WHO assist in funding more of training cost as well as those related to monitoring and control of diseases. GAVI has funded vaccines against hepatitis B and yellow fever since 2002. A portion of resources intended for reinforcing services is also used to cover the expenses of other recurring costs, including the costs of training and supervision. The UNFPA finances the operational costs related to transportation.

Figure 7: Financing of the base year (2014) by funding sources



10.1.2 The Future Costs of the Program from 2015 to 2019.

a) Need for future costs by heading

Resource requirements for the period 2015 to 2019 amounts to **US$ 10,607,326.** Given the challenges of the introduction of pneumococcal in 2012 and the second dose of measles in 2016, program costs will certainly grow significantly in terms of costs of new vaccines, needs additional equipment in the cold chain and in other recurrent costs, including the needs for capacity building for staff. The table below shows the evolution of overall resource needs for the period 2015 to 2019 and major items of expenditure over the period.

Table XXI; Evolution of resource requirements for immunization from 2015 to 2019

Resource requirements	**2015**	**2016**	**2017**	**2018**	**2019**	**2015-2019**
Total need	**$ 1,887,049**	**$2,234,783**	**$ 2,125,398**	**$,2,167,608**	**$ 2,192,489**	**$ 10,607,326**
Growth rate	5%	18%	-15%	2%	1%	
Routine	**$ 976,363**	**$ 1,089,645**	**$ 1,102,841**	**$ 1,124,600**	**$ 1,128,621**	**$ 5,422070**
% of vaccines and injection materials	12%	17%	17%	17%	16%	16%

As can be seen on the graph below, the largest items of expenditure will mainly concern the vaccines; the influence of new vaccines result in the increase of the proportion of vaccines against the total cost of the Program by 21% in 2012 to 59% and from 2016 an average increase throughout of 2% over the period 2016-2019.

Figure 8: Evolution of resource requirements for immunization from 2015 to 2019

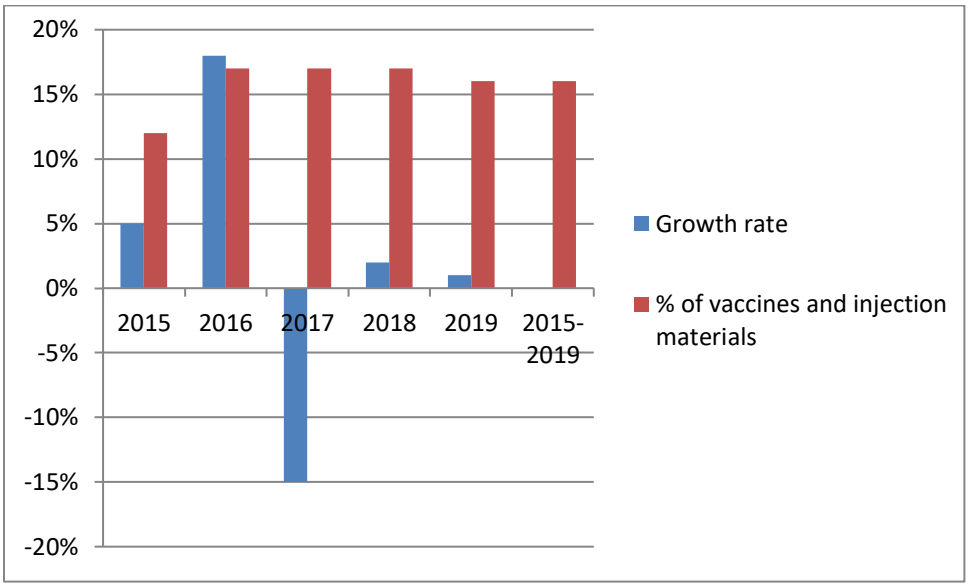


Figure 9: Evolution of costs by strategy from 2015 to 2019

Prévision de coûts du plan pluriannuel en US$ - tableau sommaire						
	Annees					
Component	2015	2016	2017	2018	2019	2015-2019
vaccins et logistiques	$ 284,561	$ 481,740	$ 486,461	$ 499,612	$ 494,853	$ 2,247,227
services	$ 75,281	$ 76,787	$ 78,323	$ 79,889	$ 81,487	$ 391,767
communication	$ 10,200	$ 10,404	$ 10,612	$ 10,824	$ 11,041	$ 53,081
des maladies	$ 22,505	$ 22,955	$ 23,414	$ 23,882	$ 24,360	$ 117,117
programme	$ 695,163	$ 709,467	$ 719,936	$ 730,615	$ 741,507	$ 3,596,688
vaccination	$ -	$ 135,021	$ -	$ -	$ -	$ 135,021
système de santé	$ 799,339	$ 798,409	$ 806,651	$ 822,785	$ 839,240	$ 4,066,424
Total global	$1,887,049	$2,234,783	$2,125,398	$2,167,608	$2,192,489	$10,607,326

Table XXII: Resource requirements by budget from 2015 to 2019

Recurring costs for routine immunization	Cost category	2014	2015	2016	2017	2018	2019	Total 2015-2019
	Vaccines (routine vaccines only)	$136,242	$115,099	$176,732	$176,805	$183,962	$172,792	$825,389
	Traditional	$11,427	$8,005	$8,167	$4,827	$8,501	$11,957	$41,45
	Underused	$58,441	$50,694	$51,720	$52,768	$53,836	$54,926	$263,94
	New	$66,374	$56,400	$116,844	$119,211	$121,625	$105,909	$519,98
	Injection materials	$4,775	$6,905	$6,548	$7,174	$7,119	$7,359	$35,10
	Staff	$87,375	$91,401	$93,229	$95,094	$96,996	$98,936	$475,65
	Maintenance and general costs	$475,811	$502,193	$546,755	$555,780	$566,895	$578,233	$2,749,85
	Short term training	$5,000	$5,100	$6,242	$6,367	$6,495	$6,624	$30,82
	Social mobilization and IEC	$10,000	$10,200	$10,404	$10,612	$10,824	$11,041	$53,08
	Monitoring of diseases	$5,000	$5,100	$5,202	$5,306	$5,412	$5,520	$26,54
	Program management	$54,000	$55,080	$57,222	$58,366	$59,534	$60,724	$290,92
	Other routine recurring costs	$184,000	$184,000	$186,000	$186,000	$186,000	$186,000	$928,00
	Sub-total	**$963,464**	**$976,363**	**$1,089,645**	**$1,102,841**	**$1,124,600**	**$1,128,621**	$5,422,07
	Investment cost for systematic vaccination							
	Sub-total	**$ 64,864**	**$ 111,347**	**$ 211,708**	**$ 215,905**	**$ 220,223**	**$ 224,627**	$983,81
Cost of Supplementary Immunization Activities (SIA)								
	Measles/Rubella	0	0	135,021	0	0	0	$135.02
Costs shared by health system (EPI share)								
	Sub-total		**$ 780,991**	**$ 799,339**	**$ 798,409**	**$ 806,651**	**$ 822,785**	$ 839,240
Grand total		**$1,809,318**	**$1,887,049**	**$2,234,783**	**$2,125,398**	**$2,167,608**	$2,192,48	
	Systematic Vaccination	1,809,318	1,887,049	2,099,762	2,125,398	2,167,608	2,192,48	
	Additional Vaccination (campaigns)	0	0	135,021	0	0		

b) Funding Program 2015 - 2019

The methodology for the assessment of future funding was, in regard to state funding, to consider funding provided, any funding which is based in the national budget passed in the Finance Act each year. A budget line for vaccine procurement exists since 2007. This line also serves the proportionate funding by the Government through cofinancing of new vaccines, To this end, for all expenses of vaccination, notably the purchase of basic vaccines and for vaccine financing, such expenditure is regarded as assured as the State designates more than US$ 30,000 to it every year. The same situation applies with the cost of personnel and building maintenance. The state also has a budget line for monitoring and control of diseases; this line is used as part of the Fight Against Endemic Diseases.

With regard to partners, funding for which the protocols of cooperation were signed and the running costs were considered insured. However, future intentions were considered as likely funding.

As indicated above, the program cost from 2015 to 2019 will experience increasing trends, especially from 2016, with the successive introduction of new vaccines, including Rota virus, HPV, IPV and combined measles and rubella vaccines. The Government, which is already involved with the purchase of vaccines, will continue to fund all the basic vaccines, in addition to its contribution to new vaccines that will be introduced with GAVI support. Also, the purchase of vaccines continues to be insured by the Government, with support from GAVI and UNICEF. As it is a situation of lasting cooperation over time, funding classified as “likely” will be funds negotiated in cooperation with these institutions.

c) The financial gap

Prévision de coûts du plan pluriannuel en US$ - tableau sommaire						
	Annees					
cMYP Component	2015	2016	2017	2018	2019	2015-
Approvisionnement en vaccins et logistiques (de	$ 284.561	$ 481.740	$ 486.461	$ 499.612	$ 494.853	$ 2.24
Prestation des services	$ 75.281	$ 76.787	$ 78.323	$ 79.889	$ 81.487	$ 39
Plaidoyer et communication	$ 10.200	$ 10.404	$ 10.612	$ 10.824	$ 11.041	$ 5
Monitoring et contrôle des maladies	$ 22.505	$ 22.955	$ 23.414	$ 23.882	$ 24.360	$ 11
Gestion du programme	$ 695.163	$ 709.467	$ 719.936	$ 730.615	$ 741.507	$ 3.59
Coûts des activités de vaccination supplémentaires	$ -	$ 135.021	$ -	$ -	$ -	$ 13
Coûts partagés du système de santé (PEV Portion)	$ 799.339	$ 798.409	$ 806.651	$ 822.785	$ 839.240	$ 4.06
Total global	$1.887.049	$2.234.783	$2.125.398	$2.167.608	$2.192.489	$10.60

Table XXIII: Evolution of finance and financial gap from 2015 to 2019

As can be seen, the financial gap between resource requirements and assured funding becomes important in 2016 because of the introduction of new vaccines. These differences, in their composition, concern mainly vaccines, injection materials, other recurrent costs and other capital assets. The graph below shows the evolution of assure and probable founding from 2015 to 2019.

Figure 10: Projection of funding from 2015 to 2019

Year		Total funds needed	Available funding	Total Probable Financing	Non funded
		US$	US$	US$	US$
	Systematic Vaccination	$1,887,049	$16,660	$0	$1,870,389
	Supplementary Vaccination	$0	$0	$0	$0
	Systematic Vaccination	$2,099,762	$0	$0	$2,099,762
	Supplementary Vaccination	$135,021	$0	$0	$135,021
	Systematic Vaccination	2,125,398	-	-	2,125,398
	Supplementary Vaccination	-	-	-	-
	Systematic Vaccination	$2,167,608	$0	$0	$2,167,608
	Supplementary Vaccination	$0	$0	$0	$0
	Systematic Vaccination	$2,192,489	$0	$0	$2,192,489
	Supplementary Vaccination	$0	$0	$0	$0

d) Strategies for financial sustainability of the Program

Issues of financial sustainability of the program arise primarily in terms of streamlining the management of available resources. Indeed, vaccines are purchased for example by the Government (traditional vaccines), UNICEF (vaccines traditional) and GAVI (new and underused vaccines). This same applies to the material of the cold chain. The state uses the chain of UNICEF for its purchases and, ultimately, we often find ourselves with the same budgeted expenditure on both sides.

Government Funds are transferred to UNICEF every year without finding out if funding really is needed. There is therefore need for the state to better coordinate its efforts with partners to better allocate resources. In order to sustain the financing of vaccine supply, the expenditure on the state budget should remain and increase annually to reflect changing demographics.

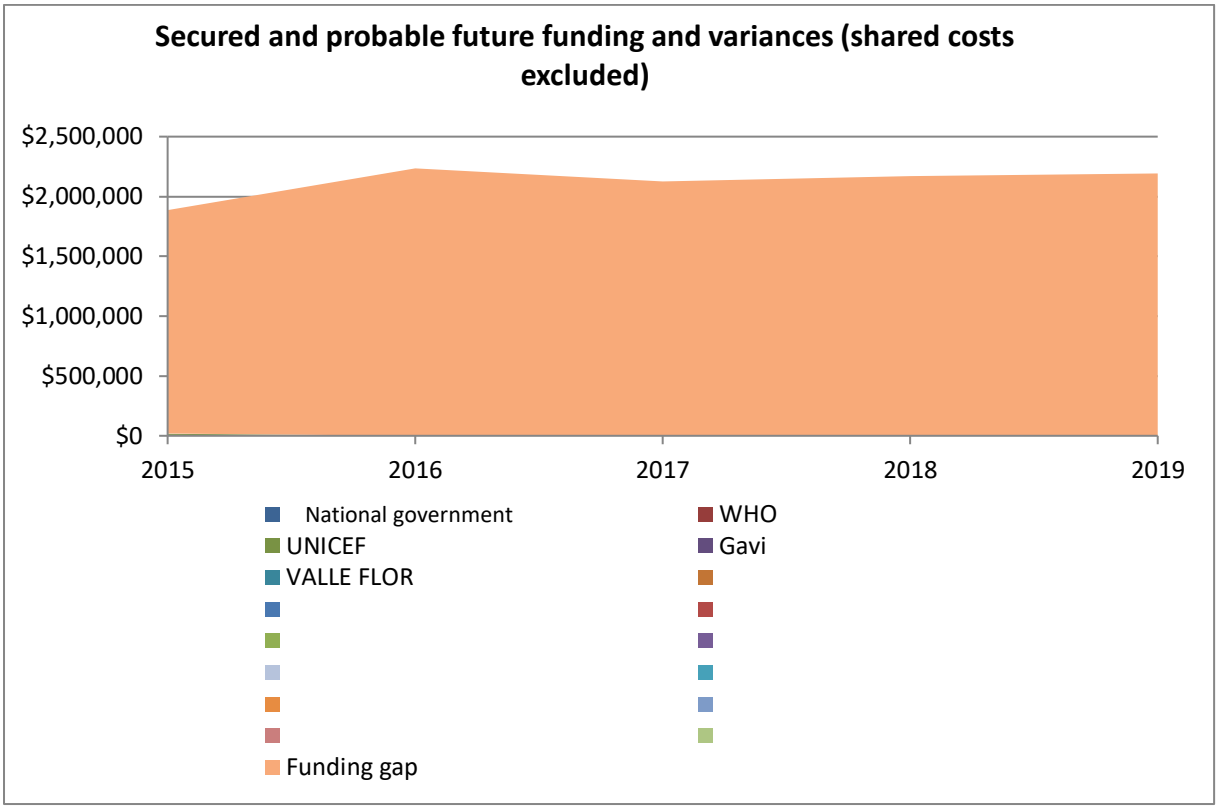


Table XXV: The macroeconomic and financial sustainability of 2015 to 2019

Macroeconomic Sustainability Indicators					
Baseline					
GDP per capita (US$)	$1,456	$1,463	$1,471	$1,478	$1,485
Total health care expenditure (THE) per capita	$68	$69	$69	$70	$70
Population	189,819	193,663	197,584	201,585	205,667
GDP (US$)	$276,376,116	$283,328,370	$290,646,444	$297,943,132	$305,416,152
Total health care expenditure (THE US$)	$12,907,676	$13,362,719	$13,633,314	$14,110,974	$14,396,721
Public health care expenditure (PHE US$)	$1,290,768	$1,336,272	$1,363,331	$1,411,097	$1,439,672
Needs and resources: vaccination					
routine and campaign (including vaccines and operational costs)	$1,436,066	$1,774,781	$1,656,195	$1,689,021	$1,704,330
only routine (including vaccines and operational costs)	$1,436,066	$1,639,760	$1,656,195	$1,689,021	$1,704,330
Per child immunized with DTP	$ 265.34	$ 296.96	$ 293.99	$ 293.86	$ 290.64
% of total health expenditure					
Needs and resources: vaccination					
routine and campaign (including vaccines and operational costs)	11.13%	13.28%	12.15%	11.97%	11.84%

only routine (including vaccines and operational costs)	11.13%	12.27%	12.15%	11.97%	11.84%
Funding gap					
Funding gap (with secured funding only)	11.00%	13.28%	12.15%	11.97%	11.84%
Funding gap (with secured and probable funding)	11.00%	13.28%	12.15%	11.97%	11.84%
% of public health care expenditure (PHE)					
Needs and resources: vaccination					
routine and campaign (including vaccines and operational costs)	111.26%	132.82%	121.48%	119.70%	118.38%
only routine (including vaccines and operational costs)	111.26%	122.71%	121.48%	119.70%	118.38%
Funding gap					
Funding gap (with secured funding only)	109.97%	132.82%	121.48%	119.70%	118.38%
Funding gap (with secured and probable funding)	109.97%	132.82%	121.48%	119.70%	118.38%
%GDP					
Needs and resources: vaccination					
routine and campaign (including vaccines and operational costs)	0.52%	0.63%	0.57%	0.57%	0.56%
only routine (including vaccines and operational costs)	0.52%	0.58%	0.57%	0.57%	0.56%
Per capita	**2015**	**2016**	**2017**	**2018**	**2019**
Needs and resources: vaccination					
routine and campaign (including vaccines and operational costs)	$ 7.57	$ 9.16	$ 8.38	$ 8.38	$ 8.29
only routine (including vaccines and operational costs)	$ 7.57	$ 8.47	$ 8.38	$ 8.38	$ 8.29

d) Strategies for financial sustainability of the Program

Issues of financial sustainability of the program arise primarily in terms of streamlining the management of available resources.

Indeed, vaccines are purchased for example by the Government (traditional vaccines), UNICEF (vaccines traditional) and GAVI (new and underused vaccines). This same applies to the material of the cold chain. The state uses the chain of UNICEF for its purchases and, ultimately, we often find ourselves with the same budgeted expenditure on both sides.

Government Funds are transferred to UNICEF every year without finding out if funding really is needed.

There is therefore need for the state to better coordinate its efforts with partners to better allocate resources. In order to sustain the financing of vaccine supply, the expenditure on the state budget should remain.

The state should ensure the construction of a cold room of large capacity in 2012 within the coming stocking of new vaccines that should enter the EPI.

The State could also raise the level of its financing to raise in excess of US$ 0.20 as currently recommended by GAVI.

The outlook for macroeconomic development listed in the table below and that of oil production in future years provide opportunities for resultant funding for vaccination avoiding problems until 2016.

The key is to better organize the management and use of resources for greater efficiency.

Table XXV: The macro economic and financial sustainability of 2012 to 2016

Macroeconomic and Financial Sustainability Indicator	2014	2015	2016	2017	2018	2019
Population	186,051	189,819	193,663	197,584	201,585	205,667
CURRENT GDP	173,905,378	198,734,597	213,455,734	229,267,347	246,250,182	264,491,022
GDP per capita ($)	1,442	1,456	1,463	1,471	1,478	1,485
Resource Requirements for Immunization						
Routine immunization and vaccination campaign	**$1,809,318**	**$1,887,049**	**$2,234,783**	**$2,125,398**	**$2,167,608**	**$2,192,489**
Resource Requirements for Immunization % of total health care expenditure						
Routine immunization and vaccination campaign	15%	17%	16%	16%	15%	15%
Financial gap as % of total health care expenditure						
With funding secured	2.90%	0.30%	0.70%	0.50%	0.60%	2.90%
With funding secured and probable	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Financial gap as % of Government's total health care expenditure						
With funding secured						
With funding secured and probable						
Resource Requirements for Immunization by % GDP						
Routine immunization and vaccination campaign	1.04%	0.95%	1.05%	0.93%	0.88%	0.83%
Resource requirements for Immunization per capita						
Routine immunization and vaccination campaign	$ 10	$ 10	$ 12	$ 11	$ 11	$ 11

11. CMYP FOLLOW-UP AND EVALUATION MECHANISMS

For monitoring and evaluation of the CMYP, the following instruments will be used:

11.1 In terms of monitoring

- **Health Information System**
- **Surveys**
- **Supervision and monitoring**
- **Reviews**

11.2 In terms of evaluation

Periodic evaluations will be conducted as part of the implementation of this cMYP 2012-2015 both for the achievement of regular activities and for the introduction of new vaccines and immunization technologies. A mid-term review will be conducted in 2013 to assess the level of achievement of goals, improve planning and management plan for the last 2 years. Also, a final evaluation will be made one year before the expiration of the cMYP to develop a future cMYP for the period 2016 - 2020. This latter assessment will be external.

11.3 Indicators

The principal follow-up and valuation indicators of the cMYP are:

- Rate of immunization coverage by antigen and by district;
- Immunization coverage rate of DTP3 by district
- % of districts with a rate of DTP3 > 90%
- DTP and MCV dropout rate by District;
- % of districts with a DTP1 – DTP3 dropout rate of < 10%
- Wastage rate by antigen and by district;
- % of districts using the “RED” approach
- % of immunization centers with no depletion in vaccine supply during the year;
- Proportion of health facilities using incinerators suitable for destroying used equipment;
- Rate of timeliness and completeness of reporting by prefecture;

- Incidence and mortality of the EPI target diseases:
    - ✓ incidence rate of severe AEFI;
    - ✓ Annualized rate of cases of non-polio AFP: (> 2)
    - ✓ Percentage of stool samples taken in 14 days: (>80%)
    - ✓ The detection of AFP cases covers the entire national territory;
    - ✓ Rate of increase in the state budget to EPI;
    - ✓ incidence rate of TMN seems less than 1 case per 1000 NV;
    - ✓ Notification of at least one suspected case of yellow fever;
    - ✓ % of districts which have investigated a suspected case of measles;
    - ✓ % of all districts which have investigated outbreaks of measles;

- Rate of execution of state budget allocated to the EPI;
- Level of participation of members of community participation in EPI activities;
- Number and proportion of follow-up meetings held;
- Amount and percentage of state budget allocated to health and EPI;
- Respective contribution of the different partners (government, communities and external aid) to the EPI budget (in%)

12. PLAN OF ACTION 2016 ACTION

12.1 Objectives

12.1.1 General Objective: Contribute to reducing morbidity and mortality related to diseases preventable by vaccination.

12.1.2 Specific objectives

1) **Achieve a rate of immunization coverage:**

- DTP3-HepB-Hib of 98% nationally
- OPV3 of 98% nationally
- BCG of 99% nationally
- MCV of 95% nationally
- YFV of 95% nationally
- TTV2 of + 95% nationally
- PCV-13: 95%

2) **Reduce antigen wastage rate at the following rates**

- BCG to 40%
- DTP-HepB/Hib kept below 5%
- OPV to 10%
- 20% MCV
- YFV to 20%
- TTV to 10%
- PCV-13 to 5%

3) **Introduction of the Inactivated Polio Vaccine (VPI) in the routine EPI in 100% of Districts in 2016**

4) **Increase the storage capacity at the peripheral level**

5) **To eradicate polio, eliminate MNT, YF and measles:**

- No case of isolated PVS with a non-polio AFP rate> 2
- Maintain an effective rate of TMN <1 case per 1000 NV
- Maintain key performance indicators for monitoring measles and yellow fever in all regions (80% of districts with at least one suspected case sampled and investigative annualized rate of 2 per 100,000 inhabitants);

6) **Ensure the safety of vaccination:**

- Ensuring the use of AD syringes for immunization in 100% of EPI centers.
- Notifying cases of AEFI

7) **Increase the financial, material and human resources for the EPI and improve their management in:**

- Allocating 10% of actual financial resources of the state for vaccination;
- Endowing 25% of EPI services of qualified personnel;
- Providing the central level and the health districts suitable rolling means;
- Ensuring the maintenance of equipment at 60%.

12.2 Strategies

To achieve the above, the following strategies will be developed:

1. The implementation of the RED strategy at national level;
2. Strengthening of the logistics system
3. Strengthening of the vaccine management system
4. Strengthening of the integrated disease surveillance;
5. The introduction of new vaccines;
6. Strengthening of communications for EPI
7. Strengthening of capabilities

12.3 Schedule of activities

Calendar of Activities and Budget of the Action Plan 2015

MAIN ACTIVITIES	J	F	M	A	M	J	J	A	S	O	N°	D	Persons in-charge	Budget USD
Provision of services														
Organize EPI micro-planning workshops	x											x	Directorate of Health Care	
Expand the teams for advanced and mobile strategies	x	x	x	x	x	x	x	x	x	x	x	x		
Perform supervisory visits in every 6 months for the central level and quarterly at the District level			x			x			x			x	Directorate of Health Care	
Relaunch the quarterly meetings of monitoring and evaluation of EPI activities			x			x			x			x		
Revise/update the monitoring tools											x	x	Directorate of Health Care	
Strengthening of epidemiological surveillance														

Develop the Active Surveillance Plan	x												Directorate of Health Care	
Produce quarterly epidemiological bulletins to ensure feedback at all levels			x			x			x			x		
Revise/update the monitoring tools												x	Directorate of Health Care	
Carry out 7 training sessions for trainers on surveillance of AFP cases for communities												x		
Organize a response in case of discovery of wild poliovirus and yellow fever											x		Directorate of Health Care	
Strengthening of the vaccine management system														
Use small-dose vials	x	x	x	x	x	x	x	x	x	x	x	x	Directorate of Health Care	
Popularize the open vial policy	x	x	x	x	x	x	x	x	x	x	x	x		
Adapt management tools with respect to new vaccines											x		Directorate of Health Care	
Strengthening of the logistics system														
Order a 10 m3 cold room for the central level				x									Directorate of Health Care	

Strengthening of capabilities													
Organize training of health staff on the introduction of new vaccines to EPI by level										x	x	Directorate of Health Care	
Strengthening of EPI permanent financing mechanisms													
Strengthen advocacy for the availability of resources in the State budget	x	x	x	x	x	x	x	x	x	x	x	Directorate of Health Care	
Strengthen advocacy for increased national Budget allocated to health	x	x	x	x	x	x	x	x	x	x	x		

For the multiannual Complete Plan for the Expanded Program on Immunization 2012 - 2015, activities related to child survival in routine immunization will be integrated to maximize the chance of reducing mortality of children and women.

To this end, emphasis will be placed on the coordination of interventions that will be part of packages of services to be integrated. Resources will be pooled to achieve economies of scale and give a chance to all target groups likely to be affected to any geographical part of the Democratic Republic of SAO TOME AND PRINCIPE.

13. CONCLUSION

This Multi-Year Complete Plan (cMYP) from 2016 to 2020 is an instrument of implementation of national health policy whose aim is to improve the health of the Democratic Republic of SAO TOME AND PRINCIPE. It will be implemented through five year plans and annual action plans in order to adapt to the changing political and socio-economic development of the country.

Political commitment at the highest state level, the development of a new and strong partnership, multi-sectoral collaboration, improved funding of the health sector, collaboration between the public and the private sector, the effective involvement of civil society including the community some of the determining factors for the implementation of the Plan.

In order to do so, the government of the Democratic Republic of Sao Tome and Principe, aware of the gravity of the health situation of its people, resolves to allocate, insofar as it is capable, the necessary resources and to take all measures reuqired to implement the plan and ensure the EPI financial sustainability. In the current context of economic and financial difficulties, the Government counts on the national and international solidarity for the mobilization of additional resources required for the achievement of objectives and therefore those for the development of the millennium.