



REPUBLIC OF HAITI
MINISTRY OF PUBLIC HEALTH AND POPULATION
EXPANDED PROGRAM ON IMMUNIZATION



EXPANDED PROGRAM ON IMMUNIZATION comprehensive MULTI- YEAR PLAN cMYP-EPI 2011-2015



May 29th 2011

Abbreviations and acronyms

CIDA: Canadian International Development Agency (Agence Canadienne pour le Développement International)

BCG: Vaccine against tuberculosis (Bacille de Calmette et Guérin)

ICC-EPI: Inter Agency Coordinating Committee for the EPI

CDC: Center for Disease Control

FC: Fixed Center vaccination

TC-EPI: Technical Committee for the EPI

DHM: Department of Health Management

DELR: Directorate for Epidemiology, Research and Laboratories

DHSO: Directorate for Health Services Organization

NDEPI: National Directorate for the EPI

DQA: Data Quality Audit

DQS: Data Quality Self assessment

DFH: Directorate for Family Health

NSPGPR: National Strategic Paper for Growth and Poverty Reduction

DTP: Trivalent Vaccine, against Diphtheria, Tetanus and Pertussis

EMMUS: Enquête Morbidité, Mortalité, Utilisation des Services de Santé

GAVI: Global Alliance for Vaccines and Immunization

GIVS: Global Immunization Vision and Strategies

GFIMS: Global Framework for Immunization Monitoring and Surveillance

Hib: *Haemophilus influenzae* type b

IHSI: Institut Haïtien pour la Statistique et l'Informatique (Haitian Institute for Statistics and Informaiton Technologies)

JRF: Joint Reporting Form

VAE: Vaccine Related Adverse Events

VPD: Vaccine Preventable Diseases

MOPHP: Ministry of Public Health and Population

MDG: Millennium Development Goals

NGO: Non-Governmental Organization

PAHO/WHO: Organisation Panaméricaine de la Santé/organisation Mondiale de la Santé

WPF: World Food Program

EPISP: EPI Support Project (PAHO/WHO-UNICEF joint project, financed by the CIDA)

IMCI: Integrated Management of Childhood Illness
EPI: Expanded Program on Immunization
APF: Acute Flaccid Paralysis
MSP: Minimum Service Package
PROMESS: Centrale d'Achat de Médicaments
CMYSP: Comprehensive Multi-Year Strategic Plan
FSP: Financial Sustainability Plan
MMR: trivalent vaccine against Measles, Mumps and Rubella
MR: bivalent vaccine against Measles and Rubella
IHR: International Health Regulation
AS: Advanced Strategy
ES: Epidemiological Surveillance
NHIS: National Health Information System
MIH: Maternal and Infant Health
CRS: Congenital Rubella Syndrome
FEHS: First Echelon Healthcare Services
TAG: Technical Advisory Group
CCT: Cold Chain Technician
MNT: Maternal and Neonatal Tetanus
NNT: Neonatal Tetanus
CHU: Community Health Unit
UNFPA: United Nations Population Fund
UNICEF: United Nations Children's Fund
PEU: Planning and Evaluation Unit
USAID: United States Agency for International Development

Summary

The development of this complete Multi-Year Plan for the Expanded Program on Immunization (EPI-cMYP 2011-15) arrives at a decisive moment for EPI's future. While, following the earthquake of January 12, 2010, many resources have been injected into the health system, the continued stagnation of EPI's performance, particularly in terms of vaccination coverage, management of vaccines, cold chain and more generally, management and ownership of the program, calls to review both the strategic and tactical EPI and the support modalities from its partners.

The key idea of cMYP EPI-2011-15 is that it is unrealistic to expect a recovery of the EPI using a little less than or the same revenue. Similarly, the lesson drawn from the low efficiency and effectiveness of past efforts to strengthen the EPI should not lead it to reduce its ambitions and opt out of the new dynamics and opportunities of regional and global support that could it can correct its shortcomings. The EPI can recover if it can really set goals ambitious enough to mobilize and develop, to achieve, innovative strategies to enable it to mobilize the resources necessary to eliminate his real bottlenecks. To this end, the national EPI and its technical and financial partners need to collaborate in ways that allow the maximization of each other's contributions, while facilitating the ownership of the program by the national health authority

The main strategic guidelines by which the EPI-cMYP 2011-15 while continuing to ensure the maintenance of the country free of the movement of the measles, rubella and polio virus and the elimination of neonatal tetanus, intending to overcome the challenge of an ambitious, more efficient and more Haitian EPI, are as follows:

1-strengthening routine immunization in order to significantly improve coverage both quantitatively and qualitatively

2-enlarging the spectrum of diseases and the EPI target populations, through, first, the introduction of new vaccines, beginning in 2012 by the pentavalent and ion the other hand, the transformation of the EPI into the National Immunization Program, bringing the benefits of vaccination, not only to the child/mother pair but to the whole family.

3- recovering the immunization supply in an advanced strategy through the following mechanisms:

- The assurance of vaccinators visits, at least quarterly, in all assembly stations, using the required weeks of the Child Health and Vaccination Week in the Americas as an opportunity to mobilize the support of partners

cMYP-EPI-2011-2015

- The optimization of NGOs support to routine immunization, through contracting;
- The definition and implementation of a viable compensation policy and of community agents training, ensuring the recruitment and the loyalty of qualified and motivated community staff, to ensure the AS.

4-Increase the capacity of the cold chain at all levels to meet the storage needs resulting from the introduction of new vaccines.

5-Improvement management practices of the cold chain, vaccines and other inputs so as to reduce wastage and to avoid stock outs

6-strengthening communication and social mobilization activities to maximize demand and improve service delivery, particularly in remote areas

7-Strengthening of epidemiological surveillance through good cooperation between MWED and NDEPI and support of key technical partners, especially the PAHO / WHO, UNICEF and the CDC

8- The **reactivation of support and monitoring** - including micro-planning, supervision and monitoring of vaccination coverage.

9-Le **reinforcing of management and consultation bodies** of the EPI:

MWED, Technical Committee and Inter-Agency Coordinating Committee

Overall, through this plan, the MWED and its technical and financial partners must commit to properly coordinate their actions, learn from the past and comply themselves to an obligation of results.

To achieve the desired results, the budget of this CMYP totals U.S. \$ 114.4 M. The guaranteed and probable funding will surely and most likely come from the Government and its multilateral (GAVI, PAHO / WHO and UNICEF) and bilateral partners (CIDA, JICA and CDC among others).

The financial gap between the CMYP 2011-15 is 15.7 and 45.5 million USD depending on the scenario. Its resumption will be based on the Government's commitment, which will have to ensure a minimum state funding, and the implementation of strategies for the mobilization of additional resources through the partners.

The Plan has been developed while the health sector strategic plan had come to an end (2010), it should be reviewed and redirected if necessary when the sector's new strategic plan will be available.

I. SITUATION ANALYSIS

A. BACKGROUND

1. National background

a) Geography

The Republic of Haiti occupies the western third of the island Quiskeya. It covers an area 27 750 km², making it the third largest country in the Caribbean. It is a very mountainous country. In rural areas, 44% of the population lives in mountain communities. Despite efforts to improve the road network is generally inadequate and dilapidated. For more than a third of the population (36%), the main access road is a bad vehicle track or just a trail. Half the population (50.2%) resides in a city without mass transit and a majority of the population does not have private means of transport - animals, motorcycles or 4 wheel vehicles ¹

Haiti, which extends from 18 ° to 20 ° north latitude, enjoys a tropical climate with average temperatures varying slightly according to seasons and regions, but at a higher altitude, the differences in temperature are important and the nights can be very cool. In town, the combination of rapid population growth by natural increase, rural exodus and poverty lead to proliferation and growth of slums. Overcrowding and poor sanitation prevailing in rural and urban poor - where the majority of the population - are very conducive to the transmission of respiratory diseases or point of departure as well as respiratory diseases related to water especially spread by fecal oral (faeces, viral, bacterial, parasitic).

The massive erosion and anarchy prevailing in the construction of housing, including the location (in the watersheds, or fund the edges of rivers or cliffs) makes the country particularly vulnerable to natural disasters, exposing the population to serious hazards in case of earthquakes, hurricanes and tropical storms even simpler with heavy rainfall.

b) Population

The most recent projection of the Haitian Institute of Informatics and Statistics (IHSI) made from the results of the general census of population 2003 (PMR 2003) estimates that in 2011 the population of Haiti totals 10,363 566 inhabitants.

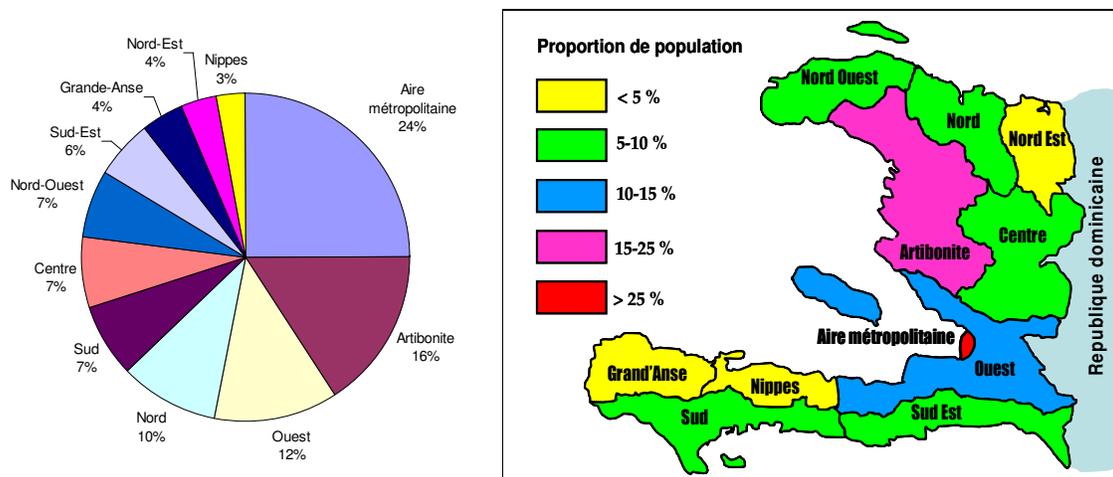
The three most populous departments (West, it includes metropolitan area, Artibonite, North) totaled almost two thirds (62%) of the total population of which 24% corresponded to the single metropolitan area (Figure 1)

Haiti's population is still predominantly rural. The overall rate of urbanization is currently estimated by the IHSI to 46%, with significant differences between departments. The population density of three hundred sixty three (373) persons per km² on average is very high everywhere. Nevertheless, the rural settlement is dispersed in small clusters of houses, or detached, almost two-thirds of the

¹ Survey Morbidity, Mortality and Use of Health Services made in 2000 (EMMUS-III)

population (61%) lives in communities, scattered settlements, which complicate health care delivery strategies to remote communities (outreach).

Figure 1: Population Distribution



The age pyramid for all population sectors corresponds to a country which has barely begun the demographic transition, therefore with EPI target populations being overrepresented. The projections of the EPI target populations for the five years of the plan are presented in Table 1 below.

Table 1: Annual Target Groups

Demographic data		2011	2012	2013	2014	2015
Total Population		10,363,566	10,649,600	10,943,529	11,245,571	11,555,948
Birth	2.80	290,180	298,189	306,419	314,876	323,567
Children 0-11 months	2.52%	261,162	268,370	275,777	283,388	291,210
Survivors at 1 year*	2.64%	273,640	281,192	288,953	296,928	305,123
Children 1-4 years	10.02%	1,038,429	1,067,090	1,096,542	1,126,806	1,157,906
Expectant mothers	2.80%	290,180	298,189	306,419	314,876	323,567
Women 15-49 years	26.17%	2,712,145	2,787,000	2,863,922	2,942,966	3,024,192

Source: IHSI UNFPA, except for survivors at 1 year (Infant mortality of EMMUS IV: 57 for 1000 births)

The insular nature of Haiti does not preclude intense population exchanges with the rest of the world. The Haitian migration pattern takes several forms: temporary or permanent legal or illegal, vocational or educational. It is estimated that, whatever the form, the Diaspora involves more than 1.5 million people. Links with the diaspora are the source of family movements, including of young children likely to be subjects of EPI target diseases. Through the Dominican diaspora, Haiti is in contact with one of the world's most popular family tourism hotspots

Haiti is hosting a large contingent of expatriates: Employees of International Agencies and Non Governmental Organizations, international staff of the UN Mission for Stabilization in Haiti, MINUSTAH. Sometimes accompanied by their families, these are expatriates from around the world, including regions with wild forms of circulating EPI target diseases.

This exchange of populations between Haiti and the rest of the world make this country heavily exposed to the reintroduction of the EPI target diseases, including measles, after the removal of their indigenous forms, if effective disease surveillance is not implemented and if the expanded program on immunization fails to limit the accumulation of the non-vaccinated at risk subjects.

c) Society

Nearly half of the children do not have a complete family unit, almost a third have parents, especially fathers and mothers with no education. The media access for many households is very limited, especially in rural areas.

Table 2: Family status of Haitian children

Distribution of risk factors	Environment		
	All	Urban	Rural
Children living with the father and the mother	56,6 %	38,9 %	53,8 %
only the mother	24,4 %	33,8 %	24 %
only the father	7,1 %	7,4 %	5,5 %
neither the mother nor the father	10,2 %	19 %	16,1 %
Children whose mothers have no education	28,9 % [#]	13,3 % [#]	42,1 % [#]
Children whose fathers have no education	18,9 % [#]	4,2 % [#]	27,5 % [#]
Children whose mothers have no access to media	32,8 % [#]	11,6 % [#]	50,7 % [#]
Children whose fathers have no access to media	27,1 % [#]	5,5 % [#]	39,6 % [#]

[#] Men and women aged from 15 to 49 years, source: *EMMUS-III* (2000)

In Haiti, as elsewhere, the positive correlation between mothers' education, place of residence and behaviors conducive to child health, including the use of public health services including vaccination, is true: positive behaviors are more frequent from the more educated mothers than among urban and non/less-educated and rural. The gap is still low among uneducated women and those who were in primary school (Table 3).

Table 3: Effect of education on the use of public health services

Use of public health services	Environment			Maternal education		
	Global	Urban	Rural	None	I ^{re} or +	II ^{re} or +
Civil Status reporting	81,1 %	86,5 %	78,3 %	63,4 %	70,6 %	81,5 %
Complete immunizations at 23 months	41,3 %	44,6 %	39,7 %	35 %	39,4 %	52,2 %
Vit A supplementation in <6 months	28,7 %	29,8 %	28,2 %	25,0 %	27,6 %	35,7 %
Consultation in cases of ARI / Fever *	34,8 %	38,8 %	33,0 %	27,1 %	35,7 %	43,0 %
Consultation in case of diarrhea *	31,8 %	33,3 %	31,1 %	27,1 %	33,1 %	36,2 %
TRO and / or increased liquids	56,9 %	67,3 %	52,0 %	46,5 %	59,1 %	68,8 %

Source: *EMMUS-III*, *EMMUS-IV*

Despite the importance of socio-cultural factors in the Haitian context, limit the use of modern health care, vaccination is generally well perceived and accepted in Haiti.

Regarding the economic situation, 76% of Haitians are seen as poor, i.e. living on less than \$ 2 per person per day and more than half or 56% is extremely poor, not having U.S. \$ 1 per person per day.² The poorest households are those whose household head is a single woman. A set of "comparative disadvantages" that affect health are tied to poverty: residing in slums or isolated villages, devoid of accessible health services, inability to develop hygienic home environment, less exposure to media and communication development services, lower education levels and greater submission to tradition; and lack of time to make an appeal to health services in a timely fashion.

The clearest symbol of poverty, **food insecurity**³, affects more than half (57%) of the population. The lack adequate access to food in quantity and quality, the nutritional needs of children, leads to a high prevalence of malnutrition (24% under age 5) and micronutrient deficiencies (vitamin A: 32%), weakening the natural defenses vis-à-vis infectious diseases in general and immune-controllable, in particular.

Definition:

The country has a serious problem of inequity and economic geography. Indeed, 40% of the poorest have access to only 5.9% of national income while the richest 20% have 68% of that income.⁴ With regard to geographic accessibility, it should be noted that there are wide disparities between departments and between rural and urban areas in availability and quality of services. Indeed, there is a concentration of medical institutions and personnel skilled in the metropolitan area and to a lesser extent in the departmental administrative centers. The disparity between the major urban areas, where only a minority of the population live more than 5 km or 30 minutes of an institution delivering maternal and child care and rural or two-thirds of the population live more than 5km/30 'and a third to more than 15 km/60' (see Table 4).

Table 4: Accessibility of Health Services Prime Echelon

Environm ent	Distance in kilometers			Route in minutes		
	0-5 km	5-14 km	> 15 km	< 31 '	31-60 '	> 60 '
Global	53,0 %	24,4 %	22,5 %	62,0 %	12,7 %	25,3 %
Urban	83,5 %	13,1 %	3,4 %	90,3 %	7,8 %	2 %
Rural	34,9 %	31,2 %	34 %	45,2 %	15,7 %	39,2 %

Source: EMMUS-III

The institutional framework of the territorial organization is decentralized into local governments: 10 departments, 41 districts, 140 communes and 561 communal sections. These communities have two bodies (assembly, council). The constitution provides, among their prerogatives, their participation in the exercise of executive power over development projects, local financing and delivery of public services. Therefore they have a right to look at interventions and health programs, including EPI, but so far have not made an appropriate use of those powers.

² NSPGPR P. 31

³ Definition: *Physical and economic access by all, at all times to sufficient, safe and nutritious food to meet nutritional needs and food preferences for an active and healthy life.*

⁴ NSPGPR P. 31

d) Situation of the health sector

(1) Sector's organization

The health system consists of a pyramid composed of Central Management Directorates and national standard-setting coordination bodies, and Departmental Directorates of Health (DHM), to provide coordination and supervision of institutions for service delivery; this level called "intermediate" is responsible for providing leadership, technical support, procurement, training and retraining, supervision and monitoring at the operational level (institutional providers).

The Haitian health care pyramid includes three (3) levels:

The first level, the operational EPI itself is hierarchical in (2) two levels:

1. First level: it consists of the Health Services Prime Echelon (FEHS). It consists of institutions are public, private or mixed. It is the gateway to the health system, and it offers mainly vaccination, in the "Minimum Health Care Package (MHCP) of the first contact."

The integrated FEHS network of the EPI is composed of approximately 695 institutions, the majority being private or mixed. It is generally dense enough to make it possible to achieve significant vaccine coverage, with an outreach function. The fact that the network is heterogeneous in terms of status - public, private or mixed - minimal impact on the EPI: the cold chain equipment and vaccines are allocated and inputs are supplied to health institutions regardless of their status and EPI supply varies little or not at all according to that status.

2. Second level: it consists of a "Community Reference Hospital" institution of public status, private or mixed, which serves as an appeal, further capacity-limited first step.

The second level consists of county hospitals that provide secondary level care

The third level consists of third-level hospitals or universities that provide tertiary level care and provide training and training of health professionals.

Very poor performance of the Haitian health system are reflected in health indicators that are most representative of the child mortality rate and the maternal mortality ratio

It was 86 per 1 000 live births, which means that a newborn has a lifetime risk of one in eleven of dying before their fifth birthday.⁵ In rural areas, the IJMR is 114 per 1000 and is thus almost 50% higher than in urban areas (78 per 1000) and 100% higher than in the metropolitan area which counts 59 deaths per 1000 live births.

The Maternal Mortality Ratio (MMR) increased by 20% between 2000 and 2005 from 523 per 100 000 live births (EMMUS III) to 630 per 100,000 live births (EMMUS IV).

(2) Epidemiological situation

(a) Infant morbidity-mortality

According to EMMUS IV, 40% of children less than 5 years had an acute respiratory infection (ARI) in the last 2 weeks. Only 20% of their mothers or guardians sought advice or treatment from health services or health staff. The prevalence of ARI is highest in the West outside metropolitan area (12%), Artibonite (12%) and Northwest (11%). The same source, 24% of children under 5 years had

⁵ The risk of a Cuban child to die before their fifth birthday is "only one in 30 (thirty).

an episode of diarrhea in the last two weeks. Among them, 40% were treated with a packet of Oral Rehydration Solution (ORS) and 7% were treated with a solution prepared at home by the mother.

The analysis of death certificates (2000) shows that infant and child mortality is dominated by the so-called poverty-related diseases, namely the common infectious diseases and malnutrition, which occupy the first two rows in this order and together accounted more than four-fifth of infant deaths (82%) and juvenile (81%). Among deaths due to common infections of less than one year, 31% were ARI (top), 26% diarrhea (second row) and 13% of meningitis (third row). Between 1 and 4 years, diarrheal diseases back to the forefront (37%), ARI come second (21%) and meningitis moves to fifth (9%).

It is determined that in 0 to 5 years, the predominant causes of death from ARI and meningitis are Haemophilus influenzae type B and pneumococcal and predominant etiologies of diarrhea deaths are commonplace rotavirus. The importance of ARI mortality, meningitis and diarrhea in children less than 5 years and the role attributed to the above agents in the etiology of these diseases are the basis of the decision of MOPHP to benefit under this multi-year plan, the population of Haitian vaccines ad hoc, namely:

- The pentavalent vaccine which protects not only - in addition to diphtheria, tetanus and pertussis - against Haemophilus influenzae type b, but also against hepatitis B, whose prevalence is very high in Haiti (4 to 6 % of blood donors);
- Pneumococcal conjugate vaccine, and
- Rotavirus vaccine

(b) Vaccine-preventable diseases

The diseases targeted by vaccines currently included in the immunization schedule are still a source of concern for the health system in Haiti.

Polio and measles. An outbreak of polio occurred in Haiti in 2000 from a strain of Sabin vaccine virus type-1, which has suffered successive mutations, and it ended with eight confirmed cases of polio, the latter dating back to July 2001. During the same period a measles epidemic occurred, the last confirmed case dating back to September 21, 2001. The transmission of measles and polio virus mutant was interrupted by vaccination campaigns conducted in 2001-2002, so that in November the following year (2002), Haiti was welcomed by the Regional Technical Advisor of PAHO (TAG) for interrupting the circulation of these viruses in difficult conditions. There were no confirmed cases of polio as measles since

Rubella. Since 2005, all samples taken to an eruptive fever, were tested in the laboratory not only measles but rubella and dengue. In 2006, eleven (11) cases of rubella in children 2 to 16 years were confirmed by the presence of MMI. A serological survey in 503 pregnant women found that 95% of women over 20 have a natural immunity to the disease. There is no data on the incidence of CRS, but an estimation model from the seroprevalence of pregnant women, giving an annual incidence of 163 to 440 cases. MOPHP in 2007 decided to organize a campaign to vaccinate under 19 years of both sexes by the bivalent measles-rubella (MR) and introducing said vaccine instead of monovalent measles vaccine in the schedule vaccine. There were no confirmed cases of rubella since

Diphtheria

It is endemic and epidemic. Sporadic cases occur every year, and epidemics occur regularly. In 2004, Haiti has experienced an outbreak with 101 cases reported by 8 departments. In 2009, Haiti has experienced a new outbreak, with 33 cases in two outbreaks, one at the junction of the Artibonite and North (municipalities of Gonaives, Gros Morne and Pilate) linked to the charcoal trade, and the other in the metropolitan area in the belt of shantytowns overlooking the lower part, coastal, municipal and Carrefour in Port au Prince.

Maternal and neonatal tetanus (MNT) is the 6th leading cause of neonatal deaths identified by the analysis of death certificates (2000). Haiti is the source of half of NNT cases in Latin America and the Caribbean. Tetanus in adults, based on analysis of death certificates in 2000, accounted for 2% of cases, death all ages related to infectious diseases, which themselves represented 41% of causes of death all ages. Its incidence has increased in the aftermath of various natural disasters (earthquakes, floods post cyclone).

Maintaining Haiti free circulation of polio virus, measles and rubella, the elimination of maternal and neonatal tetanus and control of diphtheria, tetanus and pertussis are challenges that require improved coverage routine immunization, strengthening epidemiological surveillance and response and conduct vaccination campaigns timely quality.

2. Regional and international background

a) Sectoral guidelines

(1) National Health Strategic Framework of the Health Sector

Guidance with direct or indirect impact on EPI is included in the basic strategic document of the health sector, namely:

- The National Health Policy (1991)
- The National Strategic Plan for Health Sector Reform 2005-2010
- The Minimum Package of Services (PMS), DHSO, April 2006
- Document National Strategy for Growth and Reduction of Poverty-PRSP (2008-2010), the qualitative leap to succeed, and
- The paper entitled the National Forum for the Realignment of the Health Sector, October 2007

Overall, these papers highlight the guidelines stated below:

- 1) The need for equity of access to vaccination;
- 2) The integration of immunization in the Minimum Package of Services;
- 3) The confirmation of the goals of universal and continental initiatives for disease eradication and control;
- 4) The need for administrative decentralization;
- 5) The focus on supervision of each level by level;
- 6) The emphasis on strengthening the information system;

- 7) Emphasis on strengthening and integration of epidemiological surveillance;
- 8) The announcement of advocacy for the participation of the public treasury to finance the purchase of vaccines;
- 9) The establishment of a multi-sectoral approach, including the education sector;
- 10) The need to optimize, through regulation, partnerships between the public and private sectors and between state agencies and sector support, multilateral, bilateral and government
- 11) The need for community participation in policy, planning and evaluation services.

(2) National and Global Immunization Framework

The policies and strategies for immunization and vaccine preventable diseases (VPD) of the World Health Organization (WHO) and Pan American Health Organization (PAHO) are opportunities but also obligations that the Haitian vaccination program aims to integrate, whether:

- Initiatives for eradication, elimination and control of diseases related to poliomyelitis, measles, rubella and congenital rubella syndrome (CRS) and maternal and neonatal tetanus;
- Guidance relating to strategies for strengthening immunization programs, outlined in the Strategy GIVS, endorsed by the World Health Assembly 2005, which recommends:
 - dedicate unprecedented attention to those who are hardest to reach;
 - promote group interventions outside the scope of vaccination to reduce morbidity and mortality;
 - seek solutions based on the data to improve program effectiveness;
 - not just limiting vaccination to infants, but extend it to other age groups;
 - accelerating the introduction and widespread use of new vaccines and new technologies.

These guidelines are structured around four axes

1. Protecting more people in a changing world;
 2. Introducing new vaccines and technologies;
 3. Integrating immunization, other linked health interventions and surveillance in health systems;
 4. Vaccinating in an interdependent world.
- The guidelines on strategies for strengthening epidemiological surveillance, are:
 - The new International Health Regulations, which require countries to establish monitoring capabilities to detect and notify the diseases threatening global health and the threat of emerging diseases and/or pandemic potential;
 - Setting the Global Monitoring and Surveillance for Vaccine-CJTF, developed jointly by WHO, the Centers for Disease Control (CDC) of the Health and Human Services Department of the United States of America, in consultation with many states.

b) Supra sectoral guidelines

Immunization, health intervention universally recognized as the most cost effective has a role to play in achieving the Millennium Development Goals (MDGs), including the fourth: Reduce by two thirds the mortality rate among children under 5 years.

EPI's responsibility in achieving this objective is even greater in Haiti, because on the one hand, a child's epidemiological profile is still dominated by contagious diseases, and on the other hand, vaccination coverage targets are entered in the central instrument for monitoring the achievement of those MDGs, the document on Strategy for Accelerated Poverty Reduction (SAPR)

B. EVALUATION OF THE EXTENDED IMMUNIZATION PROGRAM

1. Evaluation of the 2004-2008 Strategic Plan

The objectives of the previous Multi-year Strategic Plan of the EPI, which covered the period 2004-2008 (SPFS-EPI-2004-8), were:

- **Strengthening coverage in the entire national territory and over the next five years, efforts to consolidate the eradication of polio and obtaining confirmation of certification of that eradication;**
- Strengthening during the five (5) years, activities for the elimination of measles throughout the country;
- Elimination of neonatal tetanus from the national territory;
- Elimination of rubella from the national territory;
- Checking all other EPI diseases (complications from tuberculosis, diphtheria, pertussis, hepatitis B, Haemophilus influenzae type b);
- Vaccinating at least 80% of children under one year with BCG, OPV, measles and DTP until 2007;
- Introducing new vaccines: against Rubella (Measles-Rubella MR or measles-mumps-rubella MMR), Haemophilus influenzae type b and hepatitis (pentavalent).

The results are below the expectations set for the SPFS-EPI-2003-2008 regarding the following **9 strategic areas** around which it was structured:

1. Strengthening efforts to keep the country free of polio and measles and to achieve regional goals relating to maternal and neo natal tetanus and rubella:

The impact of the vaccination antigen Multi 2007-2008 have license to catch up susceptible to polio and measles which had accumulated for years. However, insufficient vaccination coverage of routine EPI leads to rapid accumulation of susceptible subjects.

2. Strengthening the regular program and improving access to services:

Unfortunately, we do see a very modest improvement in the covers routine EMMUS between III and IV. In addition, the decline of the advanced strategy where agents are not supported is an obvious factor limiting all access to the vaccination of remote/isolated populations.

3. Ensuring the availability of vaccines and introducing new vaccines:

The implementation period of the SPFS-EPI has been marked by frequent disruptions of vaccine supplies at the institutional level. The introduction of the vaccine against rubella has been made, but not that of pentavalent.

4. Enhancing the epidemiological surveillance:

There was an improvement of monitoring indicators, but it remained dependent on PAHO/WHO and collapsed following the departure of the ad hoc PAHO/WHO consultant. The surveillance of diseases preventable by vaccination is now under the responsibility of the Directorate of Epidemiology and Laboratories and Research (DELR) in coordination with the EPI response activities

5. The reinforcing of the Cold Chain and of the security of injections:

Despite some improvement, the cold chain is still weak at all levels, and the supply of propane tanks is not secure in its funding and poorly controlled in terms of management.

Regarding the management of sharp waste (non-delivery cap, use of safety boxes) and establishing a network of incinerators, was used extensively during the multiple antigen vaccination campaign 2007-2008. Some improvement has been observed, though it is still fragile.

6. Outreach technical support and training:

Training/retraining of staff responsible for institutional providers and all institutions incorporated in the EPI countries simplified procedures and standards is an important achievement of this plan.

7. Social mobilization for the promotion the EPI:

Here, the record remains poor, social mobilization committee has remained virtually throughout the period.

8. Financial viability of the program:

The program's dependence on external funding has not diminished the support of the Financing of propane gas is not secure.

9. Enhancing the organization, coordination, planning and management of the EPI:

It has been below expectations: the deficits of the Executive Program in coordination, planning, control and management and low level functionality of the Inter Agency Coordinating Committee for EPI, added to the insufficient involvement of intermediate (DHM) have affected the implementation when carrying out the plan.

On the whole, the differences between the ambitions and achievements of the SPFS-EPI-2003-2008 can be explained by the following reasons: inadequate strategies for strengthening the regular program, especially the outreach, and failures in managing the cold chain and vaccines (with high rates of loss). In addition, the epidemiological situation has imposed several national immunization campaigns and situational constraints (socio-political instability, insecurity and natural disasters) have not provided a framework for a structured implementation plan.

We should also highlight the lack of qualified human resources and motivated, logistics and organization at all levels: national (MWED) intermediate/county (DHM) and operational (institutional).

Finally, we must remember the limited effectiveness and efficiency of using the main partners of the National Program, PAHO / WHO and UNICEF, in light of the abundance of resources mobilized.

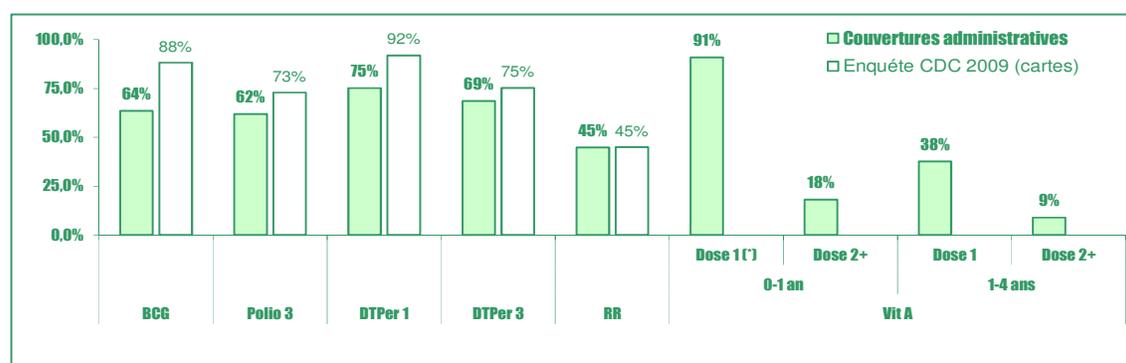
2. Levels of coverage and susceptibility

a) Quantitative coverage:

The routine coverage estimated for 2010 by the Health Information System (covers administrative) must be interpreted keeping in mind:

- On the one hand the completeness of reporting monthly national institutions is 56%;
- On the other hand, the Measles Rubella (MR) has generally been administered after the 1st anniversary, the circular of the Directorate General of MOPHP requirement by the administration of MR at 9 months n 'have not been respected in many service delivery sites.
- Finally, the coverage made during Children's Week was not taken into account.

Figure 2: National immunization coverage (2010)^{6 7}



There are large disparities between departments both in terms of their level of vaccination coverage (Figure 3) as their contribution to the accumulation of unvaccinated (Figure 4). And polio 3 coverage varies by a factor of 1 to 3 between the Department of North-West (41%) and Central (122%) And 2 / 3 of non-vaccinated DTP 3 are listed in three departments, or in descending order, the two departments most populous metropolitan area in the Artibonite Department and sparsely populated but with particularly low immunization coverage: North-West

Figure 3: Coverages by department and by antigen

⁶ It is worth noting that in the neighboring Dominican Republic, the introduction of pentavalent was followed by a sharp decrease in the incidence of meningitis among children under 5 years

⁷ CG and measles (FC Enhanced Heavily Indebted Poor Countries Initiative - Decision Point Document, page 22)Eligibility for debt reduction requires an increase of 10% coverage DTP3 by vaccines, B

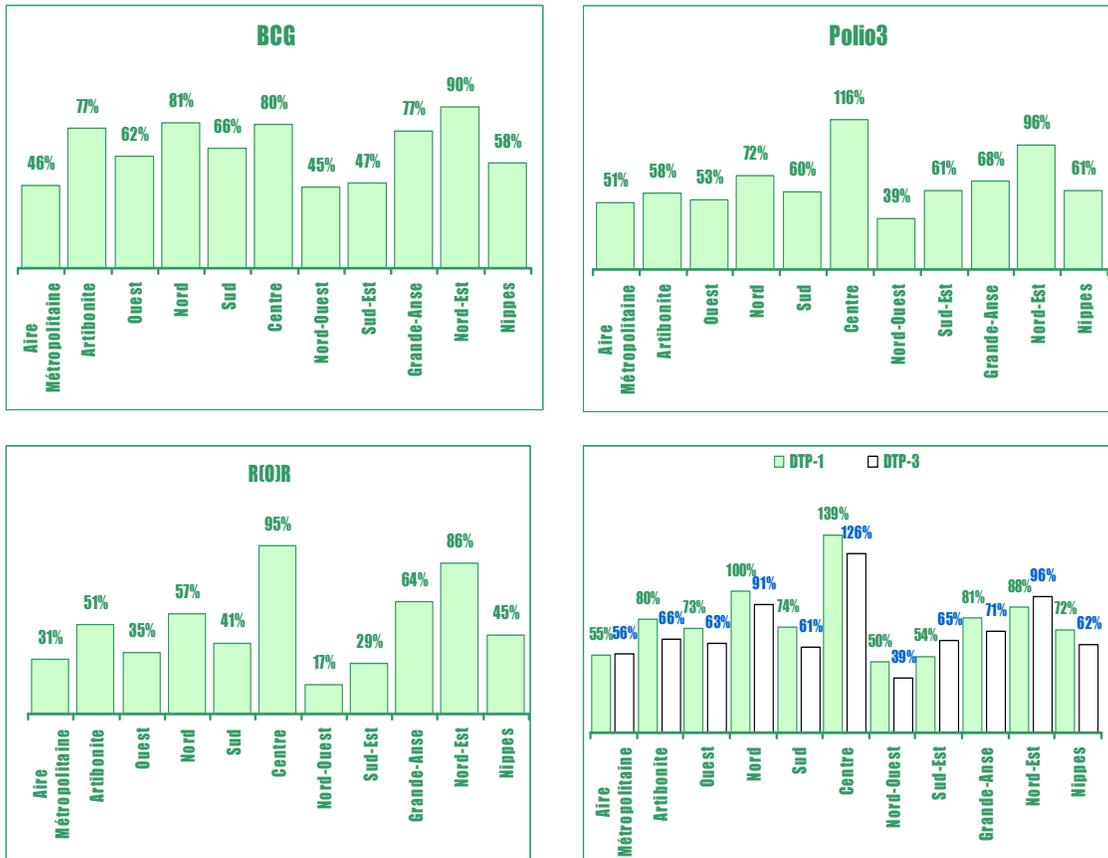
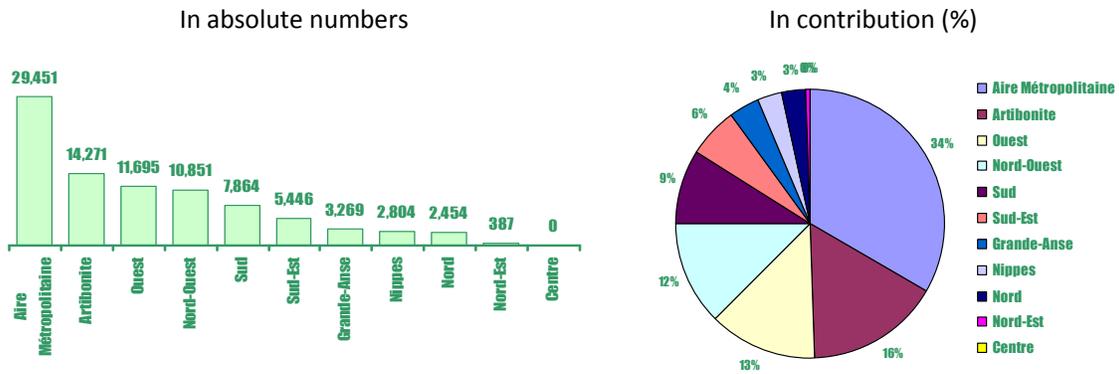
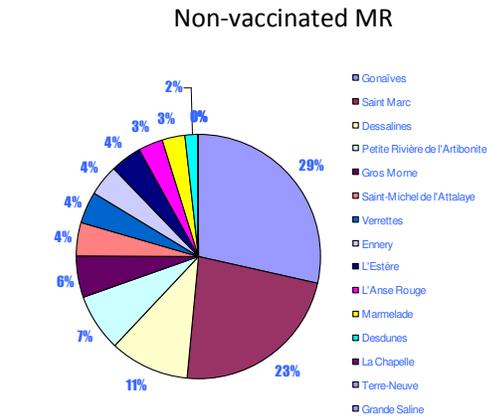
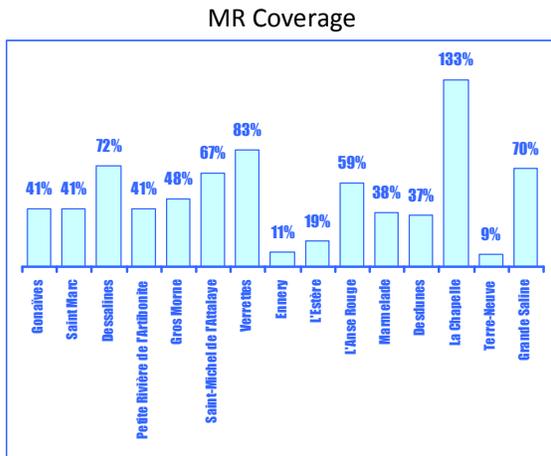


Figure 4: Accumulation of non-vaccinated (DTP 3) by department (2010)

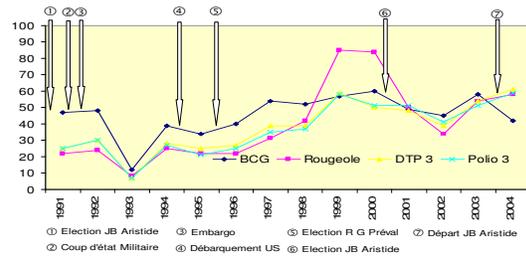


Disparities within county are also high; the departments themselves are "sealed" by the Commons unvaccinated high population and / or low coverage. This is the case for example of the Artibonite, where the three most populated municipalities (Gonaives, St. Marc and Marchand-Dessalines) account for over half of all unvaccinated Department.

Figure 5: Disparities within the county in terms of coverage (MR in the Artibonite, 2010)

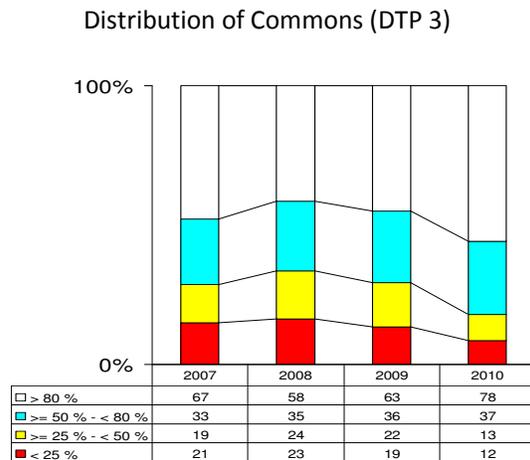
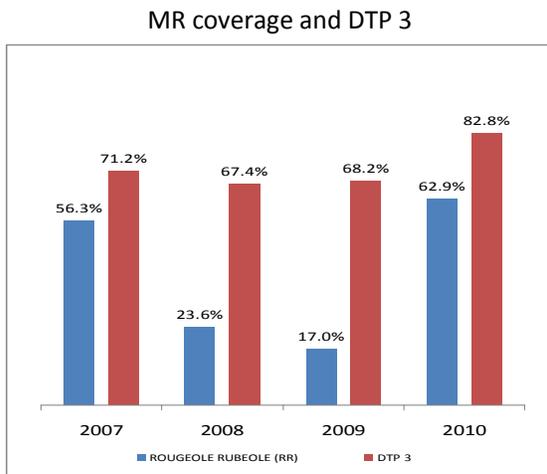


The evolution of vaccine coverage in the long course shows the sensitivity of EPI to socio-political events that have punctuated the recent history of Haiti (see figure 6 cons). EPI performance will depend to some extent for possible periods of instability and natural disasters.



The evolution of vaccine coverage in recent years (Figure 7) shows the need for a start so that Haiti can do without catch-up campaigns imposes very frequently too rapid accumulation unvaccinated likely due of insufficient vaccination coverage.

Figure 7: Evolution from 2007 to 2010



RMK: Hedges 2010 include upgrading the graphics in those carried out during the week of Children's Health, resulting in a higher level than in the previous charts

b) Qualitative coverage

The quality of immunization coverage in the sense of obtaining an effective immunity depends on several factors:

1. The quality of vaccine production
2. Ensuring the cold chain, from manufacturers to the beneficiaries
3. Compliance with the immunization schedule, in terms of age and intervals between doses
4. The technique of preparation and administration

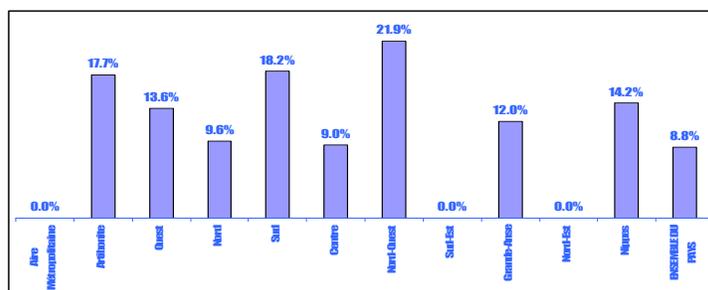
If the first element is not likely to be involved, given the safeguards required of manufacturers licensed vaccines, as the realization of the other three factors is poor overall and must be improved, as evidenced by the findings of supervisions and evaluations, as well as cases of diphtheria and tetanus observed in individuals receiving full doses of DTP and Td provided by the immunization schedule. Analysis of diphtheria cases reported during the epidemic of 2009 showed that their occurrence is related, first, low routine immunization coverage and, secondly, the fact that all doses received are not protective, reflecting the shortcomings of the cold chain including the freezing of vaccines. Diphtheria cannot be controlled without improving the coverage of routine DTP3 and strengthening the cold chain (proscription of ice packs and packing)

c) Continuity and leakage

Continuity of implementation of the immunization schedule is critical to the effectiveness of EPI: a lack of continuity, and its corollary, any delay in obtaining immunity puts them at increased risk of getting in touch and acquiring immune diseases controlled before being protected.

The attrition rate between successive vaccines, particularly between DTP1 and DTP3 coverage calculated from the tape is 8.8% with large disparities between departments (Figure 8). This estimate of administrative attrition rate between DTP1 and DTP3 is probably far short of reality, the CDC's investigation of 2009 with the estimated 18.1% nationally. This high rate shows the need to a) reduce missed opportunities for immunization in daily fixed center and a regular frequency, at least quarterly muster and b) the development of specific strategies to recover lost touch.

Figure 8: Attrition rates by department



3. Overview: Strengths and weaknesses of the EPI

In general, the EPI managers and partners share a vision of the importance of the Expanded Program on Immunization: Immunization is considered by the Department of Public Health and Population and its main partners, but even highest levels of state intervention as particularly efficient in

reducing child mortality and achieving the Millennium Development Goals (MDGs). EPI actors are also unanimous in recognizing weaknesses and the need to address to improve program performance. These opportunities and constraints are considered in the strategic plan into five (5) major components of the immunization system: Service delivery, advocacy and communication, the supply of quality vaccines and logistics, monitoring and management program.

Service delivery

There is a strong demand for immunization in the population and a network of nearly 600 institutions involved in service delivery network that EPI can count on broad participation of private sector institutions and non-profit NGO which some have logistical and financial resources. A positive factor in service delivery is the integration of immunization services at PMS offered less than five (5) years and availability of inputs and equipment. But incomplete efforts, in terms of allocation of human resources at all levels have been made in view of increasing the supply and quality control services.

One of the major shortcomings recognized in the delivery of EPI services is its failure to vaccinate children from zero (0) to one (1) year, through the setting? It works through two strategies: institutional vaccination and grouped vaccination stations or "forward strategy". The daily institutional service offers are not widespread, there are many missed opportunities and the parents who are demobilized by waiting too long, attach little importance to respecting the immunization schedule and lose contact with services, so registries cannot find them. The underlying causes are manifold: staff absenteeism, vaccine shortages, breaking the cold chain due to failure or no propane refueling of the refrigerators. As for outreach activities, they are insufficient, poorly planned and there are many countries in the municipalities where they are not at all assured.

Moreover, the close monitoring, quality and frequency of supervision of programs and activities also deserve to be strengthened at all levels of responsibility. Especially since the lack of service is often remedied by using the services of volunteers not obliged to report and whose performance is unpredictable.

These deficiencies added to the deficits of epidemiological surveillance to entail the use of vaccination campaigns ups.

Finally, all funding provided could not be mobilized and the introduction of certain new vaccines has also not been made.

In regard to communication and social mobilization, it should be noted that when the public is informed in time and geographical access to services is needed, the vaccine is generally well received by Haitian families. An important experiment, using different channels and modern and traditional means of communication, has been capitalized by the health system.

Nevertheless, communication and social mobilization is a weak EPI. The committee communication and social mobilization is still very functional, and consequently the tools products are not properly exploited. Recruitment is generally among patronage and field monitoring is ineffective, explaining their lack of reliability. Management megaphones is faltering after their injection into the system. The availability of certain traditional channels to promote outreach is affected by the lack of organization, non-compliance with the training schedule and the lack of interface between provider institutions and civil society.

Regarding the supply of quality vaccines and logistical measures to strengthen management structures of vaccines and cold chain (FLC) both at central and intermediate levels have been adopted. Most institutions participating in the EPI have CDF equipment assets and liabilities. The program has required the support of partners for the delivery of vaccines from the central level to intermediate level, which is equipped with vehicles and motorcycles and where there is a pool of staff - coordinator EPI, CCT, pharmacists and logisticians - who participate in support of institutional activities. The supply of

institutions is assured regardless of their status (public, private or mixed), if they participate in the EPI. Institutions are provided with syringes and boxes of bio-security and some of them to incinerators for waste management.

Despite the above advances, the weaknesses are significant. First, establishing and meeting national needs for vaccines are highly dependent on momentum and technical assistance and monitoring partners (UNICEF and PAHO / WHO), as well, supply is very dependent on county pulse, technical assistance and logistics partners. Standards, quotas and other mechanisms established cannot always be respected and are not always the object of consensus. There are still problems in inventory management at the institutional level: physical inventories are not made on a regular basis. Inventory tracking does not provide traceability of each batch of vaccine and its coordinating Committee) remain very functional.

The Vaccine vial monitor (VVM) is rarely used as a management tool, especially at the institutional level. Despite numerous training sessions, some providers do not speak yet, or do not do the math. In general, no data are available on vaccine wastage. The CCT is not always well equipped and their intervention on the cold chain institutional unsteady. For various reasons, DHM often face shortages of propane gas.

The supply of assets and liabilities to the institution for the system (the institution is seeking vaccines and inputs) is random or even impossible for many institutions that do not have to pay for logistics and local transportation very expensive without ad hoc budget or cost recovery.

The capacity of cold storage plants will be quickly overwhelmed when the DTP will be replaced by pentavalent. Some departmental deposits have sufficient capacity, and similarly, the capacity of the cold chain of intermediate to absorb the increased needs associated with the introduction of new vaccines is not controlled.

In the field of surveillance, there is a network of 55 sentinel sites and a pool of epidemiologists, technicians and departmental officers involved in surveillance activities for notification, investigation and response. Monitoring activities are now coordinated by the organizing of bi-weekly coordination meetings in its situation room. However, the quality of supervision is weak. Indeed, the completeness of reporting is very low, including on the sentinel sites, case investigation and responses are not always fast enough or there are no notifications.

With regard to program management, interesting approaches to better organize the MWED the structural perspective (improving the operating space, staffing and vehicle) is mentioned. At the central level and through a planning system is implemented through the programs, budgets and MWED DHM. A micro-planning tool is being revised to make it more efficient implementation of activities at the institutional level.

For some cons, critical failures are noted at the program management. Essentially, they deal with deficits in the ownership of the program, job descriptions of staff and the functions of strategic planning, monitoring and evaluation. Also public investment in EPI is largely inadequate because, apart from salaries, the state does not participate in financing the program. In addition, the support structures in the program (and Technical Inter Agency Coordinating Committee)

II. NATIONAL PRIORITIES

The priorities of the EPI for the period 2011-2015 are:

1. Strengthening Governance Program in all aspects within the jurisdiction of the National Health Authority (ASN).
2. Develop on a sustainable basis the capacity of routine EPI, to achieve and maintain immunization coverage of quantitative and qualitative satisfactory throughout the territory, it included rural and peri-urban and marginal areas of difficult access, especially of metropolitan area.
3. Achieving financial sustainability in the sense of ability to mobilize and use with efficiency and reliability of national resources and external resources to achieve the complementary goals and future of vaccination in terms of access, utilization, quality, safety and fairness.

III. OBJECTIVES

By 2015:

- Take at the national level, coverage of less than one year by all EPI vaccines was 90% less, with the exception of BCG
- After immunization in the neonatal period, which affects only a minority of births, catching up is hard for a year, because BCG is not practical for outreach by community workers.
- Increase immunization coverage of pregnant women by DT 2 + at 80% or more;
- Keep the country free of virus circulation in polio, measles and rubella;
- Eliminate maternal and neonatal tetanus;
- Introduce new vaccines (pentavalent rotavirus and pneumococcal) in the routine EPI;
- Ensure adequate monitoring of immune-controllable disease in 100% of the departments;
- 50% reduction in the DTP1-DTP3 dropout rate;
- Having a management system for vaccines and inputs reliable and efficient;
- Having a system of functional cold chain throughout the year in at least 80% of institutions participating in the EPI;
- Achieve 80% compliance with the standards of injection safety and waste management in at least 80% of institutions;
- Have personal capacities strengthened in regard to strategic planning functions and operational, monitoring and evaluation of MWED and DS in the program;
- Arrange and implement an integrated communication plan at all levels.

IV. STRATEGIC AXIS

The Complete Multi-Year Plan for the EPI 2011-2015 (cMYP / EPI) IS based on six strategic thrusts of which four are based on broad guidelines issued through the World Vision and Strategies for

Immunization (GIVS in English) and two are derived from the special needs of the program for more effective planning.

1-Further protect people in a changing world.

This axis refers to strategies and activities that will make more people benefit from existing vaccines and give them better protection.

2-Revive the routine immunization schedule

The revitalization program through the regular upgrading of Commons at low coverage, strengthening program management, implementation at all levels of a good monitoring system, building staff skills, resource endowments necessary for the management and operation of the program

3-Reinforce the MOPHP's leadership

This requires strengthening of the recovery program by the EPI managers both at central and intermediate level, the revitalization of support structures to EPI (ICC Technical Committee) and the establishment of the National Commission of Audit and Documentation of diseases preventable by vaccination.

4- Introducing new vaccines and technologies

MWED takes into account into the program routine vaccines meet the epidemiological profile of the country: in 2012, the Measles Mumps Rubella Vaccine (MMR) vaccine will replace the Measles Rubella (MR), the pentavalent (DTP-HepB-Hib) Diphtheria Tetanus Pertussis Vaccine (DTP) in 2013 against pneumococcal vaccines against rotavirus and will be introduced.

The Program will also resume the process of setting up indicators in the field of cold chain memory

5- Integrating immunization, other health interventions and related surveillance in Health Systems.

The EPI should be used as a gateway to a minimum package of preventive, promotional and nutritional targeting the dyad of the mother-child ", and the development of an epidemiological surveillance system more functional.

6-vaccinate in an interdependent world

The EPI will take into account the intensification of migration flows very important to Haiti (UN missions, the proliferation of NGOs after the earthquake of January 12).

Special measures will be adopted to address the problem of border control and the epidemiological surveillance of emerging diseases.

V. ACTIVITIES BY COMPONENTS

A. Service delivery (table 5):

Objective	Steps	Strategy	Activities
Take to the national level, the coverage of less than one year subjects for all EPI routine antigens to 90%	2011: 70% 2012: 75 % 2013: 80 %	- Daily vaccination in all institutions participating in EPIA; - Reduction opportunities	- Develop operational departmental plans with inclusion of the communication component - Develop micro-plans with the

cMYP-EPI-2011-2015

Objective	Steps	Strategy	Activities
	2014: 85 % 2015: 90 %	lacking - Revival of Advanced Strategies; - Active search of lost to - Implementation of approaches reaching every Commons -Strengthening of communication to stimulate demand; Strengthening Capacity for planning, monitoring and supervision of the program at all levels.	inclusion of the communication component. - Technical Support organizing the delivery of immunization services at provider institutions. - Establish a framework of contractual NGOs to maximize their response to vaccination -Recruit and train staff and institutional Community delivery of immunization services. - Catching up with unvaccinated opportunity BDS and ADS. - Strengthen links with the community; - Use Human Resources cooperation Cuban guide environmental recovery routine EPI
To increase immunization coverage of pregnant women at 80% + DT2	2011: Level 55 % 2012: Level 60% 2013: Level 65 % 2014: Level 70 % 2015: Level 80 %	- Same strategies aim above; - Td immunization of pregnant women every day during the NPC and muster	- See activities above -Strengthening the links with the community; Strengthen the capacity of providers to plan vaccination of pregnant women
Keep the country free circulation of polio, measles and rubella.		- Establishment of Committee documentation and verification of diseases preventable by vaccination - Organization of SIAs - Expanding the program to target new segments of the population, according to a family approach, academic and risk groups	- Establish the Committee - Develop a national verification and documentation of diseases preventable by vaccination. - Organize bi annually - Week Child Survival; - Organize annual Vaccination Week of the Americas. - Conduct mass vaccination campaigns on the basis of epidemiological data and blankets - Vaccinate semi annually in schools; - Use innovative measures to reach children and teens not in school
Eliminate maternal and neonatal	2011 - 2015: less than 1 case per 1,000 live births	- Same strategies to increase coverage of pregnant women dT routine institutional and community level -Supplementary immunization activities in municipalities with high risk; - The program's contribution to the promotion of clean delivery;	- Educate staff about the importance of vaccination against dT - Select common at high risk for MNT - Organize intensive activities in selected municipalities with high risk- Advocacy for Training and

Objective	Steps	Strategy	Activities
			equipment matrons
50% reduction in the dropout rate DTP1-DTP3 (18% in 2009 survey by the CDC)	<p>2011: Reduction de 10 %</p> <p>2012: Reduction de 20 %</p> <p>2013: Reduction de 30 %</p> <p>2014: Reduction de 40 %</p> <p>2015: 50% discount</p>	Active case-abandonment	<p>-Design and develop data collection tools to track each target to be vaccinated;</p> <p>- Always use the records during vaccination;</p> <p>- Use the specifications of active research in the community.</p> <p>-Establish research of dropouts in collaboration with community organizations</p>
Introduce new vaccines (pentavalent rotavirus and pneumococcal) in the routine EPI	<p>2011: Tender for new vaccines</p> <p>2012: Introduction of pentavalent vaccine</p> <p>2013: Introduction of vaccines against pneumococcus and rotavirus</p>	- Establishment of coordination mechanisms with GAVI	<p>- Develop a document for submission to GAVI</p> <p>- Advocate for the introduction of new vaccines</p>

B. Communication and social mobilization (table 6):

Objective	Steps	Strategy	Activities
Arrange and implement strategies at all levels, Integral communication Plan	<p>2011: Developing the Integrated Communication Plan (ICP)</p> <p>2012-2015 : Getting ICP</p>	<p>- Advocacy</p> <p>- Social mobilization</p> <p>- CCC</p>	<p>- À % elaborate and disseminate the PIC</p> <p>- Coordinate with the DPSPE</p> <p>- Strengthening Team's communications Capacity MWED</p> <p>- © s revitalizing the activities to strengthen links with the community ©</p> <p>- Search the support of technical and financial partners</p> <p>- Establish partnerships with media</p> <p>- Train staff re Contents of CCC.</p> <p>- © s authority involvement and local community leaders in a plan to fight against the theft of solar panels</p>

C. Epidemiologic Surveillance (table 7):

Objective	Steps	Strategy	Activities
Ensure adequate monitoring of immune diseases controlled in 100% of departments	2011-2015 : 100% Departments adequately monitor	Active search for cases of vaccine-preventable diseases (VPD)	<p>-Establish the National Commission of Audit and investigation of cases of VPD</p> <ul style="list-style-type: none"> - Involve the community in active case finding - Strengthen the capacity of providers to the active case - Strengthen coordination between MWED and

D. Vaccine supply and logistics (table 8):

Objective	Steps	Strategy	Activities
Having a management system for vaccines and inputs reliable and efficient		<ul style="list-style-type: none"> - Streamlining the supply of vaccines - Decentralization of the storage of vaccines through the establishment of a cold room capacity in the North and South. - Improved vaccine management at all levels. 	<ul style="list-style-type: none"> -Assess the needs of departmental health directorates on a quarterly basis -Provide the MWED two refrigerated trucks Medium Capacity -Supplying Sanitary actively Directions -Establish, based on the realities of each department, a reliable supply of vaccines, propane and other inputs for institutions. Revise and adapt management tools and vaccines inputs Monitor quarterly vaccine management at all levels
Have a system of functional cold chain throughout the year in at least 80% of institutions participating in the EPI	<p>2011: Level 40 %</p> <p>2012: Level 50 %</p> <p>2013: Level 60 %</p> <p>2014: Level 70 %</p> <p>2015: Level 80 %</p>	<p>Strengthen the system of maintenance and repair of refrigerators</p> <p>Orient-EPI to use another source of energy other than propane</p>	<ul style="list-style-type: none"> - Gradually replace refrigerators propane gas by solar -Update the inventory of cold chain - Recycle Cold Chain Technicians departmental and central- Recycle providers in the management of cold chain - Jump to the use of national indicators of cold storage (Fridge tag) -Providing equipment and spare parts to TCDF Equip-EPI new motorcycles

Objective	Steps	Strategy	Activities
			-Assess the storage capacity at all levels
Achieve 80% compliance with the standards of injection safety and waste management in at least 80% of institutions	<p>2011: Level 40 %</p> <p>2012: Level 50 %</p> <p>2013: Level 60 %</p> <p>2014: Level 70 %</p> <p>2015: Level 80 %</p>	<p>- Strengthening the capacity of Personnel Safety Injection (SI)</p> <p>- Rehabilitation / construction of waste treatment works</p> <p>-Networking of institutions around the incineration plants</p>	<p>Spread-delivery standards and management of cold chain</p> <p>-Train service providers on the information system</p> <p>-Supervise the implementation of SPFS-EPI at all levels</p> <p>- Identify and assess the waste treatment works</p> <p>Retraining of staff on injection safety and waste management</p> <p>-Staffing institutions gloves, garbage cans, boxes and other materials bio-security protection</p> <p>-Providing logistical support for transporting waste to incineration plants-</p> <p>Quarterly meeting to coordinate with the DPSPE</p>

E. Program Management (table 9):

Objective	Steps	Strategy	Activities
Have personal capacities strengthened in regard to strategic planning functions and operational, monitoring and evaluation of MWED and DS in the program		<p>-Strengthening Governance EPI</p> <p>- Coordination Program</p> <p>- Evaluation of the Program at all levels</p>	<p>-Update the job descriptions of staff at all levels</p> <p>To train staff at all levels</p> <p>- Supervise the EPI staff at all levels</p> <p>Organize workshops semi-monitoring and evaluation</p> <p>-Update the database periodically (quarterly)</p> <p>-Distribute quarterly newsletters retro-level information by</p> <p>-Standardization of monitoring tools integrated EPI</p> <p>Press-technical Training of administrative and technical staff on reporting and justification of funds / vouchers.</p> <p>- Provide incentives to EPI staff at all levels (premium, etc ...)</p>

VI. FINANCING

A. *Projection of financing needs from 2011 to 2015*

1. Methodology

The cost projections for 2011-2015 are based on cMYP the following databases:

- The tool cMYP for the period 2008 - 2012 (2007) which establishes a good database with 2006 as base year.
- The tool cMYP taken by WHO for the period 2011 - 2015 (May 2011)
- The external evaluation of cold chain and vaccine management (May 2011)
- The paper application for new vaccines (May 2011)

Data from these documents were included in the new version of the tool cMYP (Version 2.5 March 2011). The projections are based on national goals and priorities of the national EPI program. Although there is not a strategic plan for health for the period 2011 - 2015, EPI and MSSP partners believe the new government commit to the objectives of cMYP 2011 to 2015.

With all these data, we had to make adjustments to the initial projections generated by the last cMYP tool. The principal adjustments to the projections generated by the tool cMYP for the period 2011 - 2105 are:

- The tool 2008 - 2012 did not include costs for outreach for the base year 2006. WHO has updated while the costs of this budget item and that is what is used as the basis for projections 2011 - 2015
- The cost base 2006 base for social mobilization and IEC seem very low \$ 847. The WHO has listed the various components of this budget and these components are used for projections for 2011 to 2015.
- The study of cold chain products cost much less than the costs generated by the tool cMYP. Some costs of the study of the CDF were then used (mainly the distribution of vaccines) and was substituted for those produced by the tool. Once the study is completed, the CHP will be updated with the results of this study.

2. Assumptions

a) Routine program

Some decisions cMYP 2011-2015 will have a major impact on the funding needs of the program routine during the year 2011-2015:

- The introduction of new vaccines:
 - Substitution of the bivalent vaccine against measles, rubella (MR), the trivalent measles-mumps-rubella (MMR);

- Substitution of Diphtheria Tetanus Pertussis (DTP) vaccine by the pentavalent (DTP + anti influenzae Haemophilus b + hepatitis B)
- Introduction of new vaccines: pneumococcal vaccine, and rotavirus vaccine
- The chronology of substitutions and introductions:
 - Substitution of the MR with MMR in 2012 throughout the territory
 - Substitution of the pentavalent DTP by HepB in 2012 throughout the territory
 - Introduction of pneumococcal vaccine and rotavirus vaccine planned for 2013 throughout the territory
- Offering an integrated package of services including community as is the case, the contribution of vitamin A supplementation, de-worming, but also family and other benefits.
- The setting? works by the two key measures for the revitalization of the routine program, namely:
 - Compensation of officers of the service outreach
 - The supply of asset-back of institutions that are unable to source

b) Additional immunization activities

The SIAs of national importance to provide in fiscal year 2011-2015 are:

- 1) Catch-up campaign of unvaccinated susceptible to measles, rubella and polio to the expected dates of crossing the threshold of one (1) cohort of susceptible unvaccinated, either:
 - 2011, targeting children aged 0-9
 - 2014 with the target for 0-5 years
- 2) Campaign to eliminate maternal and neonatal tetanus, with 25% of the target population (women aged 15-49 years) per year for 4 years starting in 2012
- 3) Universal vaccination against tetanus, with 25% of the target population (total population less than women aged 15-49) in 2013 and again 2014 and 50% in 2015
- 4) Vaccination campaign against hepatitis B students and students in 2013.

3. Summary of Costs of cMYP

The following page cMYP costs for the period 2011 to 2015. Program needs are estimated at USD 114.4 million for the period beginning with \$ 15.8 million in 2001 to reach 27.7 million USD in 2015.

The need for routine total USD 88.4 million, just over three quarters (77.3%) of the total, while the needs of rural areas are estimated at 25.9 USD (22.7%). The estimated costs for 2015 are five times higher compared to the base year 2006 (5.4 million USD), year, or EPI had not yet introduced vaccines underused and new vaccines, or had not driven vaccination campaign, and where the immunization coverage with DTP3 reached 68.6%.

a) Routine program

(1) Vaccines

The cost of vaccines for routine immunization are estimated at USD 42.3 million (37% of total) for the period with the new vaccines estimated at USD 36.6 million (32%) of the CHP. The unit cost per dose of the vaccine - and the resulting coverage rate to 90% for most antigens - contributed to these significant costs:

- Pentavalent: constant price of USD 3.38 during the period ⁸
- Pneumococcal vaccine (PCV13): constant price of U.S. \$ 3.71
- Rotavirus vaccine: constant price of U.S. \$ 7.95

(2) Injection equipment

The estimated budget for this position go to 176 644 USD in 2006 to \$ 310 864 USD in 2015, reflecting the high levels of coverage for traditional vaccines, vaccines underused and new vaccines. These estimates represent 1% of the total estimated for the period 2011 - 15.

(3) Personnel

Salaries, allowances for staff in outreach and allowances for the supervision and monitoring are estimated at 18.1 million, or 16% of the total. Allowances for staff in outreach are a major part of this topic, 10% of the total cMYP (11.5 million USD).

(4) Transportation

The estimated costs of transportation of vaccines for different strategies total \$ 349.341 in 2006 to \$ 713.693 in 2015, representing 2% of the estimated total for the CHP. The basic costs and projections were estimated with the price of gasoline / propane gas, a percentage for the cost of vehicle maintenance, and a percentage of vehicle use for the fixed strategy (50%) , advanced (30% of the time) and mobile (20%) of the time.

(5) Interview

These estimated costs represent 4.4% of the cMYP (5.1 million USD). They spend \$ 410.848 in 2006 to 1,300,000 USD in 2015. The maintenance of the CDF represents almost the totality of this budget category with 4.7 million USD to cover the needs of gasoline and propane gas for various equipments (refrigerators, generators and others). The remainder (\$ 381.999) covers the maintenance requirements of vehicles. These costs for the base year are calculated from a percentage of 5% of the purchase of such equipment

(6) Short-term training

⁸ Denominators are calculated from the population IHSI UNFPA 2010; birth rate (BCG) according to the National IHSI (2.8), and the calculation of survivors at one year (for all other antigens) made from the rate previous birth and infant mortality rate of the last national EMMUS (EMMUS IV: $57 / \text{ }^\circ \text{ }^\circ$)

These costs are estimated at 4.6 million for the period 2011 to 2015, representing 4% of total CHP. These estimates have ranged from \$ 103.280 in 2006 to \$ 949.509 in 2015 and are based on estimates made by WHO for institutional training, community training and breeding forms.

(7) Social mobilization and IEC

As specified prior to beginning this chapter "Financing", the estimate of these costs in 2006 was very low. For the plan period, costs were estimated at a more realistic starting from \$ 102,000 in 2011 and adjusting for inflation of 2% until 2015. This category accounts for \$ 693.198 for the period and represented 0.6% of the CHP.

(8) Disease control and surveillance

There are no cost estimates for this budget line for 2006. The WHO has estimated the approximate cost for sub headings:

- Detection and Notification
- Verification of cases, outbreaks and investigations
- Data Management
- Laboratory specimen kits and transport
- Training, technical assistance and technical installation of incinerators
- Buy kit working / protection

These costs are estimated at nearly \$ 2 million for the period 2011 to 2015 (1.7% of the total cost cMYP). These cost estimates do not include those for per diem staff responsible for supervising and monitoring that are already included in the transport section.

(9) Program management

These estimates amount to USD 6.4 million (5.6% of total cMYP), compared to only \$ 5.987 in 2006. These costs result from the compilation of budget estimates by EPI of the following topics:

- Ratings and Reviews Program
- Exchanges
- Provision for office
- Supervision and technical assistance
- Mission maintenance / repair of the CDF
- Revitalization activities.

(10) Other recurring costs

These costs totaled \$ 53.081 USD (0.05% of total cMYP) for the period and are included in this budget to continue activities related to the financial sustainability of EPI activities.

(11) Capital costs

This section covers the requirements for vehicles, equipment and other equipment CDF for the program. The estimates for this budget amounted to USD 3.4 million (3% of the total cMYP).

cMYP-EPI-2011-2015

These costs begin strongly in 2011 with the purchase of vehicles at the national, departmental and motorcycles at the departmental and institutional equipment CDF at central, departmental and institutional levels. These estimated costs are lower between 2012 and 2014. The cost rose again in 2015 due to the expansion of the CDF (for the purposes of vaccination in 2016 and 2017) and the complexity of managing the program. Purchase costs were updated by the WHO in May 2011.

The other costs of capital, represent acquisitions for waste management, specifically and primarily for incinerators.

b) Campaigns

The cost estimates campaigns reflect the timing of these campaigns, target populations, the antigens administered and coverage targets specified. Operational unit costs per person vaccinated were calculated by WHO and have been multiplied by the cohort to be vaccinated.

As mentioned previously, the campaign costs totaling 25.9 million USD for the total period and represent 22.7% of total costs of CHP.

Table 10: Summary of costs and resource requirements - short version

Components of Multi-year Plan	Expenditure	Future resource requirements					Total 2011 - 2015
	2006	2011	2012	2013	2014	2015	
	US\$	US\$	US\$	US\$	US\$	US\$	US\$
Vaccines and Logistics	\$1 219 539	\$2 109 572	\$5 309 300	\$13 147 113	\$12 304 092	\$13 383 795	\$46 253 873
Services	\$3 636 876	\$3 803 638	\$3 907 970	\$4 014 977	\$4 096 493	\$4 475 059	\$20 298 138
Appeal and Communication	\$847	\$102 000	\$104 040	\$159 181	\$162 365	\$165 612	\$693 198
Epidemiologic Surveillance and Monitoring	\$14500	\$377 910	\$385 468	\$393 178	\$401 041	\$409 062	\$1 966 659
Program Management	\$109 267	\$2 115 480	\$2 157 790	\$2 200 945	\$2 244 964	\$2 289 864	\$11 009 043
Additional Vaccination activities		\$6 779 424	\$706 117	\$7 611 142	\$6 298 211	\$4 538 096	\$25 932 991
Shared costs of health systems	\$486 368	\$496 096	\$506 018	\$516 138	\$526 461	\$536 990	\$2 581 702
GRAND TOTAL	\$5467 397	\$15 784 120	\$13 076 703	\$28 042 675	\$26 033 628	\$25 798 478	\$108 735 604

Costing tools of cMYP 2011-2016

Table 11: Summary of costs and resource requirements - detailed version

Category of cost	2006	2011	2012	2013	2014	2015	
Recurring current costs	US\$	US\$	US\$	US\$	US\$	US\$	US\$
Basic vaccine	\$534	\$587	\$4 268	\$12 597	\$11 927	\$12 917	\$42 299 351
	100	894	867	116	594	881	
Traditional	\$534	\$587	\$360	\$369	\$378	\$411	\$2 107 458
	100	894	284	556	718	006	
Under-utilized			\$907	\$815	\$881	\$944	\$3 548 274
			228	563	416	068	

cMYP-EPI-2011-2015

New			\$3 001 355	\$11 411 997	\$10 667 460	\$11 562 807	\$36 643 619
Injection Material	\$82 591	\$105 780	\$176 644	\$266 576	\$279 842	\$310 864	\$1 139 707
Personnel	\$3 287 535	\$3 474 921	\$3 544 419	\$3 615 307	\$3 687 614	\$3 761 366	\$18 083 627
Existing Staff salaries (specific vaccination)	\$201 285	\$236 982	\$241 721	\$246 556	\$251 487	\$256 517	\$1 233 262
Per-diems for advanced/mobile strategy	\$2 160 000	\$2 203 200	\$2 247 264	\$2 292 209	\$2 338 053	\$2 384 815	\$11 465 541
Per-diems for surveillance and monitoring	\$926 250	\$1 034 739	\$1 055 434	\$1 076 542	\$1 098 073	\$1 120 035	\$5 384 823
Transport	\$349 341	\$328 717	\$363 551	\$399 670	\$408 879	\$713 693	\$2 214 511
Fixed strategy and delivery of vaccines	\$194 079	\$182 621	\$201 973	\$222 039	\$227 155	\$396 496	\$1 230 284
Advanced strategy	\$116 447	\$109 572	\$121 184	\$133 223	\$136 293	\$237 898	\$738 170
Mobile strategy	\$38 816	\$36 524	\$40 395	\$44 408	\$45 431	\$79 299	\$246 057
Maintenance and General	\$410 848	\$620 084	\$968 501	\$1 056 034	\$1 154 155	\$1 262 262	\$5 061 035
Maintenance of the Cold chain	\$410 848	\$595 604	\$918 562	\$980 476	\$1 051 973	\$1 132 422	\$4 679 037
Maintenance of other equipments		\$24 480	\$49 939	\$75 558	\$102 182	\$129 840	\$381 999
Buildings (electricity, water...)							
Short term training	\$103 280	\$877 200	\$894 744	\$912 639	\$930 892	\$949 509	\$4 564 984
Social Mobilization and IEC	\$847	\$102 000	\$104 040	\$159 181	\$162 365	\$165 612	\$693 198
Control and monitoring of diseases	\$14 500	\$377 910	\$385 468	\$393 178	\$401 041	\$409 062	\$1 966 659
Program management	\$5 987	\$1 228 080	\$1 252 642	\$1 277 694	\$1 303 248	\$1 329 313	\$6 390 978
Other recurring costs		\$10 200	\$10 404	\$10 612	\$10 824	\$11 041	\$53 081
Sub-total of recurring costs	\$4 789 029	\$7 712 786	\$11 969 280	\$20 688 007	\$20 266 454	\$21 830 604	\$82 467 132
Capital costs							
Vehicles	\$192 000	\$226 440	\$27 467	\$28 016		\$241 794	\$523 716
Cold chain equipments		\$269 494	\$369 997	\$231 874	\$236 511	\$241 242	\$1 349 119
Other capital costs		\$299 880	\$305 878	\$301 383	\$307 411	\$313 559	\$1 528 110

cMYP-EPI-2011-2015

Sub-total of capital costs	\$192 000	\$795 814	\$703 342	\$561 273	\$543 922	\$796 594	\$3 400 945
Vaccination campaigns							
Polio		\$1 956 808			\$1 163 409		\$3 120 217
Vaccines and injection material		\$661 813			\$378 159		\$1 039 972
Operational costs		\$1 294 995			\$785 250		\$2 080 245
Measles							
Vaccines and injection material							
Operational costs							
Yellow Fever							
Vaccines and injection material							
Operational costs							
Neonatal tetanus			\$706 117	\$732 544	\$760 034	\$788 633	\$2 987 328
Vaccines and injection material			\$368 542	\$378 713	\$389 166	\$399 907	\$1 536 328
Operational costs			\$337 575	\$353 830	\$370 868	\$388 726	\$1 450 999
Measles Rubella		\$4 822 616			\$2 426 390		\$7 249 006
Vaccines and injection material		\$1 677 629			\$811 663		\$2 489 291
Operational costs		\$3 144 988			\$1 614 727		\$4 759 715
Universal tetanus				\$2 017 717	\$1 948 379	\$3 749 463	\$7 715 558
Vaccines and injection material				\$840 210	\$801 976	\$1 525 374	\$3 167 561
Operational costs				\$1 177 507	\$1 146 402	\$2 224 089	\$4 547 998
Hepatitis B schools				\$4 860 882			\$4 860 882
Vaccines and injection material				\$3 552 834			\$3 552 834
Operational costs				\$1 308 048			\$1 308 048
Vaccines and injection material							
Operational costs							
Vaccines and injection material							

cMYP-EPI-2011-2015

	Operational costs							
	Vaccines and injection material							
	Operational costs							
	Sub-total of campaign costs		\$6 779 424	\$706 117	\$7 611 142	\$6 298 211	\$4 538 096	\$25 932 991
Shared costs								
	Shared costs of staff	\$486 368	\$496 096	\$506 018	\$516 138	\$526 461	\$536 990	\$2 581 702
	Shared costs of transport							
	Buildings							
	Subtotal	\$486 368	\$496 096	\$506 018	\$516 138	\$526 461	\$536 990	\$2 581 702
TOTAL		\$5 467 397	\$15 784 120	\$13 884 756	\$29 376 560	\$27 635 048	\$27 702 284	\$114 382 769
	Routine vaccination	\$5 467 397	\$9 004 696	\$13 178 639	\$21 765 418	\$21 336 837	\$23 164 188	\$88 449 778
	Vaccination campaigns		\$6 779 424	\$706 117	\$7 611 142	\$6 298 211	\$4 538 096	\$25 932 991

Cost estimation tools of cMYP 2011-2016

B. Financing

1. Health sector financing

The first year in-depth accounting of financial flows in the health sector has been achieved in 2008. Previously there were only exercises relatively fragmented accounts of specific health, particularly in the area of HIV / AIDS.

In 2005-2006, total health expenditure (SDRs) were estimated to 11.4 billion bottles, or around \$ 285 million (at 40 HTG / USD), which represented 5.7% of Domestic Product (GDP). The public health spending were 3.31 billion water bottles (82 million), 95 (ninety five) percent from the MOPHP. This figure represented twenty-nine percent (29%) of total health expenditure, the third contribution in value, after that of household's 4.2 billion water bottles, (36%) and donor 4 billion water bottles, (35%).

Knowing that a minimum package of basic services, including EPI, costs around \$ 60 per capita, the level of current funding (\$ 31 per capita in a pattern that heavily tax households) seems quite unable to meet the needs base of Haiti's population.

Although EPI cannot enjoy the special funding program to fight against AIDS, it has very strong assets: Immunization is universally recognized as the most effective intervention and efficiently;

- Immunization is universally recognized as the most effective intervention and efficiently;
- An international finance very powerful (GAVI) is available for countries in the economic situation of Haiti EPI is a stated priority of the MOPHP and the Government;
- In his statement of General Policy-making function,

- In the context of debt reduction, Haiti pledged to achieve goals of vaccination coverage (up 10% DTP3 coverage, BCG, measles) and
- The insurance payment for a package of care, including vaccination, women and children under 5 years old, is part of the development of social protection in health and projects that will provide funding to MOPHP related.

2. Program financing

Funding sources currently available for EPI, which should continue to be over the next few years and the topics which they are intended, are the following:

- The national budget, and will take over:
 - The general operating expenses and maintenance services from the central level (MWED) and county (DHM);
 - Salaries and officials at central / national, departmental and operational
- PAHO / WHO and UNICEF will support and take until 2012, through the PAEPI project, a joint project funded by Canada:
 - Salaries for contract staff to strengthen the central or national level, if necessary;
 - The costs of support activities / monitoring departmental level by the central level supervision departments, workshops national monitoring and planning departmental procurement of vaccines and inputs; missions installation and repair of refrigerators, and missions technical assistance and training workshops (planning and monitoring) organized by the DHM for institutions;
 - The costs of support activities / institutions followed by the county level: supervision institutions; active institutional supply of vaccines and inputs; refrigerator repair missions, workshops and monitoring institutional planning;
 - The cost of training and retraining of national, departmental and institutional and community service officers;
 - The cost of epidemiological surveillance (case investigation, active search);
 - Costs related to the renewal of logistics (vehicles and motorcycles);
 - Costs related to acquisition and installation of incinerators;
 - Costs of supplementary immunization activities related to the elimination of maternal and neo natal tetanus;
 - The costs of operational research relating to insurance of geographical accessibility of EPI, community participation, integration of immunization services in package Minimum entry level and motivation of staff.
- UNICEF is taking and will support, through funding from the Japan Cooperation (JICA):
 - Current vaccines and related inputs, including those related to waste management;

cMYP-EPI-2011-2015

- The acquisition and renewal of cold chain equipment and bribery
- The tripartite project Haiti Brazil Cuba, in addition to providing technical assistance, will support the acquisition of vaccines and cold chain equipment up to \$ 2.5 million dollars of vaccines and 4.5 million USD equipment
- NGOs, especially those dependent in whole or in part on the cooperation of the United States of America (USAID), and will take over:
 - Salaries and expense management personnel and institutional providers;
 - The allowances paid to personnel responsible for community implementation and supervision of outreach in many communes in all departments
- Institutions are private or mixed and are in charge of personnel and transport costs of vaccines and inputs, including gas, from departmental deposits.
- GAVI : To seek funding from GAVI are:
 - Funding for new vaccines between 25 and 28.4 million USD⁹
 - RSS-GAVI project Strengthening of Health Services (750 000 USD per year, 5 years) and
 - Funding for the introduction of new vaccines: on account of a lump sum of 100,000 USD and 90% of the value of five annual cohorts of births per vaccine.

Table 12: needs and availability of funding

	STATE	PAPEV (ACDI)		UNICEF		GAVI		Brazil	NGOs	CDC
		OPS/ WHO	UNICEF	JICA	RSS	INV				
Old vaccines				X				X		
New							X			X
Input location				X						
Propane	X									
Vehicles and cold chain			X	X				X		
National	X	X	X		X	X				
Department level operations	X	X	X		X	X				
Institutions	X	X	X		X	X		X		
Epidemiologic Surveillance	X	X								X
Equipment introduction charges					X			X		
New Vaccine operations	X	X		X		X				
Catch polio / RR 0-5years	X	X	X					X		
Anti-tetanus against MNT	X		X					X		
Universal Anti-tetanus	X	X						X		
Anti Hepatitis B - Schools	X	X						X		

⁹ The covers administrative 2010 are compared with results of a survey of coverage by the CDC in 2009.

cMYP-EPI-2011-2015

Regarding the routine EPI, predictable funding should be sufficient throughout the year, except that:

- The state takes its commitment to support the supply of propane gas;
- Canadian funding being channeled through the PAEPI will be renewed after 2012.
- The request for funding of new vaccines to be accepted, which will require meeting the eligibility requirements, including:
 - the commitment of the state to support or raise the cons portion (20 cents per dose, or 1.6 MUSD) per table below;

Table 13: financing

	2012	2013	2014	2015	2011-2015
	\$	\$	\$	\$	\$
DPT-Hep B - Hib	\$177 595	\$158 384	\$172 194	\$186 647	\$694 821
Rotavirus		\$129 268	\$114796	\$124 432	\$368 496
Pneumococcal		\$193 903	\$172 194	\$186 647	\$552 744
ANNUAL TOTAL	\$177 595	\$481 555	\$459 185	\$497 726	\$1 616 061

Cost estimation tools of cMYP 2010-2011

- The quantitative adaptation of the cold chain, which should be possible through JICA and the tripartite project;
- Strengthening the cold chain and reducing rates of vaccine wastage.

C. Financial gap

The results of the financial gap in this document are preliminary. Especially the commitments by development partners are still in talks and are based on preliminary discussions to finalize the exercise of estimating costs. In addition, Haiti has just inaugurated a new government (May 14, 2011) and it will be the policy of government funding for the health sector.

To better understand the dynamics of the financial gap, two scenarios are presented:

Scenario 1: Financial gap with guaranteed financing only

- Assuming 1 where the Government of Haiti (or any other source) will ensure the co-financing (new) vaccines and financing of propane / gas for the CDF, the difference would amount to 41.6 million USD.

Table 14: Financial gap in scenario 1 (hypothesis 1)

Financial variance with secure funding only	2011	2012	2013	2014	2015	Avg.2011 - 2015
Vaccines and Injection Material \$		\$1 267 511	\$1 089 679	\$1 160 272	\$1 250 642	\$3 855 998
Personnel	\$1 187 449	\$1 320 817	\$1 014 414	\$3 195 472	\$3 136 197	\$9 854 349
Transport	\$267 019	\$299 996	\$334 175	\$408 879	\$655 203	\$1 965 273
Activities and other recurring costs	\$1 475 457	\$1 836 821	\$1 926 800	\$1 923 516	\$2 803 877	\$9 966 471
Logistics (vehicles, cold chain)\$						
Vaccination campaign				\$6 298 211		
Financial gap*	\$959 969	\$4 928 727	\$11 277 521	\$12 227 647	\$12 280 610	\$41 674 474

cMYP-EPI-2011-2015

* Specific costs only. Shared costs are not included.

\$ Scenario: Government co-finances the vaccine; Government finances the propane gas

The three budget items would be financed by:

- Vaccines for the equivalent of 3.85 million, despite the traditional media of JICA, UNICEF, CDC and CIDA¹⁰
- The staff, particularly the allowance / per diem for outreach, which are mainly dependent on numerous NGOs involved in immunization.
- Transporting vaccines and other inputs.
- Activities and other recurrent costs

Underfunded budget items would be:

- Logistics / cost of capital: the funding by JICA and Brazil (tripartite project).
 - Campaigns (vaccine and operational costs) by UNICEF and WHO and Brazil (ibid.).
- In the case 2 where the Government of Haiti (or any other source) does not co-financing (new) vaccines and financing of propane / gas for the CDF, the difference would amount to 45.5 million USD, due to the widening gap of these two headings.

Table 15: Financial gap in scenario 1 (hypothesis 2)

Financial variance with secure funding only	2011	2012	2013	2014	2015	Avg. 2011 - 2015
Vaccines and Injection Material \$		\$1 445 106	\$1 571 234	\$1 619 458	\$1 748 368	\$5 472 060
Personnel	\$1 187 449	\$1 320 817	\$1 014 414	\$3 195 472	\$3 136 197	\$9 854 349
Transport	\$267 019	\$299 996	\$334 175	\$408 879	\$655 203	\$1 965 273
Activities and other recurring costs	\$1 848 544	\$2 217 369	\$2 338 264	\$2 417 491	\$3 378 195	\$12 199 863
Logistics (vehicles, cold chains Vaccination campaign)			-\$698 689			
	\$0	\$706 117	\$7 611 142	\$6 298 211	\$4 538 096	\$19 153 567
Financial gap	\$1 333 056	\$5 486 870	\$12 170 540	\$13 180 807	\$13 352 654	\$45 523 928

* Specific costs only. Shared costs are not included.

\$ Scenario: Government does not co-finance the vaccine; Government does not finance the propane gas

Scenario 2: Financial gap with guaranteed and probable financing

- Assuming 1 or the Haitian government would like its commitments (on the national budget or through a partner) co-financing of new vaccines and management of propane gas, the fiscal gap is reduced to 15.7 million USD.

Table 16: Financial gap in scenario 2 (case 1)

Financial variance with secure funding only	2011	2012	2013	2014	2015	Avg. 2011 - 2015
Vaccines and Injection Material \$				-\$99 862	-\$104 432	-\$1 904 675

¹⁰ The covers more than 100% may result from an underestimation of the denominator and / or counting errors or compilation

cMYP-EPI-2011-2015

Personnel	\$1 187 449	\$1 320 817	\$1 014 414	\$3 195 472	\$3 136 197	\$9 854 349
Transport	\$267 019	\$299 996	\$334 175	\$408 879	\$655 203	\$1 965 273
Activities and other recurring costs	\$1 475 457	\$1 836 821	\$1 926 800	\$1 923 516	\$1 953 540	\$9 116 134
Logistics (vehicles, cold chains Vaccination campaign)	-\$1 057 850	-\$502 536	-\$698 689	-\$758 704	-\$280 528	-\$3 298 307
Financial gap	\$267 135	\$2 955 098	\$2 481 260	\$4 669 301	\$5 359 981	\$15 732 775

* Specific costs only. Shared costs are not included.

\$ Scenario: Government co-finances the vaccine; Government finances the propane gas

In this scenario:

- Vaccines and injection materials are now funded (by 1.9 million USD)
- Logistics continues to be funded on
- The campaigns are sufficiently funded

Topics that continue to be under funded are:

- Staff
 - Transport
 - Other activities and other recurrent costs.
- In the case 2 where the Government of Haiti (or any other source) does not co-financing (new) vaccines and financing of propane / gas for the CDF, the financial gap widens to 19.5 million USD , due to the widening gap of these two headings

Table 17: Financial gap in scenario 2 (case 1)

Financial variance with secure funding only	2011	2012	2013	2014	2015	Avg.2011 - 2015
Vaccines and Injection Material \$		\$177 595	\$386 115	\$359 324	\$393 294	
Personnel	\$1 187 449	\$1 320 817	\$1 014 414	\$3 195 472	\$3 136 197	\$9 854 349
Transport	\$267 019	\$299 996	\$334 175	\$408 879	\$655 203	\$1 965 273
Activities and other recurring costs	\$1 848 544	\$2 217 369	\$2 338 264	\$2 417 491	\$2 527 858	\$11 349 526
Logistics (vehicles, cold chains) Vaccination campaign	-\$1 057 850	-\$502 536	-\$698 689	-\$758 704	-\$280 528	-\$3 298 307
Financial gap	\$640 222	\$3 513 241	\$3 374 279	\$5 622 462	\$6 432 025	\$19 582 228

* Specific costs only. Shared costs are not included.

\$ Scenario: Government does not co-finance the vaccine; Government does not finance the propane gas

In all scenarios, staff, transportation and other activities are severely underfunded.

D. Financing strategies

Regarding financing, the EPI has some advantages:

- o The successful conclusion of the democratic process heralding a period of hope and stability;
- o The fact that the government interest in improving the efficiency of the program because:

a) approval of funding by GAVI pentavalent implies strengthening the cold chain and vaccine management at all levels;

b) eligibility for debt reduction requires an increase of 10% coverage with DPT3 vaccine, BCG and measles;

- The existence of a large untapped potential for financing operational costs by NGOs;
- The existence of strong international mobilization for Haiti and in particular the EPI and
- The drive for social protection in health for women and less than 5 years.

The main weaknesses are:

- The small contribution from the government and the heavy reliance on external agencies;
- The poor performance of the program and its consultative bodies (Inter Agency Coordinating Committee) and
- The multitude of priorities that the MOPHP and more generally the government must face.

Taking into account the strengths and weaknesses of the program, strategies for mobilization / securing resources revolve around three axes:

1) The mobilization of additional resources at the national and international level:

- **Strategy 1: Strengthening the participation of the Haitian state in financing:** The government funded so far as the salaries of workers in the program.
 - The commitment of the state to take over the propane refrigerator that has been made by successive MOPHP is a great step forward. It is essential that this commitment is kept, had regard to the fact that there is no cold chain without propane and external agencies refuse to fund this section;
 - To be eligible for GAVI support the financing of new vaccines, the Haitian state will provide some financial cons of \$ 0.20 per dose. Even if it is a relatively symbolic cons compared to the actual price it will represent a substantial fiscal effort (U.S. \$ 1.6 million USD).

Table 18: Financial viability

Macro-economic indicators and financial viability	2006	2011	2012	2013	2014	2015
Reference Data						
GDP Per capita (\$)	\$450	\$461	\$473	\$484	\$497	\$509
Total health expenses per inhabitant (DTS en \$)	\$29	\$40	\$40	\$40	\$40	\$40
Population	\$9 044 587	\$10 363 566	\$10 649 600	\$10 943 529	\$11 245 571	\$11 555 948
GDP (\$)	\$4 070 064 104	\$4 777 603 883	\$5 037 260 954	\$5 296 668 178	\$5 589 048 639	\$5 881 977 763
Total health expenses (DTS in \$)	\$262 293 020	\$414 542 636	\$425 984 013	\$437 741 172	\$449 822 828	\$462 237 938
Health Expenses of Government (DSG in \$)	\$62 425 739	\$91 613 923	\$94 142 467	\$96 740 799	\$99 410 845	\$102 154 584
Resource requirements for vaccination						
Routine vaccination and campaigns	\$4 981 029	\$15 288 025	\$13 378 739	\$28 860 423	\$27 108 588	\$27 165 294
Only routine	\$4 981 029	\$8 508 601	\$12 672 622	\$21 249 280	\$20 810 376	\$22 627 198
Per child DPT3	\$30	\$44	\$60	\$92	\$82	\$82

cMYP-EPI-2011-2015

% total health expenses of the government						
Resource requirements for vaccination						
Routine vaccination and campaigns	8%	17%	14%	30%	27%	27%
Only routine	8%	9%	13%	22%	21%	22%
par inhabitant						
Resource requirements for vaccination						
Routine vaccination and campaigns	\$0,55	\$1,48	\$1,26	\$2,64	\$2,41	\$2,35
Only routine	\$0,55	\$0,82	\$1,19	\$1,94	\$1,85	\$1,96

- **Strategy 2:** Establishment of contracts with NGOs to support the salary of staff ensuring the availability of community services (outreach) and supply costs of institutions.
- **Strategy 3: Mobilizing international resources available at GAVI, through:**
 - Preparation and submission of an application for funding of Strengthening Health Systems (GAVI-HSS);
 - Preparation and submission of a funding request for the introduction of new vaccines (GAVI-INV)
 - Implementation of recommendations of the Audit Quality Data (DQA) to reach the next DQA Haiti litigant making a score of financial support from GAVI Immunization Services (GAVI-ISS).
- **Strategy 4:** Renegotiate their partners with some funding categories. This is a corollary to the first point of a strategy, knowing that the two tables clearly identify the financial gap that there are some budget items that are under-and over-funded. The state of Haiti and the partners should agree to better cover the unfunded needs

2) Improving reliability of resources:

- **Strategy 5:** Performance improvement program in terms of vaccine coverage, vaccine wastage reduction and cost control. This is essential so that the program strengthens the credibility without which he will have no long term commitment of donors;
- Strategy 6: revitalization of the Inter Agency Coordination Committee for reconnecting and restoring confidence also needed between the program and donors.

3) Improvement of resources efficiency:

Two strategies should be implemented to improve the program's efficiency and effectiveness:

- **Strategy 6:** Improved management of financial resources, by 1) the use of programming tools budgeting level that have been introduced since 2010, and 2) the development and introduction of management tools and accounting transparency and efficiency
- **Strategy 7:** Reducing vaccine wastage by improving the cold chain and vaccine management at all levels by implementing the recommendations of the external evaluation of vaccine management and cold chain

VII. MONITORING AND EVALUATION MECHANISMS

The establishment of a systematic monitoring system and proximity of immunization activities and the continued reduction of gaps are essential to achieving the desired results in any immunization program. The monitoring of this plan is now present at three levels: At the municipal level, the focal point, ensures that the delivery institutions are able to provide services to pregnant women of childbearing age, children are targeted doses of vaccine needed to protect them under the conditions and through strategies attendants, according to the required standards, enforces those above and relates to the need at the departmental level. Departmental Directorate is responsible for the coordination and monitoring of the provision of immunization services, communication on the subject, the supply of institutions, the epidemiological surveillance of EPI diseases, collection and processing of analysis of immunization data and notify the MWED, as regards its jurisdiction. MWED the responsibility for monitoring the implementation? Practice of this plan in all its components, is accountable to senior management through the mechanisms established at the MOPHP. All activities of supervisory or technical staff are the subject of the report and recommendations and quarterly reports indicate corrections to problems, constraints and potential threats to rise to the smooth running of the program, in this respect the Technical Committee EPI and ICC / EPI can be particularly useful.

Two evaluations are planned in the framework of the implementation? Practice of this plan: a formative evaluation will be conducted at the end of the first stage at the end of 2012 to identify the bottlenecks of possible bottlenecks and to realign the plane on the orientation of new health sector strategic plan. A summative evaluation in the second quarter of the fifth year and to prepare for the next multi-year plan for EPI Haiti.

Objective	Indicators	Sources
Porter at the national level, coverage of less than one year by all EPI vaccines was less than 80%	Number of children under 1 year immunized to BGG and having received DTP3, Polio 3 and 1 dose of MR / Total number of children under 1 year.	Administrative data from national routine EPI
Bring the immunization coverage of pregnant DT 2 + at 80% less.	Number of pregnant women in the period who received 2 doses of vaccine and + dT on the expected total number of possible FE.	Administrative data from national routine EPI
Keep the country has zero polio cases, zero cases of measles and rubella cases to zero from 2011 to 2015	Number of confirmed cases each year = 0	Data from epidemiological surveillance
Eliminate maternal and neonatal tetanus.	Number of reported cases <1 per 1000 live births	Data from epidemiological surveillance
Introduced into the immunization schedule of new vaccines, beginning with the pentavalent to be available in	The 10 departments regularly administer DTP-Hep b Hib at health institutions who vaccinate in 2012. The 10 departments regularly administer the pneumococcal	Administrative data from national routine EPI Supervision reports

Table 17: Monitoring information and information sources		
Objective	Indicators	Sources
100% of health departments.	vaccine at the health institutions that immunize from 2013 The 10 departments regularly administer the rotavirus vaccine at the health institutions that immunize from 2013	
Increase to 70% the percentage of institutions participating actively and effectively in the epidemiological surveillance of reportable diseases	70% of health institutions have a focal point for the epidemiological surveillance 70% of IS are reporting communicable diseases under surveillance, especially immune controllable on a weekly basis.	Coverage data for epidemiological surveillance Conducting a small survey to supplement the information
50% reduction in the dropout rate DTP1-DTP3	DTP1- DTP3 * 100 DTP1 must be 50% lower than the rate last year	Administrative data from national routine EPI
Have a stock management system reliable and efficient way to prevent stock-outs at the institutional level	The inventory management system implemented using regulatory tools. The structure of the stock management system allows a control that ensures the reliability of management. The separation of functions of the recipient of those stocks stock manager and supervisor of those latter	Conducting a small survey to collect information
Reduce 70% rate of vaccine wastage.	Number of doses of vaccines received less amount of vaccine used * 100 _____ Quantity of vaccine received, which must represent a loss rate lower than 70% of that of the previous year	Administrative data from national routine EPI
Have a system of reliable cold chain so that 80% of institutions participating in the EPI could benefit from a functional unit CDF throughout the year	Number of institutions that have at any time of year a unit of cold chain functional _____ * 100 Number of institutions vaccinate percentage to be = or> 80%	Administrative data from national routine EPI
Porter institutions involved in EPI to achieve 80% compliance with the standards of injection safety and waste management	Number of institutions that enforce the rules properly _____ * 100 Number of institutions vaccinate percentage to be = or> 80%	Conducting a small survey to collect information
Strengthen the functions of strategic and operational planning, monitoring and evaluation of MWED and DS in the program	The percentage of satisfaction with the DS and MWED criteria feature of their structure is = or> 80%	Conduct of a small assessment to collect information
Having a national communication plan for the five year plan and annual operational plans	The Plan document is valid National Communications and popularizing The 10 departments have their operational	Reports of activities of DD.

VIII. REFERENCES ¹¹

- 1 Document de stratégie Nationale pour la Croissance et la Réduction de la Pauvreté-DSNCRP (2008-2010), Pour réussir le saut qualitatif / **National Strategy Paper for Growth and Poverty Reduction-NSPGPR (2008-2010), to attain qualitative leap.**
- 2 Enquête Mortalité, Morbidité et Utilisation des services de santé 2000, EMMUS-III, Institut Haïtien de l'Enfance et Macro International, Inc., 2001/ **Survey on Mortality, Morbidity and use of health services in 2000, EMMUS-III, Haitian Institut de l'Enfance and Macro International, Inc., 2001**
- 3 Enquête Mortalité, Morbidité et Utilisation des services de santé, 2005, EMMUS-IV, Institut Haïtien de l'Enfance et Macro International, Inc., 2007 / **Survey on Mortality, morbidity and use of health services, 2005, EMMUS-IV, Institut Haïtien de l'Enfance and Macro International, Inc., 2007**
- 4 Enquête de couvertures vaccinales de routine, CDC 2009 / **Survey of routine immunization coverage, CDC 2009**
- 5 Forum national pour le réaligement du secteur santé, 2007 / **International Forum for the realignment of health sector, 2007.**
- 6 GIVS – La vaccination dans le monde: vision et stratégie 2006-2015. Genève, Organisation Mondiale de la Santé-OMS, 2005 (WHO/IVB/05.05).Disponible sur le site http://www.who.int/vaccines_documents/ DocsPDF06/844.pdf/ **GIVS - The Global Immunization Vision and Strategy 2006-2015. Geneva, World Health Organization-WHO, 2005 (WHO/IVB/05.05). Available at http://www.who.int/vaccines_documents / DocsPDF06/844.pdf.**
- 7 GFIMS – Cadre mondiale de suivi et de surveillance pour la vaccination, 200/ **GMSI - Global Monitoring and surveillance for immunization, 200**
- 8 Guide OMS-UNICEF sur l'élaboration d'un plan pluriannuel complet (PPAc), Genève, Organisation Mondiale de la Santé-OMS, 2006 (WHO/IVB/05.20F). Disponible sur le site [http:// \[www.who.int/vaccines_documents/ WHO-UNICEF guide on the development of a comprehensive multi-year plan \\(CMYP\\), Geneva, World Health Organization-WHO, 2006 \\(WHO/IVB/05.20F\\). Available at http:// www.who.int / vaccines documents\]\(http://www.who.int/vaccines_documents/ WHO-UNICEF guide on the development of a comprehensive multi-year plan \(CMYP\), Geneva, World Health Organization-WHO, 2006 \(WHO/IVB/05.20F\). Available at http:// www.who.int / vaccines documents\)](http://www.who.int/vaccines_documents/ WHO-UNICEF guide on the development of a comprehensive multi-year plan (CMYP), Geneva, World Health Organization-WHO, 2006 (WHO/IVB/05.20F). Available at http:// www.who.int / vaccines documents)
- 9 **Immunization Costing and Financing: A Tool and User Guide for comprehensive Multi-Year**

¹¹ The risk is particularly high in whooping cough, because firstly, the protection is effective after three doses, on the other hand, there is no passive maternal immunity and then gravity is increased among the smallest.

- Planning (cMYP), Genève, Organisation Mondiale de la Santé-OMS, 2006 (WHO/IVB/06.15). Disponible sur le site [http:// www.who.int/ immunization _financing/tools/](http://www.who.int/immunization_financing/tools/)
Immunization Costing and Financing: A Tool and User Guide for comprehensive Multi-Year Planning (cMYP), Geneva, World Health Organization-WHO, 2006 (WHO/IVB/06.15). Available at [http:// www.who.int/ immunization _financing / tools](http://www.who.int/immunization_financing_tools)
- 10 **Paquet Minimum de Services, 2006, Direction de l'Organisation des Services de Santé, DOSS, Ministère de la Santé Publique et de la Population, MSPP, Haïti/ Minimum Package of Services, 2006 Directorte of the Organization of Health Services, DOHS, Ministry of Public Health and Population, MOPHP, Haiti**
 - 11 **Plan de Viabilité Financière du Program Elargi de Vaccination, DPEV/MSPP, Haïti, 2003 / Financial Sustainability Plan of the Expanded Program on Immunization, DEPI / MOPHP, Haiti, 2003**
 - 12 **Plan stratégique National pour la Réforme du Secteur Santé 2005-2010, Ministère de la Santé Publique et de la Population, MSPP, Haïti, 2005 / National Strategic Plan for Health Sector Reform 2005-2010, Ministry of Public Health and Population, MOPHP, Haiti, 2005**
 - 13 **Plan Stratégique Pluri Annuel du Program Elargi de Vaccination 2003-2008, DPEV/MSPP, 2008 / Multi-year Strategic Plan of the Expanded Program on Immunization 2003-2008, DEPI / MOPHP, 2008**
 - 14 **Politique de Contribution du Secteur Santé à la Stratégie de Croissance et Réduction de la Pauvreté, Ministère de la Santé Publique et de la Population, Août 2007/ Policy Contribution to the Health Sector Strategy for Growth and Poverty Reduction, Ministry of Public Health and Population, August 2007**
 - 15 **Politique Nationale de Santé, Haïti, Aout 1991, République d'Haïti, Commission mixte de santé, MSPPP/KSLE/ National Health Policy, Haiti, August 1991, Republic of Haiti, Joint Committee on Health, MOPHPP / KSLE**
 - 16 **Projet d'Appui au Renforcement du Program Elargi de Vaccination en Haïti-PAPEV-Haïti, Direction du Program Elargi de Vaccination (DPEV), Organisation Panaméricaine de la Santé /Organisation Mondiale de la Santé (OPS-OMS)/Fonds des Nations Unies pour l'Enfance (UNICEF)/ Project for the Strengthening of the Expanded Program on Immunization in Haiti-Haiti-PEAP, Directorate of Expanded Program on Immunization (DEPI), Pan American Health Organization / World Health Organization (PAHO-WHO) / United Nations Fund for Children's Fund (UNICEF)**
 - 17 **Rapport de la campagne multi-antigène, Polio, RR, dT 2007-2008 / Report on the**

multi-antigen campaign, Polio, MR, dT 2007-2008

- 18 **Règlement sanitaire international, Deuxième édition, Genève, Organisation Mondiale de la Santé-OMS, 2005 / International Health Regulations, Second Edition, Geneva, World Health Organization-WHO, 2005**