

Government of Georgia

**Comprehensive Multi-Year Plan of the
National Immunization Program of Georgia
2007 - 2010**

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ACRONYMS

AEFI	Adverse Events Following Immunization
BCG	Bacillus Calmette-Guerin (tuberculosis vaccine)
CDC	US Centers for Disease Control and Prevention
CPH	Centers of Public Health
CRS	Congenital Rubella Syndrome
DPT or DTP	Diphtheria-Tetanus-Pertussis vaccine
DQA	Data Quality Audit
DT	Diphtheria-Tetanus toxoids
DTaP	Diphtheria-Tetanus-acellular Pertussis vaccine
EDPRP	The Economic development and Poverty Reduction Program of Georgia
EPI	Expanded Programme on Immunization
EVSM	Effective Vaccine Store Management
FSP	Financial Sustainability Plan
GAVI	Global Alliance for Vaccines and Immunization
GEL	Georgian Lari
GoG	The Government of Georgia
GSUSIF	Georgia State United Social Insurance Fund
HCP	Health care providers
HepB	Hepatitis B vaccine
Hib	Haemophilus Influenza type b (disease or vaccine)
ICC	Inter-Agency Coordinating Committee
IIP	Immunization in Practice
MDVP	Multi-Dose Vial Policy
MICS	Multiple Indicator Cluster Survey
MLM	Middle level management
MMR	Measles, Mumps and Rubella vaccine
MoLHSA	Ministry of Labour, Health and Social Affairs
MTEF	Medium-Term Expenditure Framework
MTEF	Medium Term Expenditure Framework
NCDC	National Centre for Disease Control and Medical Statistics
NIP	National Immunization Programme
NPL	National Polio Laboratory
NRA	National Regulatory Authority
OPM	Oxford Policy Management
OPV	Oral Polio Vaccine
PER	Public Expenditure preview
PHC	Primary health care
PHD	Public Health Department
PHR Plus	Partners for Health Reform Plus
SDS	The State Department of Statistics
SIA	Supplementary Immunization Activity
SUSIF	State United Social Insurance Fund
Td	Tetanus and Diphtheria toxoids for adults
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VF	The Vaccine Fund
VPD	Vaccine Preventable Disease
VRF	Vishnevska-Rostropovitch Foundation
VVM	Vaccine Vial Monitor
WB	World Bank
WHO	World Health Organization

Executive Summary

Situational analysis

Background

Georgia became independent in 1991 after the breakdown of Soviet Union. The country has faced intense civil conflicts and economic and social downturn since then. Economic activity in the country is about 41% of its 1990 level, more than half of population lived below official subsistence minimum by the end of 2004.

Fact Sheet	
Area ('000 km ²)	697.7
Population 2005 (million)	4.32
Urban population (%)	52.20
Population <15 years (%)	18.20
Life expectancy (years)	76.09
Infant mortality	19.70
GDP per capita (nominal, in US\$)	1,482
HDI (2006) rank	97

Socio-economic situation has been improving due to substantial economic and social reforms since 2004 – the poverty level fluctuates below 40%, budget revenues almost (due to GDP growth and significant improvement of tax collection), the real GDP growth reached 9.3% in 2005, the country moved from to a category of Low Middle Income Countries. Targeted social assistance schemes introduced recently allow the allocation of social benefits to most needed in more efficient and effective ways.

The health care system undergoes profound reforms – the government intends to privatize most of health care providers (that has been operating as autonomous entities of private law since 1997) and allocate state funds primarily on public health and coverage of the poor with essential health care services (including primary and secondary care). To longstanding public agencies: The National Center for Disease Control (NCDC) and Public Health Department are in the process of merger into a new public entity with district level branches that is supposed to improve administrative efficiency and effectiveness.

National immunization program

An overall performance of the national immunization program (NIP) was highly appraised through the recent Immunization Programme Management Review conducted by the WHO, UNICEF, CDC, and the World Bank together with national partners in 2006. According to the review report strategies and most policies are in general well in place for routine immunization activities, and are in progress for disease elimination and control objectives- measles/rubella and diphtheria, with polio free status maintained since 2002.

Recent years have seen improvement of overall national immunization coverage, including the newly introduced vaccines (Hepatitis B and MMR). An improved computerised recording/reporting tool enabling assessment of “timely” immunization by one year of age as well as vaccine management indicators has been introduced, and there is generally complete and regular reporting of data. Disease surveillance is improving, with clear and up-to-date national guidelines, case- based reporting for priority diseases and the introduction of computerised

surveillance data management. The supply management system is working well, with no stock-outs in the last 12 months, and important progress has been made at the national vaccine store since it was assessed in 2005.

While overall immunization coverage is improving, there are still 17 out of 65 districts reporting less than 80% coverage with DTP3 (2005), many of which have high drop-out also. There is still a significant proportion of false contraindications to immunization, especially in large cities. Sustainable financing of outreach sessions is still a problem in many districts with underserved populations, and there in some places there is a very poor quality of physical infrastructure (PHD buildings and health facilities). Surveillance system performance indicators are not monitored enough, AEFI guidelines are not yet fully implemented, and there is poor waste management (burning/burying of used syringes/needles in safety boxes) at many health facilities. There are also significant communications challenges facing the immunization programme: Inconsistent and unqualified media commentary and opinions voiced on matters of policy by neuropathologists as well as “popular physicians have sometimes affected the credibility of health facility staff and the immunization programme in general; similarly, questions raised about the quality of vaccines made in certain countries, sometimes by those with vested interests

Immunization program objectives and strategies

The following objectives has been set for the NIP to be achieved in 2007-2010:

- 1 To reach 95% of coverage at OPV-3 by 2010**
- 2 To improve AFP surveillance and AFP rage:**
 - To reach AFP rate 1/100,000 under 15 years by year 2007
 - To achieve and maintain high quality AFP surveillance to meet performance indicators by the end of 2006, with strong laboratory support
- 3 Decrease morbidity and prevent measles-related deaths:**
 - To decrease transmission of endemic measles virus by 2010
 - To prevent sustained transmission of imported measles viruses in Georgia beyond 2010, and
- 4 Increase DTP3 coverage:**
 - 80% DTP3 in every district by 2008;
 - 90% DTP3 in every district by 2010
- 5 Increase HepB3 coverage:**
 - 80% HepB3 in every district by 2008
 - 90% HepB3 in every district by 2010
- 6 Increase DT coverage:**
 - 80% DT in every district by 2008
 - 90% DT in every district by 2010
- 7 Increase Td coverage:**
 - 80% Td in every district by 2008
 - 90% Td in every district by 2010
- 8 Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level**

9 Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008

Financial sustainability of the cMYP

Significant progress has been made in recent years towards financial sustainability, particularly as regards government funding of vaccine and injection supplies, within the commitment to maintain and increase allocations to health care. There are many dedicated health staff, in general well provided with the right equipment, supplies and guidelines needed to do the job.

The estimated resource requirements for the NIP in 2007-2010 is \$14.2 million out of which more than half is need designated for service delivery component. The total resource requirement without shared cost amount to \$9.8 million (and \$4.9 million for routine immunization only) out of which \$7.2 million is supposed to be covered by the Government. The funding gap amounts only \$0.43 million, that is only %4.3 of the total resource requirement.

Sustainability of the NIP is more considered in institutional rather financial context: is focuses on necessity to secure appropriate organizational arrangements for the administration of the NIP as well as integration of immunization services in a publicly financed health care package.

Section I Situational analysis

A. Background

A.1 General information

Georgia is located in the Caucasus bordering Russia in the north, Turkey and Armenia in the south, Azerbaijan in the east and the Black Sea in the west. The country occupies an area of 69,700 km². The majority of population (52.2%) of approximately 4.32 million (2005)



live in urban areas and young people 0-14 of age constitute 18.2%. Life expectancy at birth is estimated 76.09 years (72.8 years for male and 79.87 years for female) and infant mortality rate was 19.7 in 2005.

A.2 Political and socio-economic trends

Georgia obtained its independence from Soviet Union in 1991. The break-up was followed by intense civil conflicts and separatist pressures in autonomous regions (Ossetia and Abkhazia) and displacement of some 270 000 people in 1993. There was also a profound economic collapse, in part due to the civil disturbances and in part due to the unraveling of what had been a centrally planned economy directed from Moscow. The Soviet system did not encourage diversification within republican economies, leaving them vulnerable after independence. There was a large decline in output, a collapse of the system of payments, and thus trade between republics, and consequently a series of dramatic economic declines after 1992, which resulted in a sharp fall in the standard of living¹.

A new constitution was enacted in 1995 that declared president as a senior executive power, and separated legislative, executive and judicial functions. The new constitution has divided Georgia into 66 administrative-territorial units including: capital city of Tbilisi, sixty districts (rayons) and one autonomous republic of Adjara (in its turn comprised of 5 districts). These 65 districts are grouped into 11 historical-cultural regions, not defined by constitution and not having budgetary-fiscal system.²

Transition of the last decade subjected Georgia to fundamental political, economic and social transformation. Despite the visible political stabilization and

¹ A.Gamkrelidze, R.Atun, G.Gotsadze and L.MacLehose, 2002. Health Care Systems in Transition: Georgia. European Observatory on Health Care Systems, WHO Regional Office for Europe.

² The document hereinafter, when describing budgeting/financing and decentralization issues will always relate to two levels: central/national and district (rayon).

governmental commitment towards restoring the macro-economic stability, the overall situation still remains fragile.

Since the collapse of the Soviet Union, Georgia has experienced dramatic economic downturn. With the steep drop of economic activity in early 1990s, government launched anti-crisis program for macroeconomic stabilization and systemic transformation. The main thrust of the reform was seen in the transformation of monetary policy and drastic fiscal adjustment, accelerated privatization, reforms of health care, education and social protection systems, liberalization of economic activity and trade, as well as price liberalization.

Though some level of macroeconomic stabilization was achieved by mid 1990s, entailed in growth of economic activity and GDP, Georgia is still far from reaching the pre-independence level of development – at present, 16 years after declaring independence, economic activity in the country is about 41% of its 1990 level. Georgia was considered as a Least Developed Country (LDC)³ by the Organization for Economic Co-operation and Development (OECD) in 2004 however in the Classification of economies by the region and income, FY2007 Georgia was moved to Low Middle Income Countries (LMC)⁴.

Georgia has been ranked the lowest by GDP growth from 1990 level amongst the former Soviet Union countries. The Human Development Report of 2006 ranks Georgia at the 97th place (vs. 88th in 2003) out of 177 countries included in the Human Development Index (HDI).

Armed conflicts erupted in South Ossetia and Abkhazia (autonomous republics of Georgia) in early 1990s, with influx of 270,000 IDPs, subjected the country with already plunging economy and collapsing infrastructure to additional social and economic challenges. Georgia's government does not have effective control on the social and other service provision to the population in these territories, which influences functioning of the immunization program as well. Nevertheless, central source (NCDC) provides vaccines to these parts of the country and even managed to offer training to the immunization staff in these parts of the country.

The abandonment of the Soviet system of subsidies, transfers, and captured markets had a significant impact on living standards of the population, an impact that could not be reversed up to date. Georgia has been among the three poorest post-Soviet republics, with the population confronting severe social-economic hardship. In 2003, according to the State Department of Statistics (SDS), the proportion of people living below the poverty line was 55%. The proportion of the population in extreme poverty was 17%⁵. The poverty level has decreased as shown in Table 1 (below).

Table 1: Poverty level (with respect to the subsistence minimum) by years

	2004	2005	2006
Poverty incidence	35.7%	39.4%	33.6%

³ Project of the Parliament of Georgia, Strengthening Effectiveness and Transparency of the Parliament and Government of Georgia, UNDP Georgia, NCTeam, Tbilisi, February 2004.

⁴ The World Bank, World Development Report 2007

⁵ Millennium Development Goals in Georgia, 2004.

	2004	2005	2006
Poverty depth	12.2	13.5	11.6
Poverty severity	6.1	6.6	5.7

Most commonly, poverty is manifested by low and unequal distribution of income, unemployment, and insufficient housing and labor migration. GINI coefficient (the measure of income inequality) has dropped from 37.1 in 2002 to 36.9 in 2004 after a slight increase to 38.9 in 2003.⁶

The change of leadership through the 2003 Rose Revolution enabled the establishment of a new framework for the consolidation of national identity. However the new authorities have received a government structure characterized by crippling corruption levels. Mismanagement by the previous government resulted in a low tax collection rates which contributed to growing pension and salary arrears. The new government also inherited widespread poverty, as well as the unresolved conflicts with Abkhazia and South Ossetia.

Main socio-economic parameters are presented in Table 16 on page 36:

Table 2: Macro-economic indicators and forecasts

	2003 Actual	2004 Actual	2005 Actual	2006 Prog.	2007 Prog.	2008 Prog.	2009 Prog.	2010 Prog.
Real GDP (rate of growth)	11.1	5.9	9.3	7.5	7.0	6.0	5.5	5.5
Nominal GDP (million GEL)	8,564	9,824	11,591	13,080	14,614	16,176	17,821	19,636
Consumer price index in the medium-term	4.7	5.7	8.2	5.0	5.0	5.0	5.0	5.0
Current account (% to GDP)	-9.9	-6.6	-10.7	-10.6	-10.5	-9.9	-9.6	-8.9
Average annual exchange rate (GEL/USD)	2.15	1.92	1.81	1.82	1.82	1.82	1.82	1.82

Source: The Government of Georgia, [“Basic Data and Directions for 2007-2010”](#)

More detailed description of socio-economic parameters is given in Table 16 (on page 36 in Annexes).

The government prioritized decreasing debts in pension and salary arrears throughout the year 2004 as well as gradual increase of the wages of public sector employees. During 2004 as a first step toward creating a professional civil service, the new government of Georgia reduced public employment by some 30,000 positions and used salary savings to increase remuneration of remaining personnel (however these changes have not yet affected all sectors including health). While wages for the education sector employees had grown gradually the changes have not yet affected health sector employees. The wages of medical professionals are not paid directly from the state budget. They are employed by medical organizations that legally are subject to private law (incorporated as Limited Liability Companies or Joint Stock Companies). Therefore, the GoG can not directly increase the wages of medical personnel even if a significant portion of their salaries are paid from the state health programs (if the medical organization is contracted by the Georgia State United Social Insurance Fund). Anyway if the new Government decides to increase wages for the health sector staff it will require amendment of the financial projections for the NIP to account for the increased resource requirement.

⁶ Human Development Reports 2002, 2003, 2004

The public health system of Georgia as part of the highly centralized Soviet model was ensuring comprehensive service coverage through integrated infrastructure of service providers. However, the inefficient administrative and financial management system was collapsed within the transition period as a result of economic crisis. The impact of transition reflected in extremely scarce budget allotments for basic social services, and health care in particular subjected the sectors to substantially declining performance. From 4% of GDP (1991) the state health allocations fell to < 1% in 1998, yielding USD 4-5 per capita. The share of Health expenditures within the consolidated budget in 2002 comprised as low as 7% of the total public expenditure.

The government’s expenditures has been increasing in absolute terms and as a % of the GDP as shown in Table 3 below:

Table 3: Description of health expenditures

	2000	2001	2002	2003	2004	2005
Total health expenditures (million GEL)	507.7	495.4	558.7	547.6	549.1	622.4
State health expenditures (million GEL)	56.3	73.5	80	82.6	172	207
State health expenditures as a % of GDP	0.93%	1.10%	1.07%	0.96%	1.75%	1.79%
State health expenditures as a % of the total health expenditures	11.1%	14.8%	14.3%	15.1%	31.3%	33.3%

Source Ministry of Economic Development of Georgia, Department of Statistics, “Statistical Yearbook of Georgia 2005”

A.3 Health care system

A.3.1 Country development objectives and health care

The government committed itself to restore territorial integrity and to launch reforms within the priority areas of economy, business, social security, governance and environmental protection. Ensuring universal access to basic healthcare has been one of the nine strategic targets within the reform processes.

The existing social-economic challenges have guided development of Economic Development and Poverty Reduction Program (EDPRP) in 2003. EDPRP has been an comprehensive, overarching strategic framework and planning document targeting at “raising the welfare of the population through improvement of the quality of life of each person along the sustainable socio-economic development of the country.”

The EDPRP sets forth two main strategic objectives:

- **Fast and sustainable economic development:** Average growth rate of real GDP at 5-8 percent per annum, which should ensure two- to threefold growth of real GDP by 2015 in comparison to 2001; and

- **Reduction of poverty:** Reduction of extreme poverty (in relation to the “Alternative Minimum Poverty Line”) from 14 percent to 4-5 percent, and reduction of poverty in relation to the “Official Poverty Line” (or subsistence minimum) from 52 percent to 20-25 percent by 2015.⁷

Amongst the nine strategic priorities encompassing governance, macroeconomic stability, institutional environment, conflict affected zones, economy and natural environment, in regard to the social sector development EDPRP addresses: a) development of human capital and b) social risks management and social security. The strategy targets at improving standard of living of individuals below the poverty line and reduce vulnerability level through improved management of social risks. The fact that the EDPRP measures success in terms of both of these indicators is notable. Recent experience in Georgia demonstrates that economic growth may not translate into increased levels of population welfare. For Georgia, it will probably define whether the public embraces the EDPRP as a program of its own. First, to translate economic growth into increased incomes of the poor requires policies that favor growth in sectors that the poor can reach. Second, to translate increased levels of economic activity into increased State revenues requires a functioning and transparent tax revenue service, a goal that has proven elusive so far. However, the progress of the new government in raising tax revenues as a share of GDP has been impressive during 2004. Rapid gains in tax collections were achieved thanks to a drive to curb tax evasion and corruption, together with a one-off surge in non-tax revenue (partly stemming from monies collected from former government officials suspected of corruption); this has permitted a faster-than-expected clearance of domestic wage and pension arrears⁸. However, new streamlined/liberalized tax code was passed by the parliament at the end of 2004, which reduced the number of taxes from 21 to 8, cutting the VAT rate, abolishing earmarked payroll health (3+1) tax that formed the part of social tax and decreasing the social tax rate from 33 to 20 percent; setting a flat 12 percent personal income tax instead of income-dependant tax in a range of 12-20 percent. Time is needed to see actual impact of these changes on the tax rates and overall resource availability from the national budget. It is yet impossible to estimate direct impact of these changes on the NIP.

A.3.2 Government’s priorities in health

The Georgia Health Care Reform (Reform I) aiming to ensure universal access to basic health services for the country population was launched in 1995. The reorientation process struggling with the heritage of inefficient and collapsing centralized fiscal and management system, insufficiency of both institutional (e.g. outdated facilities and under-equipped services) and human resources (e.g. under-trained professionals and overstaffing of the system) envisaged optimization of the health infrastructure (decentralization & privatization), introduction of new health

⁷ The “Alternative Minimum Poverty Line” is a very low poverty line with a value of approximately 52 GEL a month. The “Official Poverty Line” is based on the cost of the Official Minimal Food Basket (2,500 Kcal/day) and is in the vicinity of 115 GEL/month. See the National Human Development Report 2001-2002 for a discussion on poverty lines in Georgia (available at www.undp.org.ge).

⁸ IMF Country report No.05/1, January 2005. Georgia: First Review under the Three-Year Arrangement under the Poverty Reduction and Growth Facility. p7.

care financing systems and reorganization of the network of health care providers. In brief, the reforms to the health care system focus on reducing overcapacity, allowing the private sector to occupy a greater role in the provision of medical services, establishing a system of medical insurance, and strengthening the provision of primary and preventive health care services. A major outcome of the reform was introduction of the state medical insurance system ensuring access of the general population to basic health services within the Basic Benefit Package. However the rights of the population to equal and accessible health care services committed within the restructured systems could hardly be realized due to insufficiency of the financial management systems. Chronic under-funding and instability of financial resources persisting throughout the reform process has affected functioning of all levels of health care system and reasoned substantial shift of expenditures to the out-of-pocket payment systems (out-of-pocket payments ranging from 66 to 87% of total health expenditures)⁹.

In line with reform process in 1999 the Government of Georgia has endorsed the long-term strategic framework of the national health system development, outlined within the National Health Policy (1999-2010) and National Health Strategy. Stemming from the basic concepts of the fundamental human rights and social development targets, as well as the soundness of scientific based approach, the national health policy document has identified eight strategic priorities with the performance and outcome targets set by 2010. Following have been the priorities set out by the national health authorities in co-ordination and agreement with international development partners:

- improvement of maternal and child health
- reduction of morbidity and mortality caused by cardiovascular diseases
- improvement of prevention, detection and treatment of oncological diseases;
- reduction of traumatism;
- reduction of communicable and socially dangerous diseases;
- mental health;
- establishment of healthy lifestyle; and
- Provision of an environment safe for human health.

Main characteristics of the health care system are given in Table 17 (on page 36 in Annexes).

At the end of 2000, the government of Georgia adopted a concept of PHC development that envisages the formation of a health care model that effectively and reliably provides the entire population of the country with high quality yet cost effective medical services and is physically available and affordable (Reform II). This effort will be implemented over five years (2003-2008) with the support of PHC Reform partners - World Bank, EU and DfID.

The key components of this program include a) the construction/reconstruction of the PHC facilities in the selected regions; b) the provision of essential equipment in selected regions; c) the development of a national policy to support this initiative; d)

⁹ The World Bank, 2003. Report No 22913-GE. Georgia. Public Expenditure Review". Washington DC.

the development of an improved national health care financing system that will provide sustainability for the PHC; e) the establishment of a health management information system that will meet the priority needs of the PHC and also contributing to the long term information needs of the sector.

The government's intention to allocate public funds to public health and primary health care are shown in Table 4 below.

Table 4: State expenditures on primary health care and public health by categories (in million GEL)

	2006	2007	2008	2009	2010	2011
Recurrent expenditures						
Public health	3.4	4.0	4.5	5.0	5.5	6.0
Primary health care	21.6	24.0	29.0	37.0	44.0	54.2
Capital expenditures						
Investments in PHC		35.0	35.0	35.0	35.0	

Investments in PHC will be mostly allocated to the rehabilitation or construction of new outpatient clinics in remote areas (with necessary medical equipment) in accordance with a National PHC Master Plan.

Recurrent expenditures on public health include state health programs necessary to deliver priority public health services (including immunization); primary health care program covers basic health services that will be purchased by state health purchaser from licensed health care providers to meet basic health care needs of the population. Gradually the public spending on primary health care services will be targeted to the poor while the remaining non-poor population will be responsible to pay for these services out of pocket or through insurance schemes.

The national immunization program remains a top priority amongst the key policy and strategic frameworks of the national health care system in Georgia. Among the targets endorsed within 1999-2010 National Health Policy Document are: preserve Polio free certificate and retain neonatal tetanus elimination status, eliminate measles and CRS and reduce by 80% HepB incidence by 2010 and reduce prevalence of diphtheria, mumps and pertussis to <0.1/100,000.

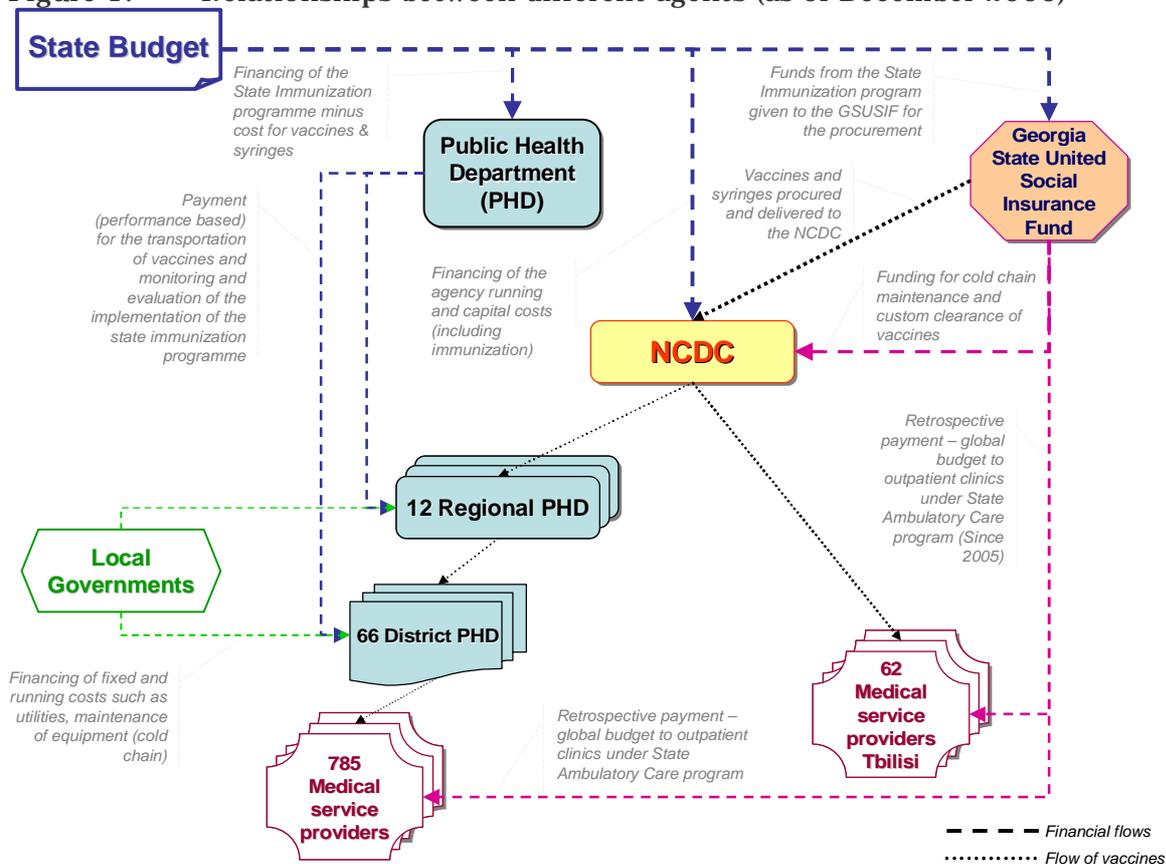
A.4 Immunization services within health care system

Immunization services are provided through decentralized arrangements composed of primary health care providers, maternity facilities, district and regional level public health departments, local governments, the National Center for Disease Control (NCDC) and State United Social Insurance Fund (SUSIF) under the stewardship of the Ministry of Labor, Health and Social Affairs. The nature of relationships between these agents varies but in most cases they are functional and formalized through contractual mechanisms as shown in Figure 1 on page 11.

Public funds to purchase vaccines and injection supplies are secured through the special state health program that is revised annually and approved by the government and later by the parliament through a regular budgetary process. SUSIF as a primary purchaser of health care services and goods is in charge of

contracting suppliers and health care providers covering cost of commodities (vaccines and injection supplies) and medical services respectively. Reimbursement of service providers may vary every year from performance based retrospective to per capita prospective payment schemes. The NCDC and Public Health agencies are in responsible for storage and distribution of vaccines, surveillance and monitoring performance of immunization system. However it should be stressed that the till now the Public Health Department (at the national level) has had no administrative power over regional and district public health departments (that have been subordinated to local governments) and most of immunization related activities were financed through separate national public health programs. The Public Health Department has had to contract district and regional level public health departments to implement these state public health programs.

Figure 1: Relationships between different agents (as of December 2006)



According to system reform scenarios currently under the consideration in the government, the degree of fragmentation of immunization related functions and agents will decrease - it is expected: a) to merge the Public Health Department and the NCDC into one autonomous public agency within the system of the MoLHSA; b) that district and regional level public health departments become administratively subordinated to the new national agency created as result of the merger. The flow of resources to health care providers for immunization services is most likely to remain integrated into the mainstream financing of a package of basic health services.

A.5 Summary of the health care system

The following key findings on health systems issues for immunization were provided by the Immunization Program Management Review (July 2006):

- **Macro organization:**
 - Weaknesses in stewardship function of the government and constant changes in macro model of financing, delivery system and roles and status of key institutions.
 - Initial steps towards separation of purchasing and provision of services are taken but still capacity of central agencies is very weak with low financial incentives for staff.
 - Private sector is fostering a two-tier system and providing for costly vaccines.
 - In the process of changes, institutions dealing with public health and prevention, including health promotion and health education, are getting less attention.
- **Micro organization:**
 - Several key questions remain unresolved and undefined at PHC level.
 - New family medicine model of delivery PHC is being introduced.
 - There are still many unanswered policy questions such as whether this will be an appropriate model for cities or only rural areas, what type of contracts will be the best, ownership and maintenance of the facilities.
 - Family medicine would also require incentives to perform immunization services.
- **Regulations:**
 - Key central institutions show weaknesses in stewardship functions to develop and ensure compliance with key public health policies. Regional diversities indicate fragmentation of system and weaknesses in governance.
 - Absence of procedural guidelines and regulatory mechanism including measures to enforce compliance.
- **Advocacy and social marketing:**
 - Acceptance of immunization services among the general population is still not high enough.
 - Rumours and misinformation are used to justify extreme overcharging for some imported private sector vaccines.
- **Financing–Revenue:**
 - Rapid gains in tax collections with good results.
- **Financing–Allocation:**
 - No earmarked and secured budget for preventive services including immunization.
 - Regional allocations do not provide for equity and risk mitigation.
 - Purchasing agent is acting as “sickness fund” and allocation of resources for public health programs is dependent on local revenues with regional diversities.

B. National Immunization Program

A comprehensive Immunization Programme Management Review was conducted in Georgia in July 2006. A team of specialists from the WHO Regional Office for Europe, UNICEF Georgia, US Centers for Disease Control and Prevention (Atlanta, USA) and World Bank together with counterparts (from the PHD and NCDC) examined the following immunization programme components (both at the national and sub-national levels) using a modified WHO protocol:

1. Management, Coordination and Service Delivery;
2. Immunization Strategies, Policies and Schedules;
3. Immunization Coverage and Monitoring;
4. Disease surveillance;
5. Immunization Quality and Safety;
6. Advocacy and Communication;
7. Financing and Sustainability (together with health system issues).

The final report provides detailed description of the findings for each component based on the SWOT analyses and corresponding recommendations. Therefore, it was very helpful to revise national immunization program objectives and priorities linked to the problems identified and select the most appropriate strategies by immunization system components necessary to achieve these objectives.

B.1 Management, Coordination and Service Delivery

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 2 below:

Figure 2: SWOT analysis for Management, Coordination and Service Delivery

	POSITIVE	NEGATIVE
INTERNAL	Strength	Weaknesses
	<ul style="list-style-type: none"> • At national, regional and district level, the immunization programme management is quite strong, with competent and dedicated health staff. • The Interagency Coordination Committee (ICC) is providing an important support to the immunization programme through its partnership. • Training courses on the different components of immunization have been regularly conducted targeting regional and district level health staff. • Overall the vaccine and injection equipment supply and distribution is adequate with a proper vaccine management. • There is generally at all levels a good availability of guidelines, registers, modules and forms. 	<ul style="list-style-type: none"> • Low performing districts face difficulties in ensuring physicians and nurses' availability and in motivating their health staff. • Skills and practices at primary health care level are not up to required level, as the information provided to the regional/district staff during training has not always reached health facility staff. • The quality of the infrastructure remains an issue in some district stores and health facilities, with poorly maintained building.

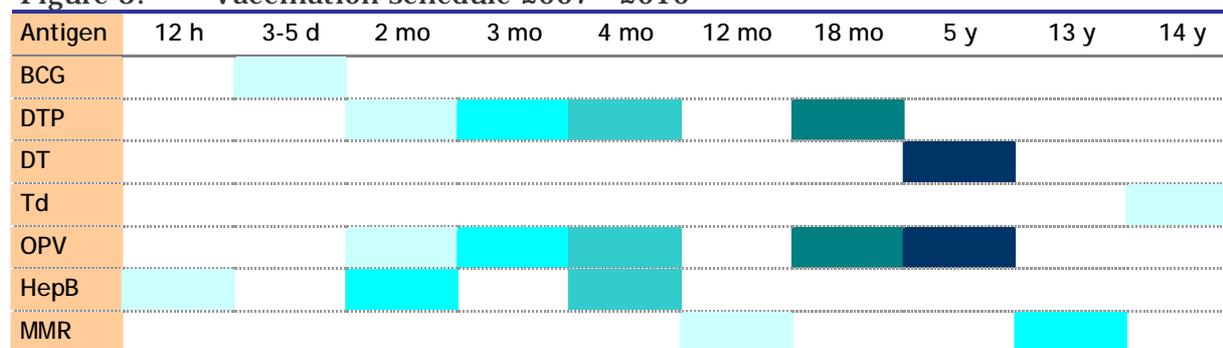
	Opportunities	Threats
EXTERNAL	<ul style="list-style-type: none"> The current high dedication of health staff contributes towards the strength of the immunization programme. The strong partnership for immunization is thought to be maintained in the coming years. In 2007, the European Immunization Week advocated by WHO will be a good opportunity to focus on low performing districts. 	<ul style="list-style-type: none"> The Health Sector Reform continuous changes are a potential threat for the immunization programme. Some international support, as vaccine financing, is progressively phasing out, emphasizing on the urgency to prepare the take-over by the Government. Human resources issue in low performing districts, with a lack of physicians and nurses, hamper the proper implementation of the immunization programme.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

B.2 Immunization Strategies, Policies and Schedules

The vaccination schedule for 2007-2010 was introduced in 2005 and is described in Figure 3 below.

Figure 3: Vaccination schedule 2007 - 2010



There is no intention to introduce new vaccines in the vaccination schedule till 2010 although the MoLHSA encourages the private sector to market new & underused vaccines.

The Immunization Program Management Review revealed the following strengths and weaknesses as shown in Figure 4 below:

Figure 4: SWOT analysis for immunization strategies, policies and schedules

	POSITIVE	NEGATIVE
INTERNAL	<p>Strength</p> <ul style="list-style-type: none"> Immunization policies and schedules are currently well in place and respected by health staff. Procurement of quality-assured vaccines through UNICEF Supply Division is now in place in Georgia, with the effect of having substantially decreased vaccines budget. Diseases elimination and control strategies are in progress (measles/rubella, diphtheria). 	<p>Weaknesses</p> <ul style="list-style-type: none"> Vulnerable and underserved population are still not fully covered (low performing districts, remote area, displaced people, minorities, orphanage). There are still a very important percentage of false contraindications, especially in large cities. Health staff and population attitude toward vaccine manufacturing origin continue to cause concern and remain a reason for the immunization coverage not to be at the required level.

EXTERNA	Opportunities	Threats
	<ul style="list-style-type: none"> The maturity of the programme and the partnership will help in refining specific strategies for underserved population. 	<ul style="list-style-type: none"> Continuous influence by specialists like neuropathologists on refusing vaccination with unjustified contraindications still hampers the immunization programme.
Source: WHO, UNICEF, CDC, WB, Immunization Programme Management Review, Georgia, 17-27 July 2006		

B.3 Immunization Coverage and Monitoring

The vaccination coverage of certain antigens has increased significantly: BCG from 81.1% in 2003 to 99.6% in 2005, HepB1 from 72.8 in 2004 to 97.0% in 2005. However DTP3 coverage remains relatively low – it was 75.7% in 2003 and increased only to 84.1% in 2005 as shown in Figure 5 (below).

Figure 5: Vaccination coverage by antigens and years (2003-2005)

Vaccine	Age	2003		2004		2005	
		Total vaccinated	Coverage (%)	Total vaccinated	Coverage (%)	Total vaccinated	Coverage (%)
BCG	<12 mon	39293	81.1	42021	90.8	46671	99.6
DTP1	<12 mon	38377	94.5	38974	88	40865	91
DTP3	<12 mon	33529	75	34506	78	36725	84
DTP1 + DT1	<12 mon	38700	86	39536	89	41179	92
DTP3 + DT3	<12 mon	33686	76	34882	78.9	36998	84.8
OPV1	<12 mon	37934	93.4	33779	77	40199	90
OPV3	<12 mon	33276	74.3	29128	66	36528	83.7
HepB1	<12 mon	40061	90.3	34844	72.8	45483	97.0
HepB3	<12 mon	21554	48.7	28177	63.7	31957	73.2
DTP4	18 mon	27905	63.9	35723	81.0	39580	89.6
OPV4	18 mon	28313	64.3	31040	67.1	41924	94.8
MMR1	1 year	36172	76	38261	86	39870	92
DT	5 year	23997	45.7	43629	87.1	43307	91.2
OPV5	5 year	28334	54	33642	67.2	43123	90.9
MMR2	5 year	30035	57.2	37314	75.0	41527	87
MMR3	13 year	NR	NR	72549	96.8	64958	93.7
Td	14 year	44586	64.8	48118	64.3	54941	74.8

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 6 on page 16:

Figure 6: SWOT analysis for Immunization Coverage and Monitoring

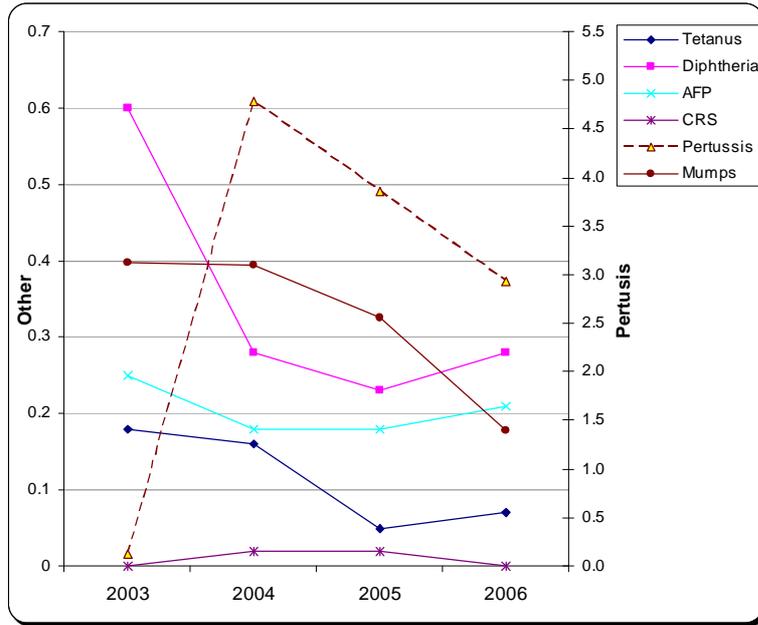
	POSITIVE	NEGATIVE
INTERNAL	<p>Strength</p> <ul style="list-style-type: none"> • Improvement in “timely” (under 1 yr) overall national coverage since 2003. • Improved recording/reporting tool (“Geovac” MIS), especially for “timely” coverage. • Regular and complete reporting to rayons and regions. • DPT3-HepB3 difference decreasing. • Relatively greater increases in MMR coverage (1 and 2). • Number of districts reporting DPT3 < 80% decreasing, ahead of target. • Annual local area enumeration done to estimate target group. • Potential for better verification of health facility and rayon data. • “Missed Opportunities” indicators being calculated. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Coverage: Number of districts <80% DPT3 by 1 year is still significant (17/65 in 2005, and 3 <50%). <ul style="list-style-type: none"> ○ Certain regions have low coverage in most districts. ○ Overall DPT1-DPT3 dropout not improving enough. • Not enough analysis of immunization data at health facility and rayon level. <ul style="list-style-type: none"> ○ No coverage graphs or maps used. ○ Missed opportunities to find out more about reasons for non immunization. • Problems with late immunization e.g. HepB1 and MMR1. <ul style="list-style-type: none"> ○ Late and non-immunization because of contraindications and refusals. • “Geovac” MIS does not make possible a comparison with previous years data. <ul style="list-style-type: none"> ○ Presentation of output not optimal; cannot show “overall” (timely plus late). ○ No “timely” target for MMR1 other than 12-24 months.
EXTERNAL	<p>Opportunities</p> <ul style="list-style-type: none"> • High dedication of health staff in the immunization programme in general (even if not always the motivation/incentive to do particular tasks). • Much better availability of data for management purposes with “Geovac”. • Possibility of integration with other MCH/PHC interventions for sustainability (e.g. MCH/growth card rather than immunization card). • Use of COMBI to find out more about reasons for partial or non immunization. • Supportive environment for introduction of local specific coverage analysis and improvement tools. • Opportunities to know more about characteristics/determinants of districts and localities with improving performance and coverage in various settings. 	<p>Threats</p> <ul style="list-style-type: none"> • Incentive to include late DPT, OPV, HepB immunizations into “timely” report because otherwise these are not shown in coverage achievement. • Performance incentives culture can lead to unsustainable expectations and distortion of health care priorities at local level. • Staffs drain as private sector opportunities grow, especially in remote areas.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

B.4 Disease surveillance

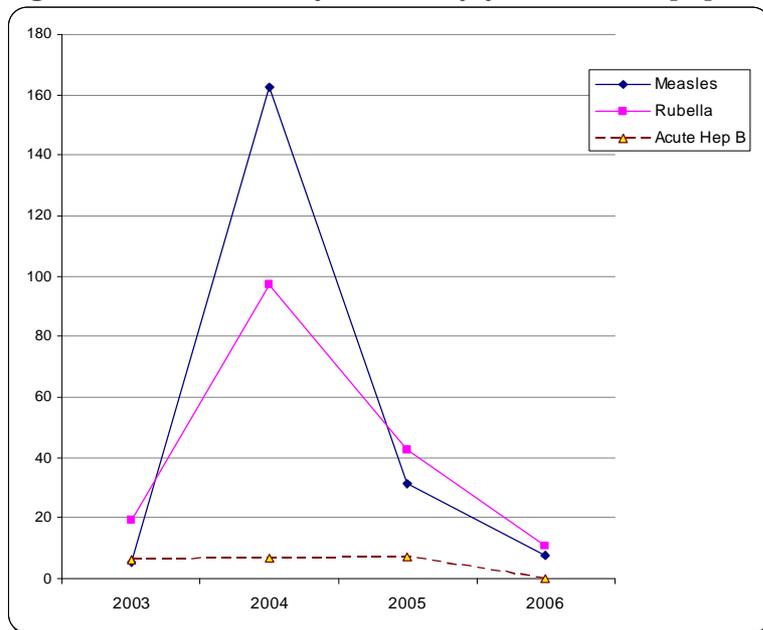
According to the health statistics frequency of the majority of vaccine preventable diseases has decreased since 2003 in general populations as shown in Figure 7 on page 17 and Figure 8 (on page 17).

Figure 7: Morbidity of VPD by years (entire population)



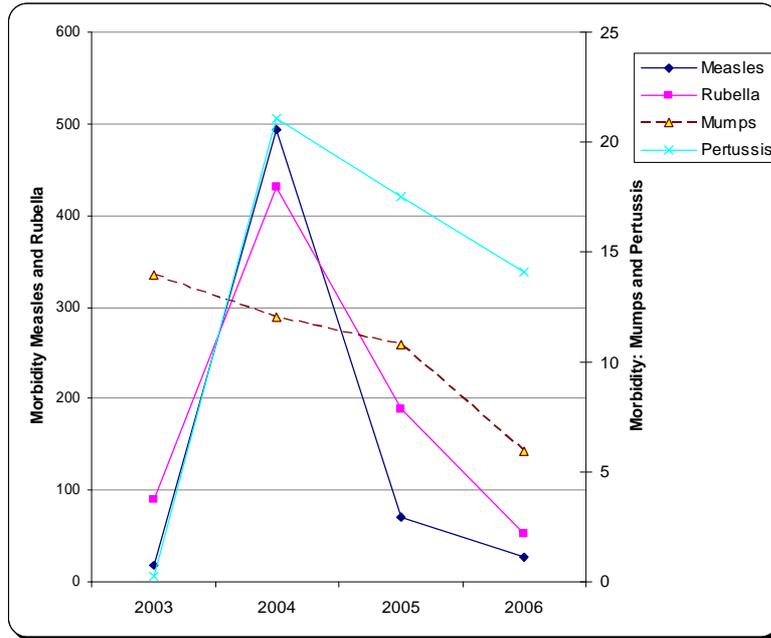
There was a sharp increase in the number of pertussis cases in general population from 0.01 case per 100,000 population in 2003 to 4.6 in 2004. It was mainly due to the high morbidity among children as shown in Figure 9 (on page 18): the incidence increased up to 21 cases per 100,000 population under the age of 15.

Figure 8: Morbidity of VPD by years (entire population) - continued



The decrease in the incidence of major vaccine-preventable diseases (Measles, Rubella, Mumps and Pertussis) is even more prominent among children under age of 15 as shown in Figure 9 on page 18.

Figure 9: Morbidity (per 100,000) of DPD – Children <15



Detailed description of occurrences of vaccine-preventable diseases is shown in Table 18: “Number of cases and Morbidity (per 100,000) of VPD by years and vaccine preventable diseases” (on page 36).

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 10 (below):

Figure 10: SWOT Analysis for Disease surveillance

	POSITIVE	NEGATIVE
INTERNAL	<p>Strength</p> <ul style="list-style-type: none"> Clearly defined up-to-date national guidelines including standardized case-definitions, reporting forms and procedures provided in the MOH Decree. Case-based reporting for priority diseases (e.g. 83% of measles cases reported in 2004-2005 had case-based information available). Development of computerized data management system (“Geoepid”), which is currently being implemented nationwide. Introduction of laboratory confirmation for measles and rubella at the national level. Trainings on surveillance conducted for the regional and some district level staff (NIP managers). 	<p>Weaknesses</p> <ul style="list-style-type: none"> Limited use of surveillance data for program management and impact evaluation. Limited awareness of recent guidelines at the facility level. Limited and irregular feedback from upper levels throughout the system. Lack of clearly defined national targets for general performance of surveillance system (completeness, timeliness and accuracy of reporting, etc.); lack of monitoring (with the exception of AFP surveillance) disease-specific surveillance performance indicators (for measles, rubella, CSR), for which the national targets exist. No data analysis below national level. Insufficient utilization of laboratory component. In some instances, incomplete investigation and response to reported cases/outbreaks.

	POSITIVE	NEGATIVE
EXTERNAL	Opportunities	Threats
	<ul style="list-style-type: none"> • USAID/Curatio and WHO technical support. • The flexibility of the system allowing incorporation of additional diseases to the reporting system if needed • The rotavirus surveillance study to be initiated by NCDC this year to estimate the contribution of rotaviruses to the burden of diarrhoeal illnesses among children in Georgia, which will provide information for programmatic purposes and decision making with regard to the need for the introduction of rotavirus vaccination 	<ul style="list-style-type: none"> • Insufficient funding limiting the capacity for monitoring the system performance. • Persons responsible for surveillance at regional and district levels often have multiple other responsibilities. • Only 1 person per district familiar with "Geoepid" system (without a back-up) is envisioned. • Declining trend in AFP surveillance rate.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

Based on the analyses presented above the following conclusions were drawn:

- Overall, the VPD surveillance system is running well. Substantial improvement from the situation in the 1990s has been observed during the past few years.
- The recent upgrades to the system represent important milestones toward strengthening communicable, including vaccine-preventable disease surveillance system in Georgia and are to be highly commended.
- The level of staff awareness at facility and sometimes at district level is variable.
- Use of surveillance data for programmatic purposes is suboptimal.
- Utilization of laboratory component of surveillance for measles/rubella is suboptimal
- Further strengthening of surveillance management and infrastructure overall and for individual diseases (measles, rubella, CSR, AFP, etc.) would generate better data for programmatic purposes and allow better monitoring of disease trends and progress toward achieving national targets.

B.5 Immunization Quality and Safety

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 11 on page 20:

Figure 11: SWOT analysis for Immunization Quality and Safety

	POSITIVE	NEGATIVE
INTERNAL	Strength	Weaknesses
	<ul style="list-style-type: none"> • Good injection safety and vaccine management supplies, practice and records at national level and most regions, districts and health facilities. • AEFI surveillance in progress. • No vaccine or injection supply stockouts or cold chain breakdowns in last 12 months. • Good progress at national cold store following EVSM evaluation. • Good overall improvement in vaccine utilization and reduction in wastage. • Proven political commitment to improve efficiency and lower the cost of the vaccine procurement system, by procurement of government funded vaccines through UNICEF Supply Division. 	<ul style="list-style-type: none"> • Safe Immunization Practices and AEFI: <ul style="list-style-type: none"> ○ AEFI guidelines not yet fully implemented and training not yet conducted for physicians at health facility level. ○ Poor healthcare waste management (burning/burying) at many health facilities and some safety box shortages. • Vaccine Management Issues: <ul style="list-style-type: none"> ○ Drug Agency not fully functional as NRA for vaccines. ○ No intermediate (district) level storage in Tbilisi. ○ Some regions making much less progress on improving vaccine utilization/reducing wastage. ○ Vaccine registers: BCG/MMR vaccine and diluent details not recorded separately, and no procedure to record VVM status. • Equipment Issues: <ul style="list-style-type: none"> ○ Shortages of voltage stabilisers at region and district PHDs. ○ Model Quality Plan and SOP for national vaccine store not yet formally adopted. ○ No budget line for cold chain equipment maintenance and repair at region/district. ○ Some very poor building/vaccine store conditions e.g. Kobuleti, with severe risk to equipment and staff. ○ Not all health facilities visited have icepack freezing capability.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

B.6 Advocacy and Communication

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 12 (on page 21):

Figure 12: SWOT analysis for advocacy and communication

	POSITIVE	NEGATIVE
INTERNAL	<p>Strength</p> <ul style="list-style-type: none"> • A record of diversity of communication activities (TV talk-shows, press-conference, TV/radio spots, printed IEC, in-service staff training and orientation, national and regional w-shops) over the last 5 years. • Distributed IEC materials (booklets, posters) are available at all service delivery points. • A detailed behaviour-focused communication plan for immunization (COMBI Plan) prepared in 2006. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Lack of a comprehensive approach to immunization advocacy and communication, to ensure consistency of the strategies and activities. • Low financial/non-financial motivation of staff is affecting NIP communication critically. • Capacities in AEFI management and especially communication are inadequate, mostly at the facility level. • Lack of any insurance/protection mechanisms from the state programme to support the PHC immunization staff in case a serious adverse event occurs.
EXTERNAL	<p>Opportunities</p> <ul style="list-style-type: none"> • Highly committed and competent public health officials at central and sub-national level. • Successful inter-agency partnership for immunization led by the Government with pledged commitments for advocacy and communication; opportunities for further partnership and resource leveraging. 	<p>Threats</p> <ul style="list-style-type: none"> • Unqualified and conflicting information from media, involving health professionals, particularly on coverage of AEFI cases. • Neuropathologists and "popular physicians" continue to create barriers, especially to timeliness of immunization (false contraindications). • Debate on the countries of vaccine manufacturers, especially in Tbilisi and major cities, possibly relating to: 1. commercial interest of the health care providers using private sector supplied vaccines; and 2. general tendency of the population to trust products from western manufacturers more than developing countries.

Source: WHO, UNICEF, CDC, WB, Immunization Programme Management Review, Georgia, 17-27 July 2006

B.7 Achievements and challenges

Key parameters of the national immunization system describing achievements and challenges are summarized in Table 5 and Table 6 (on page 23):

Table 5: Situational analysis by accelerated disease control initiatives

Component	Suggested indicators	National Status		
		2003	2004	2005
Polio	OPV3 coverage	74,3%	66,0%	83,7%
	OPV3 vaccinated late (12 month -15 year)	37%	33%	67,5%
	OPV drop-out rate	12%	14%	9.70%
	Percentage of districts with drop out rate OPV1-OPV3>10	58%	65%	54.50%
	% of districts with >80 percent coverage	55%	17%	67%
	Non polio AFP rate per 100,000 children under 15 years of age	1.23	0.95	0.95
	Adequate stool specimen collection rate (at least should be 80%)	100%	100%	100%

		National Status		
	The rate of AFP cases investigated within 48 hours of being reported	100%	100%	100%
	Follow -up AFP cases 60-90 days	100%	100%	100%
	The proportion of provinces zero reporting weekly	88%*	89%*	95%*
	The proportion of provinces doing active surveillance	88%*	89%*	95%*
	Completeness of hospital visits for active surveillance	100%*	100%*	100%*
	The rate of 2 adequate stool samples collected within 14 days of onset of paralysis (at least should be 80%)	81.80%	87.50%	87.50%
	The rate of stool specimen arrive at the laboratory in `good` condition (at least should be 80%)	100%	100%	100%
	The rate of stool specimen arrives at the NPL within 3 days of collection (at least should be 80%)	90.90%	87.50%	87.50%
	The rate of laboratory results are sent back within 28 days of receipt (at least should be 80%)	100	100	100
	Is there any National Plan of Action for the importation of wild polio virus (Y/N)	Y	Y	Y
	Supplementary Immunization Activities (NID/SNID/Mopping-up)			
	No. of rounds			
	Coverage range			
	Hot case follow-up	2	2	3
MMR	MMR vaccination coverage routine first dose /second dose	76% ¹⁰ /57.3	86%;75%	92%;87%
	Drop-out Rate (BCG - Measles)	12%	2%	4%
	Number of outbreaks reported	39	115	1358(7)
	Number of laboratory confirmation	10	100	18
	Number of outbreaks investigated	39	115	1093(7)
	Is there any National Plan of Action for the Measles and CRI Elimination? (Y/N)		y	y
	Incidence of Measles	5.10	162.5	31,3
	Measles cases	223	7033	1358
	< 1 year	15	397	78
	1-4 year	23	826	157
	5-14 year	113	2956	363
	15 + Year	72	2854	760
	National case-based surveillance (Y/N)	y	y	y
	Is there any CRS burden study?(Y/N)	NO	y	y
	Reported total number of CRS cases per year		1	1
	Is there any case-based CRS surveillance in infants 0-11 months of age with laboratory confirmation		1	1
	Incidence of Rubella	19.2	97.4	42.5
	Number of suspected rubella cases	838	4215	1842
	< 1 year	60	198	107
	1-4 year	248	792	340
	5-14 year	453	2648	1149

¹⁰ MMR was introduced in September 2003 and replaced measles and mumps monovalent antigens. Cumulative coverage with 1 dose MMR and measles monovalent was 82.9%

	National Status		
	2003	2004	2005
15 + Year	77	577	246
SIA (Catch-up, Follow-up, Mopping-up); Age group, coverage		Follow up; 13 Years: 86%	Follow up; 13 Years: 86%

Table 6: Situational analysis of routine EPI by system components

System components	Suggested indicators	National Status		
		2003	2004	2005
Routine coverage	DTP3 coverage	75%	78%	84%
	% of districts with > 80% coverage	57.60%	42.40%	75.80%
	National DTP1- DTP3 drop out rate	12.70%	11.50%	10.70%
	Percentage of districts with drop out rate DTP1 - DTP3>10	65.20%	57.60%	47%
	Long term contraindications for DTP	6.77%	6.20%	6%
	Establishment of central supervision and training team	Yes	Yes	Yes
	Curriculum and training material development for each level staff	Yes	Yes	Yes
New vaccines	HepB3 coverage	48%	65%	71%
	% of districts with > 80% coverage	14%	21%	42%
Routine Surveillance	% of regions submitting surveillance monthly reports (Form 58/3) timely			75%
	% of regions submitting surveillance monthly reports completed accurately			87%
	Provide feedback to reporting site (Frequency?)	monthly	monthly	monthly
	Is there any guidelines including surveillance activities	Yes	Yes	Yes
Immunization safety	Percentage of districts have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations	100%	100%	100%
	Is there any assessment of the quality of injection?	No	No	No
	Is there any training for health personnel for increased awareness/knowledge	Yes	Yes	Yes
	Developing policies/Plan of Action	Yes	Yes	Yes
	Is there any guide for health staff?	Yes	Yes	Yes
Vaccine supply	Was there a stock-out at national level during last year?	No	Yes	Yes
	If yes, specify duration in months		1) 1 m 2) 2 m 3) 2 m	1 m
	If yes, specify which antigen(s).		1) BCG 2) Hep B 3) Polio	Polio
	Correct requirement forecasting (for each level)	Yes	Yes	Yes

		National Status		
	Is the procurement procedures allowing the provision of quality-assured vaccines	Yes	Yes	Yes
	To plan to provide for vaccine supply in emergencies (such as outbreaks or disruptions of production)	Yes	Yes	Yes
Waste disposal	Availability of a waste management plan	Yes	Yes	Yes
	Is the Country Developed effective policies/Plan of Action(Y/N)	Yes	Yes	Yes
	Is there any evaluation for waste management systems in place including health care waste	No	Yes	No
Cold chain/Logistics	Percentage of districts with adequate number of functional cold chain equipment			
	Supplies distribution system	Yes	Yes	Yes
	Stock management & Wastage	Yes	Yes	Yes
	Revision/development of guidelines and Training manuals	Yes	Yes	Yes
	Develop replacement plans			
	Perform National Inventory	Yes	Yes	Yes
	AEFI	Is there any guide for health staff? And last training for health staff	Yes	Yes
	Number of AEFI reports received annually		3	2
	Number of AEFIs by antigen			
	Classification of an event by course	Yes	Yes	Yes
	Unusually severe AEFIs			
Communication	Availability of a plan (Advocacy, social mobilization and program communication)	No	No	No
	Communication plan	No	No	No
	communication manual for health staff	No	No	No
Management planning	Are a series of district indicators collected regularly at national level?(Y/N)	Yes	Yes	Yes
Financial sustainability	What percentage of total routine vaccine spending was financed using Government funds? (including loans and excluding external public financing)			53%
ICC	Number of meetings held last year	5	9	4
Research / Studies	Number of vaccine related studies conducted/being conducted	No	No	No
Program efficiency	Vaccine wastage monitoring at national level for all vaccines	Yes	Yes	Yes
Vaccine wastage	DTP vaccine wastage rate	1.47	1.31	1.28
	OPV vaccine wastage rate	1.65	1.32	1.24
	Hep B vaccine wastage rate	1.38	1.22	1.21

Section II Immunization program objectives and strategies

A. National priorities, NIP objectives and milestones

The following problems have been identified based on the situational analysis and national priorities with corresponding objectives and milestones have been defined as shown in Table 7 below:

Table 7: National priorities, NIP objectives and milestones, regional and global goals, and order of Priority

Description of problems & other national priorities	NIP Objectives	NIP Milestones	Regional and Global goals (until 2010)	Order of Priority
Low OPV 3 Coverage at National level	1. To reach 95% of coverage at OPV-3 by 2010	2007: 87% 2008: 90% 2009: 92% 2010: 95%	At national level 95% and at sub-national level 90%	1
Low AFP rate at national level	2. To improve AFP surveillance and AFP age: 2.1 To reach AFP rate 1/100,000 under 15 years by year 2007 2.2 To achieve and maintain high quality AFP surveillance to meet performance indicators by the end of 2006, with strong laboratory support	2007: 1/100,000 AFP rate	To reach and maintain the AFP rate 1/100,000 under 15 years of age	2
<ul style="list-style-type: none"> • Incidence of measles and rubella is high • Low laboratory confirmation ratio of measles and rubella cases 	3. Decrease morbidity and prevent measles-related deaths: 3.1 To decrease transmission of endemic measles virus by 2010 3.2 To prevent sustained transmission of imported measles viruses in Georgia beyond 2010, and	<ul style="list-style-type: none"> • 2007: <10/100000, to reduce measles and rubella incidence; • 2008: to prepare national plan of action for measles and rubella elimination; • 2008: Catch up campaign • 2008: single cases of (endemically transmitted) measles • 2010: no cases of endemically transmitted measles • 2010: =<1 case of CRS per 100,000 live births 	To eliminate endemic measles; To eliminate endemic rubella; and To prevent CRI (<1 case of CRS per 100,000 live births)	1

Description of problems & other national priorities	NIP Objectives	NIP Milestones	Regional and Global goals (until 2010)	Order of Priority
<ul style="list-style-type: none"> • Low DTP3 coverage at National level • 14 (21%) districts with DTP3 coverage <80% 	4. Increase DTP3 coverage: 4.1 80% DTP3 in every district by 2008; 4.2 90% DTP3 in every district by 2010	<ul style="list-style-type: none"> • 2007: 90% districts achieve DTP3 coverage of >80% • 2008: 100% districts achieve DTP3 coverage of >80% 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1
<ul style="list-style-type: none"> • Low HepB3 coverage at National level • 40 (61%) districts with HepB3 coverage <80% 	5. Increase HepB3 coverage: 5.1 80% HepB3 in every district by 2008 5.2 90% HepB3 in every district by 2010	<ul style="list-style-type: none"> • 2007: 60% districts achieve HepB3 coverage of >80% • 2008: 70% districts achieve HepB3 coverage of >80% 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1
<ul style="list-style-type: none"> • Low DT coverage at National level • 26 (39%) districts with DT coverage <80% 	6. Increase DT coverage: 6.1 80% DT in every district by 2008 6.2 90% DT in every district by 2010	<ul style="list-style-type: none"> • 2007: 70% districts achieve DT coverage of >80% • 2008: 80% districts achieve DT coverage of >80% 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1
<ul style="list-style-type: none"> • Low Td coverage at National level • 26 (39%) districts with Td coverage <80% 	7. Increase Td coverage: 7.1 80% Td in every district by 2008 7.2 90% Td in every district by 2010	<ul style="list-style-type: none"> • 2007: 70% districts achieve Td coverage of >80% • 2008: 80% districts achieve Td coverage of >80%; 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1
<ul style="list-style-type: none"> • High drop-out rate at national level (21.6% BCG-DTP3) 	8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level	<ul style="list-style-type: none"> • 2007: 80% districts achieve BCG-DTP3 drop-out rate of < 10% • 2008: 90% districts achieve BCG-DTP3 drop-out rate of < 10% 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1
<ul style="list-style-type: none"> • Low coverage in the hard-to-reach area 	9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008	<ul style="list-style-type: none"> • 2007: 90% districts achieve routine coverage of >80% • 2008: 100% districts achieve routine coverage of >80% 	By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with in every district	1

Description of problems & other national priorities	NIP Objectives	NIP Milestones	Regional and Global goals (until 2010)	Order of Priority
<ul style="list-style-type: none"> Weaknesses in surveillance of Vaccine Preventable Diseases Underreporting of Vaccine Preventable Diseases Reporting problems (timeliness and completeness, especially from PHC to district level) Lack of active surveillance 	10. To strengthen an action oriented surveillance system for EPI diseases and achieve disease reduction targets for Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010	<ul style="list-style-type: none"> 2007: full (complete) reports produced 2008: timeliness and accuracy of reports improved 2009: introduction of active surveillance (of measles mainly) started 2010: Introduction of laboratory confirmation of vaccine preventable diseases 	<ul style="list-style-type: none"> Ensure capacity for surveillance and monitoring. All countries will have developed the capacity at all levels to conduct case-based surveillance of vaccine-preventable diseases, supported by laboratory confirmation where necessary, in order to measure vaccine coverage accurately and use these data appropriately 	3
<ul style="list-style-type: none"> High vaccine wastage rate Lack of financial resources for vaccines (for booster doses of Td) Lack of proper information on vaccine quality among health staff and public (or existence of misbeliefs on quality issues) Stock outs due to delay in vaccine delivery (SUSIF procurement procedures) 	11. Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use	<ul style="list-style-type: none"> Vaccine wastage rate <10% by 2010 No stock out from 2008 and onwards 	<ul style="list-style-type: none"> Regional Priority: Ensuring the quality of immunization services for sustained program performance and to keep the public confidence Ensuring the safety of immunization is part of guaranteeing the quality of immunization services 	2

The problem of low coverage by routine immunization is a result of a broad range of underlying problems from immunization system specific to system wide factors such as (but not limited to):

- Inadequate number of health staff at primary health care level (PHC)**
- Lack of performance based incentives**
- Lack of proper and continuous training for PHC staff**
- Delayed vaccination (obstacles for timely vaccination)**
- Implementation of false contraindications**
- Missed opportunities (due to false contraindications and rare immunization sessions)**
- Reporting (coverage) problems (timeliness and completeness, especially from PHC to district level)**
- Accessibility problems (due to existence of hard to reach populations)**

- fix (lack of fixed posts in some remote localities)
- outreach (poor outreach services)
- mobile (poor and unsustainable mobile services)
- Poor communication with conflict affected areas

B. Strategies and key activities

Strategies and key activities necessary to achieve the abovementioned objectives are grouped by five immunization system components and presented below:

Table 8: Service delivery

Objective	Strategy	Key Activities
1. To reach 95% of coverage at OPV-3 by 2010	1.1 Strengthening and improving the quality of routine immunization services and increasing OPV3 coverage	-1. District health managers conducting routine and accelerated immunization activities will be trained every year from 2008 to 2010. In turn, they will conduct training of immunization teams in their districts -2. Reproduce guidelines for planning, implementation, monitoring, evaluation and supervision of immunization activities in first level health institutions. -3. Prepare and implement macro and micro plans for routine and accelerated immunization activities at each level -4. Supervisory visits will be conducted by the central or/and district Epidemiologist to high-risk areas and throughout the routine and accelerated immunization activities. Supervision activities will be training focused and on-site feedback will be provided -5. Training modules for all level EPI managers to conduct standardized district trainings will be provided to each district. -6. Results of routine and accelerated immunization activities will be analyzed to identify high risk and low performing areas at each level (regional and district). Analysis will cover financial components together with resources utilized. -7. Evaluation meetings will be held with districts at least 3 times per year -8. Feedback to districts and related sectors will be provided by the end of each activity
	1.2 Conducting high quality	-1. Accelerated immunization

Objective	Strategy	Key Activities
	accelerated immunization activities in the high risk areas for sustaining of polio free status	activities are planned in the high-risk, out reach area for the period 2008-2010 at least four times per year by the mobilizing team -2. Conducting training, printing and distributing training materials and forms prior to the activity
<hr/>		
2. To improve AFP surveillance and AFP rage:		
<hr/>		
3. Decrease morbidity and prevent measles-related deaths:	3.1 Achieve and sustain very high coverage with two doses MMR vaccine through high quality routine immunization services	-1. Accelerated immunization activities are planned in the high-risk, out reach area for the period 2007-2010 at least four times per year -2. Macro and micro plans for routine immunization activities at each level will be prepared and implemented -3. Measles and Rubella Elimination and Congenital Rubella Infection Prevention Field Guide will be prepared, printed and distributed to all health care providers.
	3.2 Provide a second opportunity to all susceptible age groups for measles and rubella immunization through supplemental immunization activities(MR vaccination Catch up/mass campaign)	-1. Macro and micro plans for routine and accelerated immunization activities at each level will be prepared and implemented -2. Through micro planning at the district or local level, map (geographically, socially, culturally) the entire population in order to identify and reach the unreached target populations at least four times a year. -3. Forms and cards for routine and supplementary immunization activities will be printed and distributed -4. Scheduled outreach services will be provided at regular intervals based on the plans provided by the districts
<hr/>		
4. Increase DTP3 coverage:	9.1 Conducting high quality accelerated immunization activities in the hard-to-reach areas for reaching unvaccinated children	
5. Increase HepB3 coverage:		
6. Increase DT coverage:		
7. Increase Td coverage:		
8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level		
9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008		
<hr/>		
10. To strengthen an action oriented surveillance system for EPI diseases and achieve		

Objective	Strategy	Key Activities
disease reduction targets for Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010		
11. Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use		

Table 9: Advocacy and communications

Objective	Strategy	Key Activities
1. To reach 95% of coverage at OPV-3 by 2010	1.1 Mobilizing community and other sectors for their involvement and contribution to polio eradication program activities	-1. To conduct a large meeting to obtain support of the Ministries of Education and Finance, the Military, universities, private sector, NGOs, UN organizations and other international organizations and to continue strengthening social mobilization through collaboration with them
	1.2 Creating public awareness to increase demand to routine and supplementary immunization activities	-1. Special materials will be developed for parents, teachers and community leaders -2. To prepare and distribute posters, brochures and TV spots
2. To improve AFP surveillance and AFP rate:	2.1 Arising awareness of health Personnel and clinicians	-1. Surveillance system guidelines for clinicians will be developed and distributed. -2. Clinicians' knowledge will be updated on the improvements of the program through newsletters to be issued twice a year -3. Posters and stickers for identification of AFP/polio cases will be developed, printed and distributed in all hospitals and polyclinics
	2.2 Arising awareness related NGO's, medical associations	-1. Meetings will be held to inform clinicians (pediatricians, neurologists, infectious disease specialists and epidemiologists) and representatives from hospitals, NGO's and Medical associations on AFP surveillance in each region or districts

Objective	Strategy	Key Activities
3. Decrease morbidity and prevent measles-related deaths:	3.1 Improving the availability of high-quality, valued information for health professionals and the public on the benefits and risks associated with immunization against measles and rubella	-1. Produce quality and timely information on the benefits immunization and associated risks, and develop key messages to promote immunization according to national needs and priorities -2. Develop new ways of using media, including the internet, to build public awareness of the benefits of immunization -3. To prepare and publicize commercial programs to advocate for MMR vaccination
	3.2 15. Obtaining public support to the measles-rubella elimination plan	-1. To prepare and distribute posters and brochures -2. To prepare educational material for teachers and parents
4. Increase DTP3 coverage: 5. Increase HepB3 coverage: 6. Increase DT coverage: 7. Increase Td coverage: 8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level 9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008	9.1 Increasing public awareness and demand for immunization services	-1. Mass media will be involved to educate the population -2. Taking advantage of community structures with regular, consultative meetings with community leaders and representatives -3. Special materials will be developed for school children, teachers and community leaders -4. Material development and production for social mobilization: Videotapes 3 spots(3-5 minutes); Posters 5000; Brochures 50000; will be produced, printed and distributed for the public
	9.2 Providing continuous in-service training for health personnel on immunization services	-1. Training of health personnel from each primary health care unit (approximately 2 day training) by training teams (based on WHO guidelines "Immunization in practice").
10. To strengthen an action oriented surveillance system for EPI diseases and achieve disease reduction targets for Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010		
11. Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use		

Table 10: Surveillance

Objective	Strategy	Key Activities
1. To reach 95% of coverage at OPV-3 by 2010	1.1 Strengthening AFP disease surveillance (epidemiological and laboratory) to timely detect and investigate wild poliovirus associated cases	-1. see below objective #2 "To improve AFP surveillance and AFP rage:"
2. To improve AFP surveillance and AFP rage:	2.1 Strengthening AFP disease surveillance (epidemiological and laboratory) to timely detect and investigate wild poliovirus associated cases	-1. High risk areas will be identified according to the risk of wild poliovirus circulation and/or AFP surveillance performance -2. Annual refreshment trainings will be conducted by central training team for regional and/or districts AFP surveillance officers -3. Criteria for identification of high risk AFP cases (Hot cases) will be highlighted and distributed and AFP cases will be analyzed according to those criteria to take timely action -4. National Polio Laboratory will be strengthened through training of personnel and procurement of equipment
	2.2 Improving Active Surveillance	-1. Supervising surveillance activities on district level by central level -2. Relevant training material for district EPI managers in charge of AFP surveillance will be developed by central level for each districts
	3.1 Strengthening surveillance systems by vigorous case investigation and laboratory confirmation	-1. To provide training to health care personnel to improve quantity and quality of measles-rubella surveillance data gathered from hospitals -2. To gather information on a regular basis at the central level -3. To monitor active surveillance performance
3. Decrease morbidity and prevent measles-related deaths:	3.2 Detecting measles and rubella outbreaks early, to investigate and confirm outbreaks, and use data to control and prevent outbreaks	-1. To investigate outbreaks and use data to control and prevent outbreaks
	3.3 Following catch up vaccination and with the reduction in measles-rubella incidence, implementing case-based measles and rubella surveillance with laboratory confirmation	-1. To improve case-based surveillance following MR Vaccination Days (Catch up). To report, investigate, confirm (laboratory based) all suspected cases, and to identify imported and indigenous measles viruses based on genetic sequencing. -2. To improve standardized case-investigation forms and use these forms when case-based

Objective	Strategy	Key Activities
		surveillance is established. -3. To improve criteria for the selection of cases for laboratory confirmation -4. To train health care personnel regarding laboratory support
	3.4 Monitoring vaccination coverage rates and accumulation of susceptible individuals closely, and if needed, conducting periodic supplemental vaccination among children born after the catch-up vaccination (follow-up campaign)	-1. To continue evaluating routine vaccination coverage rates. -2. To conduct periodic follow-up vaccination campaigns in the identified high risk and low performing areas among children born after the catch-up campaign
4. Increase DTP3 coverage: 5. Increase HepB3 coverage: 6. Increase DT coverage: 7. Increase Td coverage: 8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level 9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008	9.1 Strengthening vaccine preventable disease surveillance and developing disease control programs, with special focus on polio eradication, measles-rubella elimination, diphtheria control and hepatitis B control	-1. EPI field guide will be upgraded, printed and will be provided for each health center -2. Monitor the quality and performance of coverage and surveillance systems through surveys, monitoring of performance indicators, data quality assessments, and supportive supervision -3. Routine feedback mechanism will be improved: A newsletter/epidemiological bulletin will be published by the MOH/NCDC and sent to the district level every three months, including latest data and technical information on EPI disease and vaccine -4. Collaborate with civil authorities in advocating for increased registration of births and deaths
10. To strengthen an action oriented surveillance system for EPI diseases and achieve disease reduction targets for Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010	10.1 Evaluate the impact of immunizations on the diseases they are meant to prevent	-1. Disease trends in certain areas, and groups will be analyzed every month by each level that are at high risk of illness or death -2. Demonstrate the impact of immunization services on the clinic, district, regional and national level
	10.2 Monitor and investigate adverse events	-1. AEFI surveillance and management mechanisms will be strengthened, including training workshops and the development of training materials supported for all areas of immunization safety -2. Revise and update the AEFI guidelines
11. Immunization program will ensure the safety of vaccination through the setting up of quality control		

Objective	Strategy	Key Activities
systems at each step from procurement to the point of use		

Table 11: Vaccine supply, quality and Logistics

Objective	Strategy	Key Activities
1. To reach 95% of coverage at OPV-3 by 2010		
2. To improve AFP surveillance and AFP rage:		
3. Decrease morbidity and prevent measles-related deaths:	3.1 Complying with adequate cold-chain and injection safety procedures	-1. To assess problems in vaccine logistics and injection safety. -2. Based on the results and recommendations of the logistics assessment and prior to the catch-up campaign, to provide guidelines for waste management and injection safety -3. Prior to the catch-up campaign, to train health care personnel on safe injection practices
4. Increase DTP3 coverage:	9.1 Improving vaccine, immunization and injection safety	-1. see objective #11 "Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use"
5. Increase HepB3 coverage:		
6. Increase DT coverage:		
7. Increase Td coverage:		
8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level		
9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008	9.2 Ensuring an effective cold chain and logistic system	-1. see objective #11 "Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use"
10. To strengthen an action oriented surveillance system for EPI diseases and achieve disease reduction targets for Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010		
11. Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use	11.1 Uninterrupted provision of vaccines which meet international standards for efficacy and safety according to WHO	-1. Procure vaccines through UNICEF and/or from WHO pre-qualified manufacturers -2. Follow policy developed by WHO to ensure quality of vaccines procured - Procedures for assessing the acceptability, in principle, of vaccines for purchase by United Nations agencies
	11.2 Regular supply of vaccines, cold chain equipment	-1. Ensure that vaccine forecasting system accounts for usual

Objective	Strategy	Key Activities
		inventory, usage patterns, and anticipated needs at central, district and health center levels -2. Provide training on vaccine forecasting, storage, and handling at district and health center levels -3. Provide training on reducing vaccine wastage at health center level consistent with WHO open vial policy -4. Conduct post training evaluation of level of understanding of open vial policy and wastage reduction practices -5. provide additional training as needed and at least annually
	11.3 Ensure properly functioning cold chain	-1. Undertake a review and provide necessary equipment at national, regional, district, and health center level to maintain cold chain: refrigerators, freezers, generators and spare parts -2. Obtain donor support to purchase equipment and supplies to maintain cold chain for republic, central, districts, and health centers -3. Conduct training at district and clinic level on appropriate procedures for storing vaccines and monitoring cold chain -4. Conduct post-training evaluation of level of understanding of vaccine storage and cold chain policies
	11.4 Establishing and maintaining an effective cold chain and good vaccine handling procedures	-1. Supervision by cold chain managers at each level periodically -2. Sub-national level cold stores will be monitored and required equipment will be provided to regions lacking identified standards -3. Replacement of old and broken cold chain equipment at regional and health center level will take place in stages during a period of four years. -4. Refreshment training for cold chain managers will be conducted once a year -5. Cold chain stickers, booklets, posters for administration of vaccine and cold chain and a poster showing various stages of VVMs will be developed, printed and distributed to each health center

Objective	Strategy	Key Activities
	11.5 Ensuring safety of injections	<ul style="list-style-type: none"> -1. To conduct a survey to assess of the quality of injection for evidence of risks to patient, provider & community -2. Advocacy and communication activities for the sustained use of Disposable and AD syringes and safety boxes -3. Develop training materials/guidelines and train health personnel for increased awareness/knowledge about injection safety -4. Monitor injection safety through AEFI surveillance -5. Safety boxes will be used for collection and destruction of used injectables will be monitored

Table 12: Program management

Objective	Strategy	Key Activities
1. To reach 95% of coverage at OPV-3 by 2010	1.1 Obtaining political support and commitment towards polio eradication goals	<ul style="list-style-type: none"> -1. Steering committee (ICC) will assess the program outcomes and submit annual progress reports and plans to the Minister to obtain his support and endorsement -2. Coordination meeting for the regional and district directors (governors and mayors) will be conducted for routine and accelerated immunization activities
2. To improve AFP surveillance and AFP rage:		
3. Decrease morbidity and prevent measles-related deaths:	3.1 Reducing missed opportunities and inappropriate contraindication	<ul style="list-style-type: none"> -1. Training material for health care staff will be produced, -2. Reduce the drop-outs rate through improved management, defaulter tracing, and social mobilization and communication during immunization contacts, and avoid missed opportunities to vaccinate
	3.2 Preparing plan of action for measles and rubella elimination program	-1. National plan of action for measles and rubella elimination will be prepared by the end of 2008-9
	3.3 Introducing measles and rubella elimination plan to all level health managers and obtain consensus on the plan	-1. To conduct a meeting Measles and Rubella elimination plan will introduce to all level health managers and obtain consensus on the plan
	3.4 Obtaining political commitment at the highest level to the measles and rubella elimination plan	-1. With the leadership of the Minister of Health, to introduce measles and rubella elimination plan to the

Objective	Strategy	Key Activities	
		President and Prime Minister and to obtain their full support.	
		-2. Coordination meeting for the regional and district directors (governors and mayors) will be conducted for Measles and Rubella elimination supplementary immunization activities	
	3.5 Implementing the elimination plan with the support of other sectors	-1. To introduce the plan of action for measles and obtain support of different sectors, to conduct a meeting for the Ministries of Education and Finance, the Military, private sector, NGO's, UN and other international organizations	
		-2. To print the measles plan of action and distribute to a large group of audience	
		-3. Coordination meeting with the leadership of governors, to obtain intersectoral support at the regional and district level.	
	3.6 16. To collaborate with and obtain support of other sectors at the central level	-1. To conduct a large meeting to obtain support of the Ministries of Education and Finance, the Military, universities, private sector, non-governmental organizations, UN organizations and other international organizations and to continue strengthening social mobilization through collaboration with them	
4. Increase DTP3 coverage:	9.1 Obtaining political support and commitment for sustainability of the national immunization program towards timely and fully implementation of the "National Comprehensive Multi-Year Plan"	-1. Steering committee (ICC) will assess the program outcomes and submit annual progress reports and plans to the President and Prime Minister to obtain their support and endorsement	
5. Increase HepB3 coverage:			
6. Increase DT coverage:			
7. Increase Td coverage:			
8. Decrease BCG-DTP3 drop-out rates: 5% BCG - DTP3 drop-out rate by 2008 at national level			
9. Improve coverage in the hard-to-reach area - No districts with < 80% routine coverage by 2008			
			-2. National cMYP will be printed and widely disseminated to the parliamentarians, governors, other related government members and organizations, health managers, international and non-governmental organizations (NGOs)
			-3. A workshop will be held to introduce the cMYP to all level health managers and EPI managers. In turn, they are expected to prepare their level plans of actions
			-4. Workshop with regional governors will be held every year: There will be one day workshop with governors to improve the political support

Objective	Strategy	Key Activities
		and intersectoral coordination at the regional level on EPI.
	9.2 Strengthening interpersonal skills of trainers and supervisors in order to improve their training and supportive supervision skills at all levels	-1. A training team will be established in each district and central level. Each training team will be composed of approximately 2 persons (to be defined according to the number of health personnel in the districts). -2. Training team will be responsible for the development of yearly plans, implementation, monitoring, evaluation and supervision of EPI activities including public relations, training, intersectoral coordination etc. -3. A manual and checklist will be developed for training teams for supervision and standardization of training -4. Central and subnational level EPI team staff will provide on-site support to district Health centers for planning and supervision of routine vaccination services -5. Strengthen the managerial skills of national and district immunization providers and managers and develop and update supervisory mechanisms and tools. -6. New manpower will be recruited at the each level for the EPI team and required equipment will be provided for their effective performance
	9.3 Strengthening the management, analysis, interpretation, use and exchange of data at all levels	-1. Improve coverage monitoring of vaccines and other linked health interventions and the use of information at district and local levels through strengthening human resource capacity, monitoring the quality of data, improved tools for data compilation, feedback and supervision. -2. Regularly review indicators of performance in district level, including risk status for vaccine-preventable diseases and use surveillance and monitoring data to advocate for improved access to, and quality of immunization. -3. Training for to encourage the analysis and use of data collected by health workers at delivery level
	9.4 Strengthening intra-and inter-	-1. Steering committee (ICC) will

Objective	Strategy	Key Activities
	sectoral coordination for health promotion	meet quarterly every year and meetings will be held every six months for the rest of the planned period -2. The program review will include participation of MoH, WHO, UNICEF and will address all aspects of EPI, including service delivery, surveillance, cold chain and logistics, AEFI system and injection safety
	9.5 Strengthening immunization programs within the context of health systems development	-1. Duties, powers and responsibilities at each level EPI team will be redefined in accordance with Health Sector Reforms -2. Participate actively in collective efforts to shape sector wide policies and programs, while preserving the central role of immunization in the context of sector wide policies and programs -3. Through regular analysis of district-wide data, document key factors for the success and failure of immunization activities and share these findings with others involved in health systems development.
	9.6 Ensuring adequate and sustainable financing of national immunization system	-1. Provide timely funding, logistic support and supplies for program implementation in every district
	9.7 Reducing missed opportunities and false contraindications and drop-out rates	-1. Reduce the number of immunization drop-outs (incomplete vaccination) through improved management, defaulter tracing, and social mobilization and communication during immunization contacts, and avoid missed opportunities to vaccinate. -2. Existing guidelines for micro planning, reaching the unreached and reducing drop-outs (improving utilization) at health facility and district level will be revised by central team -3. Relevant training materials for clinicians and health staff will be developed to reducing risks of non-vaccination due to false contraindications and missed opportunities
10. To strengthen an action oriented surveillance system for EPI diseases and achieve disease reduction targets for	10.1 Achieving Political commitment for secure the financing of equipment & maintenance	-1. To hold working meeting with the policy makers and technical decision makers -2. Amount of vaccine,

Objective	Strategy	Key Activities
Vaccine Preventable Diseases and the strengthening of disease surveillance and disease response strategies at every level by 2010		injectables, safety boxes and equipment required will be calculated annually and all expendables will be procured and distributed based on plan developed
11. Immunization program will ensure the safety of vaccination through the setting up of quality control systems at each step from procurement to the point of use	11.1 Strengthen management and revise procedures that will ensure the performance of the quality functions	-1. Training of cold chain managers on vaccine logistics, safe immunization and cold chain -2. Revision/development of guidelines and training manuals
	11.2 Stronger management capacity among immunization, cold chain, and supply managers	-1. To prepare technical documents and training materials (Preparation, adaptation, translation, printing and distribution of technical documents and training materials, based on related WHO documents) -2. To train managers (conduct EPI Mid-Level Management (MLM) training course for district immunization managers) -3. To translate and adopt the WHO-UNICEF Effective Vaccine Store Management (EVSM) Initiative -4. To conduct vaccine store management and immunization safety training in 66 districts for 2-3 days
	11.3 Long term forecasting for vaccines, cold chain and logistics equipment	-1. To calculate the future resource requirements for vaccines and injection supplies
	11.4 Establishing a well defined Logistic Management Information System for EPI mobilizing sufficient and timely procurement and shipment of items needed add flow of financial resources to the field	-1. Establishment of the new system (Logistic Management Information System for EPI): The system to be established has to include the flow of logistics at central, as well as the regional cold stores. Software will to be adopted and translated in 2008 and system users at central and regional level will be trained

C. Timeline for the key activities

The implementation plan of aforementioned activities is shown in Figure 13 (below):

Figure 13: Timeline for the key activities

Key Activities	2007	2008	2009	2010
Service Delivery				
1. District health managers conducting routine and accelerated immunization activities will be trained every year from 2008 to 2010. In turn, they will conduct training of immunization teams in their districts				

Key Activities	2007	2008	2009	2010
2. Reproduce guidelines for planning, implementation, monitoring, evaluation and supervision of immunization activities in first level health institutions.				
3. Prepare and implement macro and micro plans for routine and accelerated immunization activities at each level				
4. Supervisory visits will be conducted by the central or/and district Epidemiologist to high-risk areas and throughout the routine and accelerated immunization activities. Supervision activities will be training focused and on-site feedback will be provided				
5. Training modules for all level EPI managers to conduct standardized district trainings will be provided to each district.				
6. Results of routine and accelerated immunization activities will be analyzed to identify high risk and low performing areas at each level (regional and district). Analysis will cover financial components together with resources utilized.				
7. Evaluation meetings will be held with districts at least 3 times per year				
8. Feedback to districts and related sectors will be provided by the end of each activity				
9. Accelerated immunization activities are planned in the high-risk, out reach area for the period 2008-2010 at least four times per year by the mobilizing team (for OPV)				
10. Conducting training, printing and distributing training materials and forms prior to the activity				
11. Accelerated immunization activities are planned in the high-risk, out reach area for the period 2008-2010 at least four times per year (for measles)				
12. Macro and micro plans for routine immunization activities at each level will be prepared and implemented				
13. Measles and Rubella Elimination and Congenital Rubella Infection Prevention Field Guide will be prepared, printed and distributed to all health care providers.				
14. To prepare and distribute operational guidelines to the regional and districts health managers prior to the campaign,				
15. To train health care staff on objectives of supplemental vaccination, strategies of the elimination program, planning, implementation and evaluation of the campaign, injection safety, and AEFI surveillance,				
16. Training materials and forms will be printed and distributed prior to the activity				
17. Vaccine for supplementary immunization activities will be received at least 2 months prior of activities				
18. Cold chain equipment, vaccine carriers and injection safety equipment will be provided to districts with shortages				
19. Supervisory visits will be conducted by the central or district EPI team to high-risk areas and throughout the supplementary immunization activities. Supervision activities will be training focused and on-site feedback will be provided				
20. To supervise the activity by house to house visits in high-risk areas				
21. To establish AEFI surveillance and monitor AEFI via surveillance				
22. Evaluation meetings will be held with districts and mop-up vaccination will be conducted where needed.				
23. Macro and micro plans for routine and accelerated immunization activities at each level will be prepared and implemented				
24. Through micro planning at the district or local level, map (geographically, socially, culturally) the entire population in order to identify and reach the unreached target populations at least four times a year.				

Key Activities	2007	2008	2009	2010
25. Forms and cards for routine and supplementary immunization activities will be printed and distributed				
26. Scheduled outreach services will be provided at regular intervals based on the plans provided by the districts				
Advocacy and communications				
27. To conduct a large meeting to obtain support of the Ministries of Education and Finance, the Military, universities, private sector, NGOs, UN organizations and other international organizations and to continue strengthening social mobilization through collaboration with them				
28. Special materials will be developed for parents, teachers and community leaders				
29. To prepare and distribute posters, brochures and TV spots				
30. Surveillance system guidelines for clinicians will be developed and distributed.				
31. Clinicians' knowledge will be updated on the improvements of the program through newsletters to be issued twice a year				
32. Posters and stickers for identification of AFP/polio cases will be developed, printed and distributed in all hospitals and polyclinics				
33. Meetings will be held to inform clinicians (pediatricians, neurologists, infectious disease specialists and epidemiologists) and representatives from hospitals, NGO's and Medical associations on AFP surveillance in each region or districts				
34. Produce quality and timely information on the benefits immunization and associated risks, and develop key messages to promote immunization according to national needs and priorities				
35. Develop new ways of using media, including the internet, to build public awareness of the benefits of immunization				
36. To prepare and publicize commercial programs to advocate for MMR vaccination				
37. To prepare and distribute posters and brochures				
38. To prepare educational material for teachers and parents				
39. Mass media will be involved to educate the population				
40. Taking advantage of community structures with regular, consultative meetings with community leaders and representatives				
41. Special materials will be developed for school children, teachers and community leaders				
42. Material development and production for social mobilization: Videotapes 3 spots(3-5 minutes); Posters 5000; Brochures 50000; will be produced, printed and distributed for the public				
43. Training of health personnel from each primary health care unit (approximately 2 day training) by training teams (based on WHO guidelines "Immunization in practice").				
Surveillance				
44. High risk areas will be identified according to the risk of wild poliovirus circulation and/or AFP surveillance performance				
45. Annual refreshment trainings will be conducted by central training team for regional and/or districts AFP surveillance officers				
46. Criteria for identification of high risk AFP cases (Hot cases) will be highlighted and distributed and AFP cases will be analyzed according to those criteria to take timely action				
47. National Polio Laboratory will be strengthened through training of personnel and procurement of equipment				

Key Activities	2007	2008	2009	2010
48. Supervising surveillance activities on district level by central level				
49. Relevant training material for district EPI managers in charge of AFP surveillance will be developed by central level for each districts				
50. To provide training to health care personnel to improve quantity and quality of measles-rubella surveillance data gathered from hospitals				
51. To gather information on a regular basis at the central level				
52. To monitor active surveillance performance				
53. To investigate outbreaks and use data to control and prevent outbreaks				
54. To improve case-based surveillance following MR Vaccination Days (Catch up). To report, investigate, confirm (laboratory based) all suspected cases, and to identify imported and indigenous measles viruses based on genetic sequencing.				
55. To update standardized case-investigation forms and use these forms when case-based surveillance is established.				
56. To improve criteria for the selection of cases for laboratory confirmation				
57. To train health care personnel regarding laboratory support				
58. To continue evaluating routine vaccination coverage rates.				
59. To conduct periodic follow-up vaccination campaigns in the identified high risk and low performing areas among children born after the catch-up campaign				
60. EPI field guide will be upgraded, printed and will be provided for each health center				
61. Monitor the quality and performance of coverage and surveillance systems through surveys, monitoring of performance indicators, data quality assessments, and supportive supervision				
62. Routine feedback mechanism will be improved: A newsletter/epidemiological bulletin will be published by the MOH/NCDC and sent to the district level every three months, including latest data and technical information on EPI disease and vaccine				
63. Collaborate with civil authorities in advocating for increased registration of births and deaths				
64. Disease trends in certain areas, and groups will be analyzed every month by each level that are at high risk of illness or death				
65. Demonstrate the impact of immunization services on the clinic, district, regional and national level				
66. AEFI surveillance and management mechanisms will be strengthened, including training workshops and the development of training materials supported for all areas of immunization safety				
67. Revise and update the AEFI guidelines				
Vaccine supply, quality and Logistics				
68. To assess problems in vaccine logistics and injection safety.				
69. Based on the results and recommendations of the logistics assessment and prior to the catch-up campaign, to provide guidelines for waste management and injection safety				
70. Prior to the catch-up campaign, to train health care personnel on safe injection practices				
71. Procure vaccines through UNICEF and/or from WHO pre-qualified manufacturers				
72. Follow policy developed by WHO to ensure quality of vaccines procured - Procedures for assessing the acceptability, in principle, of vaccines for purchase by United Nations agencies				

Key Activities	2007	2008	2009	2010
73. Ensure that vaccine forecasting system accounts for usual inventory, usage patterns, and anticipated needs at central, district and health center level				
74. Provide training on vaccine forecasting, storage, and handling at district and health center levels				
75. Provide training on reducing vaccine wastage at health center level consistent with WHO open vial policy				
76. Conduct post training evaluation of level of understanding of open vial policy and wastage reduction practices				
77. provide additional training as needed and at least annually				
78. Undertake a review and provide necessary equipment at national, regional, district, and health center level to maintain cold chain: refrigerators, freezers, generators and spare parts				
79. Obtain donor support to purchase equipment and supplies to maintain cold chain for republic, central, districts, and health centers				
80. Conduct training at district and clinic level on appropriate procedures for storing vaccines and monitoring cold chain				
81. Conduct post-training evaluation of level of understanding of vaccine storage and cold chain policies				
82. Supervision by cold chain managers at each level periodically				
83. Sub-national level cold stores will be monitored and required equipment will be provided to regions lacking identified standards				
84. Replacement of old and broken cold chain equipment at regional and health center level will take place in stages during a period of four years.				
85. Refreshment training for cold chain managers will be conducted once a year				
86. Cold chain stickers, booklets, posters for administration of vaccine and cold chain and a poster showing various stages of VVMs will be developed, printed and distributed to each health center				
87. To conduct a survey to assess of the quality of injection for evidence of risks to patient, provider & community				
88. Advocacy and communication activities for the sustained use of Disposable and AD syringes and safety boxes				
89. Develop training materials/guidelines and train health personnel for increased awareness/knowledge about injection safety				
90. Monitor injection safety through AEFI surveillance				
91. Safety boxes will be used for collection and destruction of used injectables will be monitored				
Program management				
92. Steering committee (ICC) will assess the program outcomes and submit annual progress reports and plans to the Minister to obtain his support and endorsement				
93. Coordination meeting for the regional and district directors (governors and mayors) will be conducted for routine and accelerated immunization activities				
94. Training material for health care staff will be produced,				
95. Reduce the drop-outs rate through improved management, defaulter tracing, and social mobilization and communication during immunization contacts, and avoid missed opportunities to vaccinate				
96. National plan of action for measles and rubella elimination will be prepared by the end of 2008-9				
97. To conduct a meeting Measles and Rubella elimination plan will introduce to all level health managers and obtain consensus on the plan				

Key Activities	2007	2008	2009	2010
98. With the leadership of the Minister of Health, to introduce measles and rubella elimination plan to the President and Prime Minister and to obtain their full support.				
99. Coordination meeting for the regional and district directors (governors and mayors) will be conducted for Measles and Rubella elimination supplementary immunization activities				
100. To introduce the plan of action for measles and obtain support of different sectors, to conduct a meeting for the Ministries of Education and Finance, the Military, private sector, NGO's, UN and other international organizations				
101. To print the measles plan of action and distribute to a large group of audience				
102. Coordination meeting with the leadership of governors, to obtain intersectoral support at the regional and district level.				
103. To conduct a large meeting to obtain support of the Ministries of Education and Finance, the Military, universities, private sector, non-governmental organizations, UN organizations and other international organizations and to continue strengthening social mobilization through collaboration with them				
104. Steering committee (ICC) will assess the program outcomes and submit annual progress reports and plans to the President and Prime Minister to obtain their support and endorsement				
105. National cMYP will be printed and widely disseminated to the parliamentarians, governors, other related government members and organizations, health managers, international and non-governmental organizations (NGOs)				
106. A workshop will be held to introduce the cMYP to all level health managers and EPI managers. In turn, they are expected to prepare their level plans of actions				
107. Workshop with regional governors will be held every year: There will be one day workshop with governors to improve the political support and intersectoral coordination at the regional level on EPI.				
108. A training team will be established in each district and central level. Each training team will be composed of approximately 2 persons (to be defined according to the number of health personnel in the districts).				
109. Training team will be responsible for the development of yearly plans, implementation, monitoring, evaluation and supervision of EPI activities including public relations, training, intersectoral coordination etc.				
110. A manual and checklist will be developed for training teams for supervision and standardization of training				
111. Central and district level EPI team staff will provide on-site support to district Health centers for planning and supervision of routine vaccination services.				
112. Strengthen the managerial skills of national and district immunization providers and managers and develop and update supervisory mechanisms and tools.				
113. New manpower will be recruited at the each level for the EPI team and required equipment will be provided for their effective performance				
114. Improve coverage monitoring of vaccines and other linked health interventions and the use of information at district and local levels through strengthening human resource capacity, monitoring the quality of data, improved tools for data compilation, feedback and supervision.				
115. Regularly review indicators of performance in district level, including risk status for vaccine-preventable diseases and use surveillance and monitoring data to advocate for improved access to, and quality of immunization.				
116. Training for to encourage the analysis and use of data collected by health workers at delivery level				

Key Activities	2007	2008	2009	2010
117. Steering committee (ICC) will meet quarterly every year and meetings will be held every six months for the rest of the planned period				
118. Duties, powers and responsibilities at each level EPI team will be redefined in accordance with Health Sector Reforms				
119. Participate actively in collective efforts to shape sector wide policies and programs, while preserving the central role of immunization in the context of sector wide policies and programs				
120. Through regular analysis of district-wide data, document key factors for the success and failure of immunization activities and share these findings with others involved in health systems development.				
121. Provide timely funding, logistic support and supplies for program implementation in every district				
122. Reduce the number of immunization drop-outs (incomplete vaccination) through improved management, defaulter tracing, and social mobilization and communication during immunization contacts, and avoid missed opportunities to vaccinate.				
123. Existing guidelines for micro planning, reaching the unreached and reducing drop-outs (improving utilization) at health facility and district level will be revised by central team				
124. Relevant training materials for clinicians and health staff will be developed to reducing risks of non-vaccination due to false contraindications and missed opportunities				
125. To hold working meeting with the policy makers and technical decision makers				
126. Amount of vaccine, injectables, safety boxes and equipment required will be calculated annually and all expendables will be procured and distributed based on plan developed				
127. Training of cold chain managers on vaccine logistics, safe immunization and cold chain				
128. Revision/development of guidelines and training manuals				
129. To prepare technical documents and training materials (Preparation, adaptation, translation, printing and distribution of technical documents and training materials, based on related WHO documents)				
130. To train managers (conduct EPI Mid-Level Management (MLM) training course for district immunization managers)				
131. To translate and adopt the WHO-UNICEF Effective Vaccine Store Management (EVSM) Initiative				
132. To conduct vaccine store management and immunization safety training course in 66 districts for 2-3 days				
133. To calculate the future resource requirements for vaccines and injection supplies				
134. Establishment of the new system (Logistic Management Information System for EPI): The system to be established has to include the flow of logistics at central, as well as the regional cold stores. Software will to be adopted and translated in 2008 and system users at central and regional level will be trained				

Section III Financial sustainability of the cMYP

A. Situational Analysis

The Immunization Program Management review revealed the following strength and weaknesses as shown in Figure 10 (on page 18):

Figure 14: SWOT Analysis for financing and sustainability

	POSITIVE	NEGATIVE
INTERNAL	<p style="color: blue;">Strength</p> <ul style="list-style-type: none"> The Government of Georgia is committed to maintain and increase allocations to health care. There are sufficient financial and infrastructure resources relative to existing policies. The purchase of vaccines at a lower price from UNICEF Supply Division is a success, considering also the quality-assurance of these vaccines (UN pre-qualification) 	<p style="color: green;">Weaknesses</p> <ul style="list-style-type: none"> The financing of the NIP is fragmented between different agencies at the central level and among the central, regional, district level actors (refer to Health System section for further explanation). There is a lack of financial incentives for providers that would enhance higher immunization coverage. Insufficient financing for supportive supervision and outreach sessions still remains a handicap in low performing districts (underserved population).
EXTERNAL	<p style="color: blue;">Opportunities</p> <ul style="list-style-type: none"> Increased tax revenues could secure health sector financing. The MTEF¹¹ provides opportunity for long term planning and sustainability by integrating the needs of health sector (including the NIP) in country priorities. Opportunity to use different set of incentives for providers and population should be ceased to increase immunization coverage. 	<p style="color: green;">Threats</p> <ul style="list-style-type: none"> There is an ongoing administrative and governance restructuring with ineffective distribution of powers and responsibilities between central and local entities. The damaging mass media statements creating negative public attitude are demanding costly adjustments of the immunization program (communication plan and actions). Family medicine (replacement of existing practice of delivery primary health services covered by specialists) may be introduced without due consideration of the needs of immunization.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

¹¹ A Medium-Term Expenditure Framework (MTEF) is a budgeting process that aims to improve the linkage between policy planning and budget allocation. The MTEF offers a valuable vehicle for improving budget transparency and public expenditure efficiency

B. Description of cost and financing estimates

Data entry (general)

Table 1.1

The major macroeconomic indicators for 2005, such as GDP per capita, Total Health Expenditures per capita and Government Health Expenditures as % of Total Health Expenditures (GHE % THE) are derived from National Health Accounts. Projection of the microeconomic indicators for 2007-2010 years was made as following: Data of Government Health Expenditures for respective years were got from MTEF; private expenditures were calculated by using 2005 data and adding local currency inflation rate, which was estimated as 10% for each year. Donors' expenditures were assumed same as for 2005. Summarizing all these expenditures total health expenditure was calculated. Knowing the total population in 2005 and population growth rate which equals to 0% total health expenditures per capita was calculated. Knowing Total Health Expenditures and Government expenditures on health government health expenditures as % of total health expenditures was calculated.

Indicators are presented in local currency (Georgian Lari - GEL). A source for demographic and health indicators is Medical Statistical yearbook. It is worth mentioning that infant mortality rate entered in the tool (18.1 per 1000 live birth) is taken from medical statistics, while according to the State Department of Statistics this indicator is different and equals to 19.7 per 1000 live birth.

Table 1.2 Information on immunization schedule, vaccine prices and other vaccine reference

Information on doses per schedule, vial sizes, doses supplied and doses administered was obtained from the NCDC;

Doses supplied were calculated as the following: $\text{Doses supplied} = (\text{Stock at the beginning of the year} + \text{Quantities received during the year}) - \text{Stock remaining at the end of the year}$.

In 2005 the Government procured a part of traditional vaccines such as DTP (vial dose 10), DTP (vial dose 1), DT, TD, Polio, and BCG. Procurement of vaccines by the government was not accomplished through the UNICEF procurement mechanism; therefore for 2005 average prices for each vaccine were calculated and entered. From 2006 the Government is committed to procure vaccines through the UNICEF procurement mechanism, therefore price per dose including freight for 2007 year was calculated based on UNICEF recommended price per dose and was added estimated freight cost for Georgia, which is 30% for all vaccines. High freight cost for Georgia is explained by using air delivery of vaccines to the country. The last available year for vaccine prices was 2007, therefore prices for 2007 was used for entire projection period.

Hep B vaccine price obtained from the NCDC constituted \$28; however, considering that the vaccine procurement is accomplished through a UNICEF procurement

mechanism UNICEF vaccine price was used. MMR vaccines are provided only by VRF; therefore the MMR vaccine price was given by this donor.

To get information on the number of children vaccinated by DTP vial dose 1 and DTP vial dose 10 separately was impossible. In order to do such division the following methodology was used: a wastage rate for vaccine vial dose 1 was assumed as 5%, knowing doses supplied for DTP vial dose 1, administered doses were calculated. The same methodology was used for MMR vaccines.

Table: Other supplies for routine immunization:

In 2005 all expenditure of these activities were covered by VR foundation and USAID funded "Health Information and Disease Surveillance Reform" Project implemented by CIF, no contribution was made by the Government or by other donors. CIF expenditures for printing and information materials such as immunization record journals, forms 1.2, 1.3, 2.2, 2.3, journals 1.4, journals for contraindications 1.5, vaccine registration journals 1.6, reporting forms 1.8, 2.8, temperature registration forms #1.7, immunization guidelines for Public health Centers workers, guidelines for health care providers, workbooks for public health centers professionals and health care providers were \$ 17,370, for vaccination cards \$3,398. These figures were derived from USAID funded "Health Information and disease surveillance reform project". Cards for parents were printed by the VR foundation and its expenditures equal to \$ 2,604. Expenditures on cotton and alcohol were covered by the government.

Table 1.4; 1.5 and 1.6 Coverage and wastage objectives, Past and future DTP 3 coverage and Specific target population for campaigns:

Data were given by the NCDC. MMR vaccines are provided only by VR foundation. In 2005 VR foundation procured MMR vial dose 10 as well as MMR vial dose 1; in 2007 and 2008 VR foundation is not going to procure MMR vial dose 1, therefore coverage and wastage objectives were made only for MMR vial dose 10.

Personnel Cost

Data on staff categories, gross monthly salary of the personnel involved in the immunization program at the National Level was given by the NCDC and DPH. Staff categories and gross monthly salary for regional and district level personnel was given by Public Health Department, the same data for primary health care facilities were derived from the state ambulatory program for 2005. The number of doctors and nurses at the primary health care level was calculated as following: Number of immunization points was calculated and it was assumed that one doctor and one nurse work at one immunization point.

The percentage of the time spent on immunization activities for the personnel is diverse and depends on the position they occupy.

No outreach activities are provided by the staff at the national, regional, district and health care facility levels. In 2005 outreach activities were provided only by four regional public health centers by the VR foundation financial support. Total expenditures for the outreach activities (including transportation cost, per-diem for

CPH personnel and medical providers), covered by VR foundation were entered in the table 3.3 *other transport costs not elsewhere covered*

Supervision activities are conducted by personnel at the national, regional and district levels; per-diem per supervision visit is 15 Lari.

One more driver is needed from 2007 if 4WD Track is purchases through GAVI HSS support.

4 mobile teams where added that are supposed to be supported either through GAVI ISS or by the Government from 2008.

Vehicles and transport cost

Table 3.1 Average prices and utilization of vehicles.

The information regarding the vehicles was provided by the NCDC.

Information of the types (categories) of vehicles used by the immunization program, average unit price including all taxes for new vehicles in 2005, average number of kilometers traveled per year, average fuel consumption per 100 km for vehicles were entered in the table. Prices of the vehicles entered into the tool are assumed as of new vehicles, although majority of them were purchased during previous years.

The new entity created after the merger of the NCDC and PHD intends to purchase one more 4WD vehicle in order to access mountainous regions throughout the country and ensuer uninterrupted supplie of different commodities including vaccines and injection materials.

Table 3.3 Other transport needs not elsewhere covered

The total amount of other transport costs are covered from the Government budget. For the transportation of vaccines and safe injection supply from the Central level to the regional level and from the regional to the rayon level Government spent \$ 19,934. Transport maintenance costs entered in this table are funded by the government budget.

Cold chain equipment

Information on the types of the cold chain equipment, average unit prices for each type of cold chain equipment listed in the table was given by the NCDC.

The average useful life year of cold chain equipment was defined as 10 years.

Additional number and type of needed cold chain equipment was entered based on UNICEF plan. UNICEF is planning to purchase some types of refrigerators and freezers in 2007 and in 2010.

Table 5.2 Average Operational Cost per child

For the calculation of future campaign operational costs the average operational cost per child from the similar MMR campaign conducted in the past (2004) by the VR foundation was used with some adjustments and was estimated as \$0.6.

Program Activities, Other Recurrent Costs and Surveillance

Table 6.1 Total Spending and Future Budget Needs for Program Activities

These elements of the program are financed mainly by external donor (UNICEF, GAVI, CIF, VR foundation) while Government's contribution is minimal. All donors and government expenditure was summarized and the total amount of expenditures was entered in the respective cells.

Future budget needs include cost of activities conducted on 2005 and donors' additional commitment.

Table 6.2 Total Spending and Future Budget Needs for Surveillance and Monitoring

In 2005 these elements of the program were financed by the Government and CIF. Future budget needs include cost of activities conducted on 2005 and donors' additional commitment.

Other Equipment Needs and Capital costs

Table 7.1 Average Prices of Other Equipment Needs

Information on the total number, types and average prices including all taxes of other equipment needs was taken from the NCDC and GAVI Progress report. In 2005 two new notebooks and 3 UPS were procured by GAVI ISS money.

Building and Building Overhead

Information on the total number and type of building by administrative levels was given by the NCDC. For estimating the value of buildings cost of the construction of a similar new building was used. Prices of buildings entered into the tool are assumed as new building price. Allocation of space devoted to immunization activities served as a base for the calculation of the buildings' capital costs. For all levels cost of entire building was calculated and the percentage of the space used for immunization was estimated and entered.

Financing sheet

Total expenditure on vaccines in 2005 exceeded only one year requirement, therefore we calculated *total resource requirement* for 2005 by multiplying vaccine doses supplied in 2005 to vaccine prices. *New and underused vaccines* cell includes MMR and Hep B.

Distribution of the national and sub-national governments funds on a) personnel, (salaries of full time immunization health workers as well as of shared personnel) b) cold chain maintenance and overhead, c) building overheads is based on the following: proportion of national and sub-national costs from the total on above mentioned items was calculated (calculation sheet was used). The same ratio was used for estimating national and sub-national resource requirements.

For data related to GAVI funds distribution GAVI progress report figures were used.

For 2007-2008 data for VR funds distribution was submitted by VR foundation. In 2007 and 2008 VR foundation is planning to procure 170000 doses of MMR vaccines (vial dose 10). To calculate total expenditures on MMR vaccines in these years total number of vaccines doses was multiplied by vaccine price per dose.

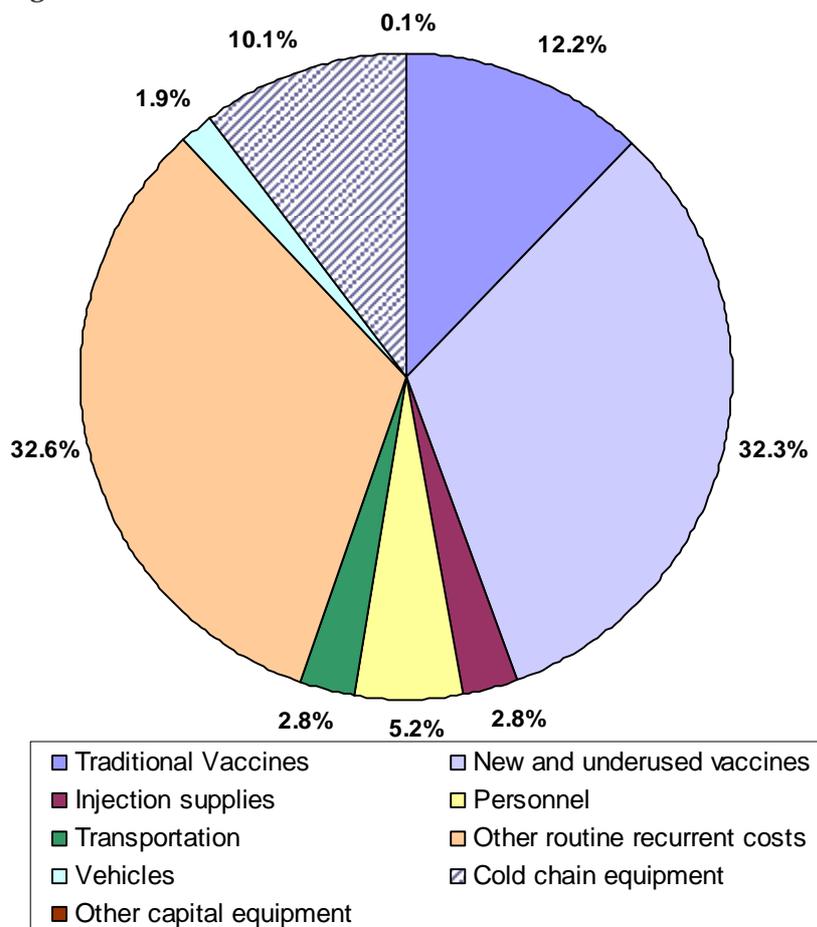
From 2009 all types of vaccines will be procured by the government, therefore for traditional vaccines as well as for new vaccines financial source will be only the government. Data regarding the distribution of UNICEF funds (probable or secure) was provided by the country office.

C. Analysis of past costs and financing

Total cost of the NIP in 2005 was \$2.81 million including shared costs that constituted approximately 39% of the total (\$1.1 million).

The breakdown of the remaining \$1.8 million is shown in Figure 15 below:

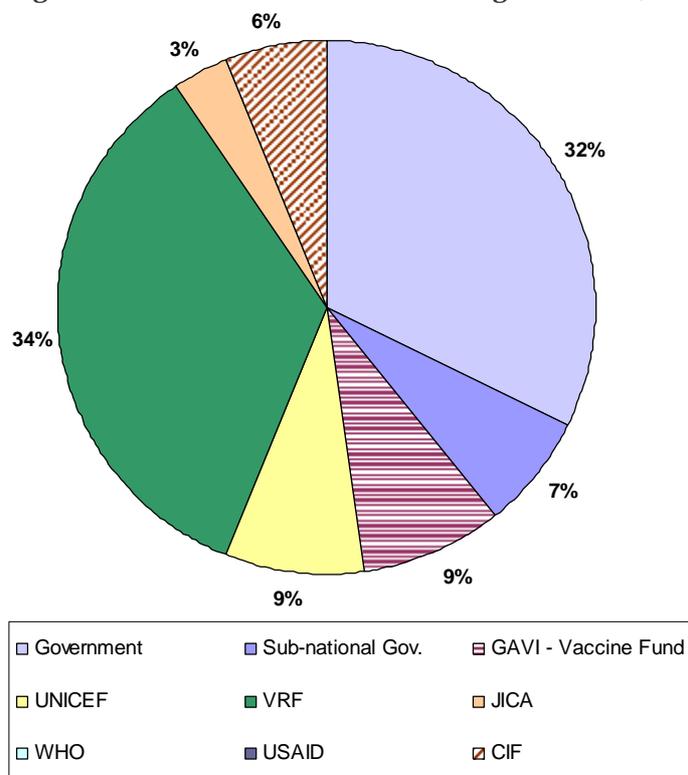
Figure 15: Structure of the NIP costs (2005)



Vaccines' share in the cost structure was 45.5% and personnel costs were the second largest.

The government’s financial contribution to the NIP was modest – only 39.2% and the rest came from three major donors: VRF (34.3%), GAVI and UNICEF (both 8.5%).

Figure 16: Structure of financing in 2005 (baseline financing profile – routine only)



D. Analysis of future resource requirements, financing and gap

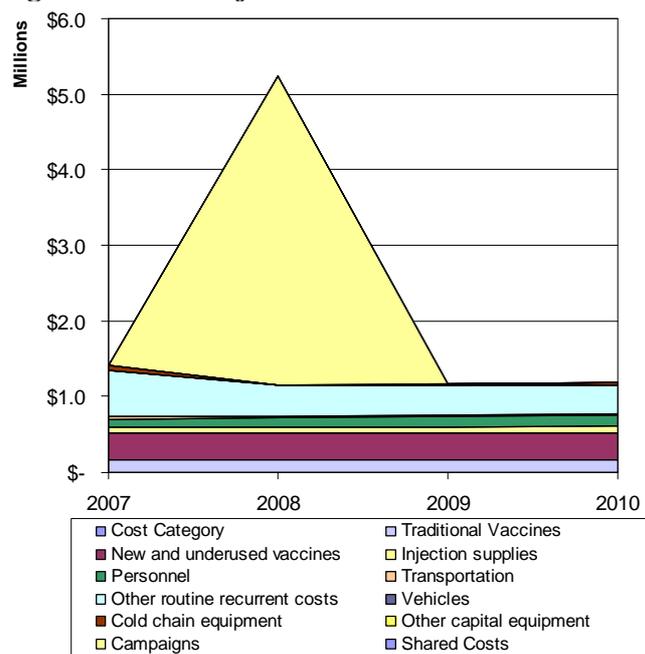
Estimated total resource requirement for 2007-2010 is \$14.2 million as shown in Table 13 below. Projected costs (considering capital expenses) are slightly higher \$15.28 million.

Table 13: Future resource requirements by cMYP components

	2007	2008	2009	2010	Total	
Vaccine Supply and Logistics	662,476	3,191,727	608,267	650,302	5,112,772	36.0%
Service Delivery	1,449,685	3,038,437	1,586,317	1,721,047	7,795,486	54.8%
Advocacy and Communication	215,200	85,404	87,112	88,854	476,570	3.4%
Monitoring and Disease Surveillance	4,080	4,162	37,937	4,330	50,508	0.4%
Program Management	146,503	221,059	202,304	213,277	783,143	5.5%
Total	2,477,945	6,540,789	2,521,936	2,677,810	14,218,480	

“Service Delivery” component of the cMYP is responsible for more than half of the total resource requirements (55.8%). Together with “Vaccine supply and logistics” they constitute 90.8% of the total resource requirement.

Figure 17: Projection of Future Resource Requirements



Relatively a high level of the resource requirement for vaccines (in 2008 as shown in Figure 17 above) is due to planned MMR campaign in 2008 worth of \$2.6 million (vaccines and supplies) vs. \$2.4 million for routine immunization (2007-2010).

The government is supposed to provide 66% of secure financing as shown in Table 14 below. The government's share in the financing increases to 77% when both secure and probable financing is considered. The share of donor support (in case of secure and probable financing) decreases from 63% in 2007 to 20% in 2010 and is estimated to be \$2.2 million in total.

UNICEF and VRF remain two main external sources of financing providing – their financial support is estimated to be \$749 and \$831 thousands (respectively) in 2007 – 2010.

In total \$400 thousand from GAVI (through the HSS window) was considered as probable financing (out of \$434 thousand the country intends to apply for).

When shared costs and financing is not considered the funding gap is as low as 4.5% with secure and probable financing.

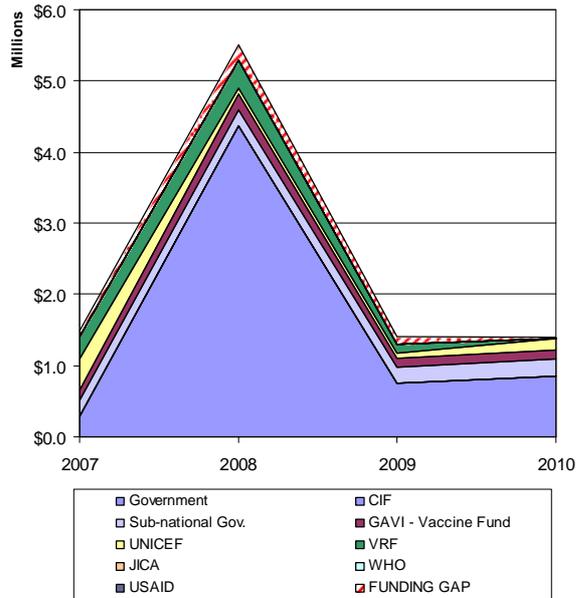
Table 14: Funding gaps by type and source of financing and years (*without* shared cost and financing)

	2007	2008	2009	2010	Total
Total resource requirement	1,488,680	5,519,249	1,378,568	1,358,067	9,744,564
Total Secured Financing	1,372,033	1,140,675	1,021,379	1,052,295	4,586,381
Government	515,285	625,340	1,021,379	968,036	3,130,039
Others	856,749	515,335	0	84,258	1,456,342
Funding gap	116,646	4,378,574	357,190	305,772	5,158,182
	7.8%	79.3%	25.9%	22.5%	52.9%
Total Secured and Probable Financing	1,405,799	5,302,282	1,261,456	1,340,525	9,310,062
Government	515,285	4,584,692	1,079,264	1,074,875	7,254,116

	2007	2008	2009	2010	Total
Others	890,515	717,590	182,191	265,650	2,055,946
Funding gap	82,880	216,967	117,113	17,542	434,502
	5.6%	3.9%	8.5%	1.3%	4.5%

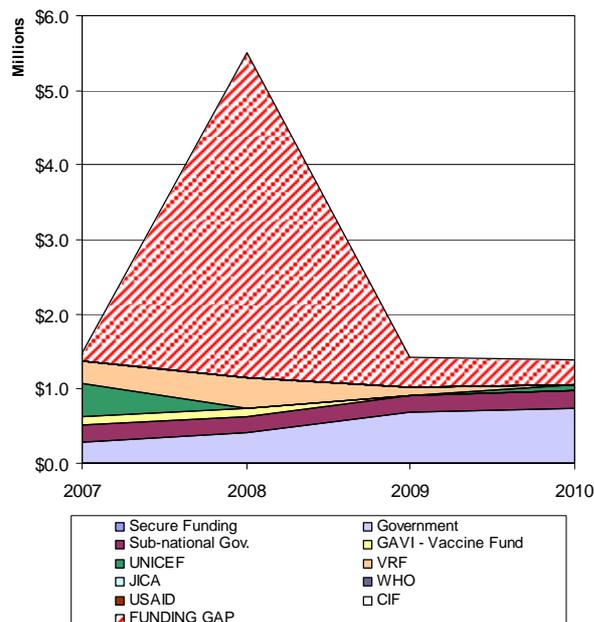
The funding gap increases from \$434 thousand to \$5,158 thousand if only secure financing is considered mainly due to expected expenditures on the MMR campaign in 2008.

Figure 18: Future Secure + Probable Financing and Gaps



The analyses of the funding gap structure (with probable and secure financing) shows that \$283 thousand or two thirds of the gap is constituted by logistics and the remaining by other activities related costs.

Figure 19: Future Secure Financing and Gaps



The funding gap increases significantly up to \$2.5 million (or 16.4% of the total resource requirement) when shared cost and financing is considered as shown in Table 15 below:

Table 15: Funding gaps by type and source of financing and years (*including shared cost and financing*)

	2007	2008	2009	2010	Total
Total resource requirement	2,688,542	6,825,809	2,802,229	2,910,267	15,226,847
Total Secured Financing	2,405,779	2,277,795	2,272,211	1,052,295	8,008,079
Government	1,549,030	1,762,460	2,272,211	968,036	6,551,737
Others	856,749	515,335	0	84,258	1,456,342
Funding gap	282,764	4,548,014	530,018	1,857,972	7,218,768
	10.5%	66.6%	18.9%	63.8%	47.4%
Total Secured and Probable Financing	2,439,545	6,439,402	2,512,288	1,340,525	12,731,760
Government	1,549,030	5,721,812	2,330,097	1,074,875	10,675,814
Others	890,515	717,590	182,191	265,650	2,055,946
Funding gap	248,998	386,406	289,941	1,569,743	2,495,088
	9.3%	5.7%	10.3%	53.9%	16.4%

The analysis of the funding gap with secure financing shows that it consists of two categories: “Activities and other recurrent costs” in amount of \$430 thousand and “Campaign” in amount of \$3,959 thousand.

E. Sustainability Analysis

The sustainability of the NIP in the Georgian context can be viewed from two standpoints:

- financial sustainability – decreasing a level of the risk of financing from probable to secure
- system sustainability – mitigation of possible negative effects of ongoing PHC reform and restructuring of the health sector administration

The analysis of the funding gap revealed that the NIP’s key components are most likely to received required resources and the absence of financing could affect the planned MMR campaign in 2008 and some program activities. Nevertheless, the NIP team has to apply special efforts to secure probable financing through more intensive participation in MTEF related policy planning cycles. The financial sustainability strategy doesn’t require a large scale advocacy interventions or efforts toward increasing efficiency. More effective use of existing ICC mechanism as a formal venue for a policy dialogue on immunization issues could contribute to the supply of evidence to policy makers. In case of a failure to secure necessary funds the MoLHSA will revise the program objectives (in accordance with given priority) in order to balance resource requirements with available funds without threatening core functions and achievement of high priority targets.

System sustainability issues in transition are well addressed in the Immunization Program Management Review (2006) report that highlights critical threats as well

as opportunities (see Figure 14 above) and provides applicable recommendations (see Figure 21 below in Annexes).

There are numerous factors in health care system that might affect the performance of immunization services and beyond the scope of the NIP. However, the Review points at certain interventions that can contribute to the sustainability and efficiency of immunization services through strengthening health care system in the following areas:

- professional skills and motivations of medical personnel at the PHC level
- managerial skills of sub-national level health authorities
- professional skills of public health specialists at sub-national levels, primarily related to supportive supervision

Section IV Stakeholder comments

See attached ICC meeting minutes.

Section V Annual plan

Figure 20: Annual plan of activities (2007)

Key Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Unit respons.
Service Delivery													
1. Reproduce guidelines for planning, implementation, monitoring, evaluation and supervision of immunization activities in first level health institutions.													NCDC
2. Prepare and implement macro and micro plans for routine and accelerated immunization activities at each level													Dist PHC/PHC?NCDC
3. Training modules for all level EPI managers to conduct standardized district trainings will be provided to each district.													NCDC
4. Evaluation meetings will be held with districts at least 3 times per year													
5. Feedback to districts and related sectors will be provided by the end of each activity													NCDC
6. Macro and micro plans for routine immunization activities at each level will be prepared and implemented													PHC/DisPHC/NCDC
7. Macro and micro plans for routine and accelerated immunization activities at each level will be prepared and implemented													PHC/DisPHC/NCDC
Advocacy and communications													
8. To conduct a large meeting to obtain support of the Ministries of Education and Finance, the Military, universities, private sector, NGOs, UN organizations and other international organizations and to continue strengthening social mobilization through collaboration with them													UNICEF
9. Special materials will be developed for parents, teachers and community leaders													UNICEF
10. To prepare and distribute posters, brochures and TV spots													UNICEF
11. Clinicians' knowledge will be updated on the improvements of the program through newsletters to be issued twice a year													NCDC
12. Mass media will be involved to educate the population													UNICEF
13. Taking advantage of community structures with regular, consultative meetings with community leaders and representatives													UNICEF
14. Special materials will be developed for school children, teachers and community leaders													UNICEF

Key Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Unit respons.
15. Material development and production for social mobilization: Videotapes 3 spots(3-5 minutes); Posters 5000; Brochures 50000; will be produced, printed and distributed for the public													UNICEF
Surveillance													
16. High risk areas will be identified according to the risk of wild poliovirus circulation and/or AFP surveillance performance													DISPHC/NCDC
17. To gather information on a regular basis at the central level													NCDC
18. To investigate outbreaks and use data to control and prevent outbreaks													NCDC
19. To update standardized case-investigation forms and use these forms when case-based surveillance is established.													NCDC
20. To continue evaluating routine vaccination coverage rates.													NCDC
21. Routine feedback mechanism will be improved: A newsletter/epidemiological bulletin will be published by the MOH/NCDC and sent to the district level every three months, including latest data and technical information on EPI disease and vaccine													NCDC
22. Collaborate with civil authorities in advocating for increased registration of births and deaths													NCDC
23. Disease trends in certain areas, and groups will be analyzed every month by each level that are at high risk of illness or death													NCDC
24. Demonstrate the impact of immunization services on the clinic, district, regional and national level													NCDC
Vaccine supply, quality and Logistics													
25. Procure vaccines through UNICEF and/or from WHO pre-qualified manufacturers													Gov/UNICEF/GAVI/VRF
26. Follow policy developed by WHO to ensure quality of vaccines procured - Procedures for assessing the acceptability, in principle, of vaccines for purchase by United Nations agencies													
27. Ensure that vaccine forecasting system accounts for usual inventory, usage patterns, and anticipated needs at central, regional, district and health center level													
28. Undertake a review and provide necessary equipment at national, regional, district, and health center level to maintain cold chain: refrigerators, freezers, generators and spare parts													NCDC
29. Supervision by cold chain managers at each level periodically													DISPHC/NCDC

Comprehensive Multi-Year Plan of the National Immunization Program of Georgia

Ошибка! Стиль не определен.

Key Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Unit respons.
30. Replacement of old and broken cold chain equipment at regional and health center level will take place in stages during a period of four years.													NCDC
31. Safety boxes will be used for collection and the destruction of used injectables will be monitored													PrHC
Program management													
32. Steering committee (ICC) will assess the program outcomes and submit annual progress reports and plans to the Minister to obtain his support and endorsement													
33. Coordination meeting for the regional and district directors (governors and mayors) will be conducted for routine and accelerated immunization activities													
34. Training material for health care staff will be produced,													NCDC
35. National cMYP will be printed and widely disseminated to the parliamentarians, governors, other related government members and organizations, health managers, international and non-governmental organizations (NGOs)													NCDC
36. A workshop will be held to introduce the cMYP to all level health managers and EPI managers. In turn, they are expected to prepare their level plans of actions													NCDC
37. Steering committee (ICC) will meet quarterly in 2007 and meetings will be held every six months for the rest of the planned period													
38. Provide timely funding, logistic support and supplies for program implementation in every district													Gov ?/NCDC
39. Existing guidelines for micro planning, reaching the unreached and reducing drop-outs (improving utilization) at health facility and district level will be revised by central team													NCDC
40. Relevant training materials for clinicians and health staff will be developed to reducing risks of non-vaccination due to false contraindications and missed opportunities													NCDC
41. Amount of vaccine, injectables, safety boxes and equipment required will be calculated annually and all expendables will be procured and distributed based on plan developed													NCDC/Dist PHC
42. To calculate the future resource requirements for vaccines and injection supplies													NCDC ?

Section VI Annexes

Figure 21: Recommendations on Health Systems Issues for Immunization

Macro-organization

1. Strengthen the stewardship function of MOH at all levels including review of role and function of NCDC, Department of Public Health and SUSIF.
2. Review options for private public- partnership also in primary health care.
3. Consider short-run options for non-financial incentives for staff with staff development options.
4. Explore future options for improving efficiencies in institutional management including using civil service reform.

Micro organization:

1. Define the model of PHC with all details.
2. Speed up registration of patients to enable planning of immunization services among uninsured.
3. Provide guidelines for public health programs implementation.
4. Specify outreach services incentives in contracts.

Regulations:

1. Consider reintroduction of immunization school entry requirement.
2. Standardize forms, case definition, procedures and operations from central level.
3. Introduce mandatory education on “Immunization in Practice” in medical schools.
4. Explore options for continuous medical education (CME) and licensing of PHC and certification of staff.

Advocacy and social marketing:

1. Use NIDs or SIA to promote prevention, provide training and create collective buy-in for immunization and healthy lifestyle in general.
2. Use promotion of new model of PHC to promote quality health care and healthy behaviours including immunization.

Financing-Revenue:

1. Promote coordination of donors support and consider SWOT type of approach.
2. Enhance performance based budgeting process (MTEF).
3. Increase budget allocations to the health sector.

Financing-Allocation:

1. Introduce equalization of funds among regions for public health programs.
2. Earmark budget allocations at state level for key preventive services including immunization, by services and population groups covered.
3. Introduce performance indicators in contracts with clear incentives for achievements, penalties for underperformance, and monitoring options and arrangements.

Source: WHO, UNICEF, CDC, WB, *Immunization Programme Management Review, Georgia, 17-27 July 2006*

Table 16: Main socio-economic parameters 2000-2005

	2000	2001	2002	2003	2004	2005
Nominal GDP (million GEL)	6,043	6,674	7,456	8,564	9,824	11,592
Real GDP (change, %)	1.8	4.8	5.5	11.1	5.9	9.3
Consumer Price Index (change, %, prev. year)	4.0	4.7	5.6	4.8	5.7	8.3
Overall Tax Revenue (% of GDP)	14.14	14.31	14.15	13.86	18.44	20.8
Overall Public Expenditure (% of GDP)	18.7	18.5	18.9	18.8	24.6	28.3
Education (% of GDP)	2.1	2.14	2.24	1.92	2.95	2.49
Health Care (% of GDP)	4.29	3.79	4.06	4.0	4.82	5.4
Overall Budget Deficit (% of GDP)	3.43	2.34	3.38	3.38	2.07	-
External Debt (million GEL)	2,695	2,957	3,323	3,040	2,731	2,541
Poverty incidence (according to Official Subsistence Minimum)	51.8	51.1	52.1	54.5	52.3	-
Extreme poverty incidence (according to Alternative poverty line)	14.3	13.8	15.1	16.6	17.4	-
Unemployment rate (official)	10.3	11.1	12.3	11.5	11.8	13.8

Source: Ministry of Economic Development of Georgia, Department of Statistics, "Statistical Yearbook of Georgia 2005"

Table 17: Main characteristics of the health care system

	1999	2000	2001	2002	2003	2004
Number of physicians of all specialties:						
total, thousand	21.5	21.1	19.5	20.2	21.0	21.4
per 10 000 population	45.6	45.2	42.1	43.9	48.6	49.3
Number of paramedical personnel:						
total, thousand	28.6	26.2	23.3	23.4	21.9	21.6
per 10 000 population	60.7	58.1	50.3	50.9	50.8	49.7
Number of hospitals	246	229	251	251	248	246
Number of hospital beds, thsd.	22.5	21.2	19.6	18.3	18.2	17.8
Utilisation of one hospital bed, days	10.7	10.1	9.7	9.7	9.2	8.6
Number of medical institutions rendering out-patient services to population	1073	1015	1055	1045	1100	1113
Capacity of medical institutions rendering out-patient services to population (number of patient's visits per shift), thsd.	97.2	95.8	94.3	98.2	94.4	94.3
Number of visits in medical institutions rendering out-patient services to population (including prophylactics), thsd.	6,191.6	5,498.9	5,697.3	6,050.5	6,677.6	7,583.9

Source: Ministry of Economic Development of Georgia, Department of Statistics, "Statistical Yearbook of Georgia 2005"

Table 18: Number of cases and Morbidity (per 100,000) of VPD by years and vaccine preventable diseases

Vaccine Preventable Diseases	2003				2004				2005				2006			
	All		Under 15		All		Under 15		All		Under 15		All		Under 15	
	Cases	Morb	Cases	Morb	Cases	Morb	Cases	Morb	Cases	Morb	Cases	Morb	Cases	Morb	Cases	Morb
Newborn Tetanus	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Tetanus	8	0.18	-	-	7	0.16	-	-	2	0.05	-	-	3	0.07	1	0.12
Diphtheria	26	0.6	11	1.3	12	0.28	3	0.35	10	0.23	6	0.71	12	0.28	9	1.06
Pertussis	5	0.12	2	0.24	207	4.78	178	21.05	167	3.86	148	17.5	127	2.93	119	14.07
AFP	11	0.25	11	1.3	8	0.18	8	0.95	8	0.18	8	0.95	9	0	9	1
Acute poliomyelitis	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Measles	223	5.15	151	17.86	7033	162.47	4179	494.26	1358	31.35	598	70.73	328	7.58	227	26.85
Rubella	843	19.47	761	90.01	4215	97.37	3638	430.28	1842	42.55	1596	188.76	464	10.72	440	52.04
CRS	-	-	-	-	1	0.02	1	0.12	1	0.02	1	0.12	-	-	-	-
Acute Hep B	263	6.08	27	3.19	286	6.61	22	2.6	309	7.14	18	2.13	-	-	-	-
Mumps	135	3.12	118	13.96	134	3.1	102	12.06	111	2.56	91	10.76	60	1.39	50	5.91
Rabies	11	0.25	2	0.24	-	-	-	-	10	0.23	3	0.35	7	0.16	-	-
TB (respiratory)	2929	67.66	48	5.68	3026	69.9	47	5.56	2888	66.71	37	4.38	-	-	-	-
Smallpox	2347	54.22	2207	261.03	3432	79.28	3015	356.59	3608	83.35	3250	384.39	-	-	-	-

Table 19: Past costs and future cost projections (2007-2010)

Cost Category		Costs		Future Cost Projections			Total 2007 - 2010
		2005	2007	2008	2009	2010	
Routine Recurrent Cost		US\$	US\$	US\$	US\$	US\$	US\$
	Vaccines (routine vaccines only)	\$822,000	\$517,621	\$519,942	\$521,177	\$526,898	\$2,085,639
	Traditional vaccines	\$225,647	\$165,958	\$164,132	\$161,214	\$161,595	\$652,899
	New and underused vaccines	\$596,353	\$351,663	\$355,810	\$359,963	\$365,303	\$1,432,739
	Injection supplies	\$52,119	\$76,021	\$77,133	\$78,175	\$79,219	\$310,549
	Personnel	\$96,275	\$105,903	\$116,493	\$128,143	\$140,957	\$491,496
	Salaries of full-time NIP health workers (immunization specific)	\$66,177	\$72,795	\$80,074	\$88,082	\$96,890	\$337,840
	Per-diems for outreach vaccinators/mobile teams	\$0	\$0	\$0	\$0	\$0	\$0
	Per-diems for supervision and monitoring	\$30,098	\$33,108	\$36,419	\$40,061	\$44,067	\$153,655
	Transportation	\$51,210	\$38,436	\$24,925	\$25,423	\$25,932	\$114,715
	Fixed site and vaccine delivery	\$44,883	\$24,436	\$24,918	\$25,416	\$25,924	\$100,694
	Outreach activities	\$6,327	\$14,000	\$7	\$7	\$7	\$14,022
	Maintenance and overhead	\$183,891	\$185,479	\$189,189	\$193,418	\$195,493	\$763,579
	Cold chain maintenance and overheads	\$96,432	\$96,272	\$98,197	\$100,161	\$106,062	\$400,692
	Maintenance of other capital equipment	\$5,258	\$5,364	\$5,471	\$6,026	\$455	\$17,315
	Building overheads (electricity, water...)	\$82,200	\$83,844	\$85,521	\$87,231	\$88,976	\$345,572
	Short-term training	\$77,330	\$141,796	\$116,561	\$62,998	\$58,737	\$380,092
	IEC/social mobilization	\$30,729	\$215,200	\$85,404	\$87,112	\$88,854	\$476,570
	Disease surveillance	\$111,927	\$4,080	\$4,162	\$37,937	\$4,330	\$50,508
	Programme management	\$177,714	\$62,659	\$135,538	\$115,072	\$124,301	\$437,571
	Other routine recurrent costs	\$21,810	\$28,169	\$24,970	\$12,734	\$12,989	\$78,863
	Subtotal Recurrent Costs	\$1,625,006	\$1,375,366	\$1,294,316	\$1,262,190	\$1,257,710	\$5,189,582
Routine Capital Cost							\$0
	Vehicles	\$13,193	\$13,456	\$13,725	\$14,000	\$14,280	\$55,462
	Cold chain equipment	\$70,118	\$78,403	\$79,972	\$78,274	\$84,258	\$320,908
	Other capital equipment	\$21,034	\$21,454	\$21,883	\$24,104	\$1,818	\$69,260
	Subtotal Capital Costs	\$104,344	\$113,314	\$115,580	\$116,378	\$100,357	\$445,630
Campaigns							\$0
	MMR	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353
	Vaccines and supplies	\$0	\$0	\$2,594,653	\$0	\$0	\$2,594,653
	Other operational costs	\$0	\$0	\$1,514,700	\$0	\$0	\$1,514,700
	Subtotal Campaign Costs	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353
Other Costs							\$0
	Shared personnel costs	\$939,297	\$1,033,746	\$1,137,120	\$1,250,832	\$1,375,915	\$4,797,614
	Shared transportation costs	\$0	\$0	\$0	\$0	\$0	\$0
	Construction of new buildings	\$162,860	\$166,117	\$169,440	\$172,828	\$176,285	\$684,670
	Subtotal Optional	\$1,102,157	\$1,199,863	\$1,306,560	\$1,423,661	\$1,552,200	\$5,482,284
GRAND TOTAL		\$2,831,506	\$2,688,542	\$6,825,809	\$2,802,229	\$2,910,267	\$15,226,847
	Routine (Fixed Delivery)	\$2,825,179	\$2,674,542	\$2,716,082	\$2,801,864	\$2,909,903	\$11,102,391
	Routine (Outreach Activities)	\$6,327	\$14,000	\$374	\$365	\$364	\$15,104
	Campaigns	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353

Table 20: Expenditures and future resource requirements

Cost Category	Expenditures		Future Resource Requirements				Total 2007 - 2010
	2005	2007	2008	2009	2010	2010	
Routine Recurrent Cost	US\$	US\$	US\$	US\$	US\$	US\$	US\$
Vaccines (routine vaccines only)	\$822,000	\$517,621	\$519,942	\$521,177	\$526,898	\$2,085,639	
Traditional vaccines	\$225,647	\$165,958	\$164,132	\$161,214	\$161,595	\$652,899	
New and underused vaccines	\$596,353	\$351,663	\$355,810	\$359,963	\$365,303	\$1,432,739	
Injection supplies	\$52,119	\$76,021	\$77,133	\$78,175	\$79,219	\$310,549	
Personnel	\$96,275	\$105,903	\$116,493	\$128,143	\$140,957	\$491,496	
Salaries of full-time NIP health workers (immunization specific)	\$66,177	\$72,795	\$80,074	\$88,082	\$96,890	\$337,840	
Per-diems for outreach vaccinators/mobile teams	\$0	\$0	\$0	\$0	\$0	\$0	
Per-diems for supervision and monitoring	\$30,098	\$33,108	\$36,419	\$40,061	\$44,067	\$153,655	
Transportation	\$51,210	\$38,436	\$24,925	\$25,423	\$25,932	\$114,715	
Fixed site and vaccine delivery	\$44,883	\$24,436	\$24,918	\$25,416	\$25,924	\$100,694	
Outreach activities	\$6,327	\$14,000	\$7	\$7	\$7	\$14,022	
Maintenance and overhead	\$183,891	\$185,479	\$189,189	\$193,418	\$195,493	\$763,579	
Cold chain maintenance and overheads	\$96,432	\$96,272	\$98,197	\$100,161	\$106,062	\$400,692	
Maintenance of other capital equipment	\$5,258	\$5,364	\$5,471	\$6,026	\$455	\$17,315	
Building overheads (electricity, water...)	\$82,200	\$83,844	\$85,521	\$87,231	\$88,976	\$345,572	
Short-term training	\$77,330	\$141,796	\$116,561	\$62,998	\$58,737	\$380,092	
IEC/social mobilization	\$30,729	\$215,200	\$85,404	\$87,112	\$88,854	\$476,570	
Disease surveillance	\$111,927	\$4,080	\$4,162	\$37,937	\$4,330	\$50,508	
Programme management	\$177,714	\$62,659	\$135,538	\$115,072	\$124,301	\$437,571	
Other routine recurrent costs	\$21,810	\$28,169	\$24,970	\$12,734	\$12,989	\$78,863	
Subtotal Recurrent Costs	\$1,625,006	\$1,375,366	\$1,294,316	\$1,262,190	\$1,257,710	\$5,189,582	
Routine Capital Cost						\$0	
Vehicles	\$35,180	\$0	\$0	\$0	\$0	\$0	
Cold chain equipment	\$186,190	\$68,834	\$0	\$0	\$44,185	\$113,019	
Other capital equipment	\$1,914	\$0	\$0	\$8,914	\$0	\$8,914	
Subtotal Capital Costs	\$223,284	\$68,834	\$0	\$8,914	\$44,185	\$121,933	
Campaigns						\$0	
MMR	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353	
Vaccines and supplies	\$0	\$0	\$2,594,653	\$0	\$0	\$2,594,653	
Other operational costs	\$0	\$0	\$1,514,700	\$0	\$0	\$1,514,700	
Subtotal Campaign Costs	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353	
Other Costs						\$0	
Shared personnel costs	\$939,297	\$1,033,746	\$1,137,120	\$1,250,832	\$1,375,915	\$4,797,614	
Shared transportation costs	\$0	\$0	\$0	\$0	\$0	\$0	
Construction of new buildings	\$0	\$0	\$0	\$0	\$0	\$0	
Subtotal Optional	\$939,297	\$1,033,746	\$1,137,120	\$1,250,832	\$1,375,915	\$4,797,614	
GRAND TOTAL	\$2,787,586	\$2,477,945	\$6,540,789	\$2,521,936	\$2,677,810	\$14,218,480	
Routine (Fixed Delivery)	\$2,781,259	\$2,463,945	\$2,431,062	\$2,521,571	\$2,677,446	\$10,094,024	
Routine (Outreach Activities)	\$6,327	\$14,000	\$374	\$365	\$364	\$15,104	
Campaigns	\$0	\$0	\$4,109,353	\$0	\$0	\$4,109,353	