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Comprehensive Multi Year Plan

2015-2019

National Immunization Program

Director General of Preventive Medicine

Ministry of Public Health

Islamic Republic of Afghanistan

Comprehensive Multi-year Plan 2015-19

Immunization Program of Afghanistan

List of figures

Acronyms

AD	Auto-destruct
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
Afs	Afghanis (Local Currency)
ANC	Ante Natal Care
ANDS	Afghanistan National Development Strategy
BCC	Behavior Change Communication
BCG	Bacillus Calmette-Guerin
BHC	Basic Health Center
BPHS	Basic Package of Health Services
BPS	Basic Pay Scale
CGHN	Consultative Group for Health and Nutrition
CHC	Comprehensive Health Center
CHW	Community Health Worker
cMYP	Comprehensive Multi-year Plan
CSO	Central Statistics Organization
CSOs	Civil Society Organizations
CTA	Country Tailored Approach
DEWS	Disease Early Warning System
DH	District Hospital
DPT	Diphtheria Tetanus Pertussis
DQS	Data Quality Self-Assessment
EDL	Essential Drug List
ENT	Ear Nose Throat
EPHS	Essential Package of Hospital Services
EPI	Expanded Program on Immunization
EU	European Union
EVM	Effective Vaccine Management
GAVI	
GAVI	Global Alliance for Vaccines and Immunization
GAVI HSS	GAVI Health System Strengthening
GAVI ISS	GAVI Immunization Services Support

GAVI NVS	GAVI New Vaccine Support
GCMU	Grants and Service Contracts Management Unit
GD	General Directorate
GDP	Gross Domestic Product
GGHE	General Government Health Expenditure
GHE	Government Health Expenditure
GVAP	Global Vaccine Action Plan
HDI	Human Development Index
Hep-B	Hepatitis-B
HIS	Health Information System
HMIS	Health Management Information System
HP	Health Post
HR	Human Resources
HSC	Health Sub-Center
HSFP	Health Systems Funding Platform
HSS	Health Systems Strengthening
ICC	Inter-agency Coordinating Committee
ICS	Immunization-system-component-specific
IEC	Information, Education and Communication
ILR	Ice-Lined Refrigerator
IP	Immunization Practices
IPV	Inactivated Polio Vaccine
IPV	Inactivated Polio Vaccine
JICA	Japan International Cooperation Agency
JICA	Japanese International Cooperation Agency
KAP	Knowledge, Attitude and Practice
KM	Kilometer
M&E	Monitoring and Evaluation
MGD	Millennium Development Goals
MHT	Mobile Health Teams
MICS	Multiple Indicator Cluster Survey
MMR	Maternal Mortality Ratio
MNCH	Maternal, Neonatal and Child Health

MNT	Maternal and Neonatal Tetanus
MoF	Ministry of Finance
MoPH	Ministry of Public Health
MoPH-SM	MoPH-Strengthening Mechanism
MSDS	Minimum Service Delivery Standards
MTBF	Medium Term Budget Framework
NGO	Non-Governmental Organization
NITAG	National Immunization Technical Advisory Group
NRVA	National Risk and Vulnerability Assessment
OOP	Out of Pocket
OPD	Out-Patient-Department
OPV	Oral Polio Vaccine
PCV-13	Pneumococcal Conjugate Vaccine - 13
PEI	Polio Eradication Initiative
PEMT	Provincial EPI Management Team
Penta	Pentavalent (DPT-HepB-Hib)
PHC	Primary Health Care
PHD	Provincial Health Directorate
PoA	Plan of Action
POL	Petrol Oil Lubricants
PPHCC	Provincial Public Health Coordination Committees
PPHD	Provincial Public Health Director
RED	Reaching Every District
REMT	Regional EPI Management Team
RI	Routine Immunization
RTMD	Remote Temperature Monitoring Device
SEHAT	System Enhancement for Health Action in Transition
SIA	Supplementary Immunization Activity
SIS	Skilled Immunization Staff
SOPs	Standard Operating Procedures
SWOT	Strengths, Weaknesses, Opportunities and Threats
TAG	Technical Advisory Group
THE	Total Health Expenditure

TMP	Third Party Monitoring
TT	Tetanus Toxoid
UNDP	United Nations Development Funds
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	United States Dollar
vLMIS	Vaccine Logistic Management Information System
VPD	Vaccine Preventable Disease
WHO	World Health Organization

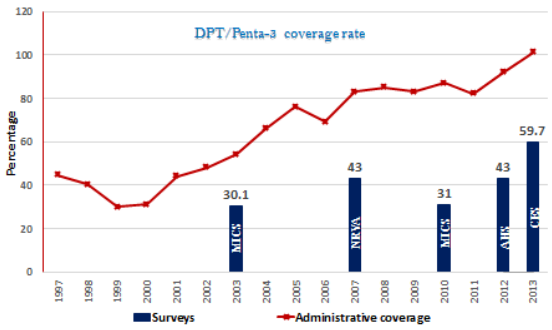
Executive Summary

Immunization Situation Analysis: Summary 2011-2013

Immunization Achievements

- Number of confirmed cases of Poliomyelitis reduced from 80 to 14
- Introduction of PCV-13 and Hepatitis-B birth dose
- Expansion in EPI through EPI-fixed centers
- Nearly 50% of immunization staff provided refresher trainings every year
- AFP detection rate improved from 5.7 to 6.0 cases per 100000 population under 15 years
- Cold chain capacity partially updated at different levels

Immunization Coverage



Immunization System Analysis

- Poor coordination between National EPI and NGOs in immunization service delivery
- Inconsistencies in use of population statistics between EPI and other health programs
- High dropout rates between successive vaccine doses due to lack of validation of data in field
- High turnover of vaccinators with low availability of female vaccinators
- Training programs heavily dependent upon funding from donors
- Aging cold chain equipment

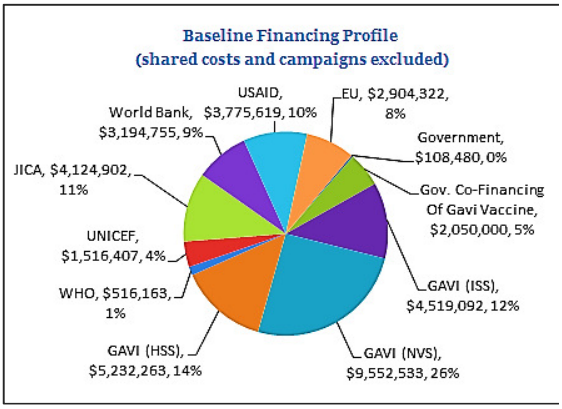
Health System Constraints

- High reliance on external funding
- Planning processes influenced by donors
- Availability of health workforce well below the threshold level
- High level of out-of-pocket health expenditure (73%) with low government's contribution to total health expenditure (5.6%)
- Entire population not covered under BPHS
- Poor law and order and insecurity in southern and southeastern provinces
- Unregulated private health sector

Baseline Costing Profile

Baseline Indicators	2013
Total Immunization Expenditures	$51,511,364
Campaigns (SIAs)	$14,016,828
Routine Immunization (RI)	$37,494,536
Per Capita (RI only)	$1.2
Cost per Penta-3 child (RI only)	$62.2
% Vaccines & Supplies (RI)	42%
% Government Funding	0.3%
% THE	2.2%
% GHE	39.6%
% GDP	0.2%
Total Shared Costs	1,129,926
% Shared Health Systems Cost	2.1%
Total Immunization System Costs	**$52,641,291**

Baseline Financing Profile



cMYP Summary: 2015 - 2019

National Immunization Priorities

- Increasing immunization coverage and reducing vaccine-preventable diseases
- Stopping wild poliovirus transmission throughout Afghanistan and eradicating the disease
- Improving quality, efficiency and sustainability of immunization
- Changing political and public awareness of and attitudes toward importance of immunization
- New vaccine introduction (IPV, Rota)

Immunization Priority Objectives

- Increase control of VPD diseases
- Increase coverage and equity of routine immunization
- Improve surveillance of VPD diseases and AEFI
- Improve effective vaccine management
- Improve monitoring and reporting of immunization services
- Increase sustainability of immunization financing

National Program Monitoring Framework

Indicator	2013	2019
Penta-3	59.7%	90%
BCG	80%	91%
OPV0	55%	70%
IPV	n/a	90%
PCV-13	n/a	90%
Rota	n/a	90%
Measles-1	58.8%	90%
Tetanus Toxoid	50%	80%
Fully Immunized Children	51%	80%
Dropout Rate	18.6%	10%

Priority Immunization Program Strategies

- Streamline EPI management structures and clarity in roles and responsibilities
- Improve immunization service delivery through:
  - increasing skilled immunization staff
  - ensuring micro-planning in health facilities
- Upgrade of physical infrastructure and logistics
- Increase sustainability of immunization through improved planning and budgeting
- Increase political and public awareness of the importance of immunization through evidence based advocacy, communication and social mobilization activities

Major risks and challenges

- Security and poor law and order conditions particularly in southern and southeastern provinces
- High dependency on donor funding
- Changing geopolitical scenario after 2015
- Widespread poverty
- Political instability
- Social and cultural barriers
- Illiteracy and poverty

Health and Development Impacts

- Improve child survival through contribution to achievement of MDG5
- Reduced disability in the community associated with VPD (AFP, meningitis)
- Contribute to health expenditure savings through reduced hospital burden of VPD (pneumonia, diarrhea, meningitis)
- Contribute to poverty reduction through the reduction of preventable hospitalization for childhood illnesses

Cost and Financing projections

		2015	2015	2017	2018	2019	Total
Total Resources Required	**(US$ millions)**	**77.1**	**70.3**	**91.5**	**98.5**	**96.9**	**434.3**
Cost per capita	(in US$)	2.4	2.1	2.7	2.8	2.7	2.6
Total Secure Financing	**(US$ millions)**	**67.8**	**36.4**	**54.2**	**49.6**	**22.0**	**230.0**
Funding Gap (with secure)	(US$ millions)	9.3	33.9	37.2	48.9	74.9	204.3
Total secure + probable Financing	**(US$ millions)**	**68.4**	**65.3**	**86.7**	**85.5**	**80.2**	**386.0**
Gap (with secure + probable)	**(US$ millions)**	**8.7**	**5.0**	**4.8**	**13.1**	**16.7**	**48.3**
		11.3%	7.1%	5.3%	13.2%	17.2%	11.1%

1 Situational Analysis

1.1 Background information

1.1.1 Landscape and climate

Lying at the crossroads of Central Asia, Islamic Republic of Afghanistan is bordered by Turkmenistan, Uzbekistan, and Tajikistan in the north, China in the far northeast, Pakistan in the east and south, Iran in the west. Spread over a territory covering 652,000 km², the 41st largest country in the world, Afghanistan is a landlocked country comprising terrain mostly rugged mountains with plains in north and southeast. The Hindu Kush mountains that run northeast to southwest divide the northern provinces from the rest of the country.

Figure 1: Map of Afghanistan

Source[1]

Climate is continental with harsh cold winters in central highland with average summer temperatures not exceeding 15° C, and winter temperatures below zero.[2] The lowland plains in in north and southeastern parts of the country experience extreme seasonal variations in temperature, with average summer temperatures exceeding 33 ℃ and mean winter temperatures of around 10 ° C. Rainfall in Afghanistan is very scarce, and mainly seen in the northern highlands. In comparison, rainfall in more arid lowlands is not only rare but also very unpredictable.

The commonly occurring natural hazards in Afghanistan including damaging earthquakes in Hindu Kush mountains, flooding in rainy seasons, and droughts. Nearly 58% of the total land is agricultural whereas only 11.9% of the total land is arable.[3] Of the total agricultural land, only 5.5% is irrigated.

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[1] http://www.lonelyplanet.com/maps/asia/afghanistan/

[2] McSweeney et al. UNDP Climate Change Country Profiles: Afghanistan http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/UNDP_reports/Afghanistan/Afghanistan.hires.report.pdf

[3] World Bank Data http://data.worldbank.org/indicator/AG.LND.ARBL.ZS/countries

Road density is very low (4 km of road per 100 sq. km of land area) out of which almost one-third are paved roads.

The geographical and climatic characteristics pose challenges to the health care delivery including immunization services. The hilly and mountainous terrain requires additional manpower for outreach health services. Harsh weather conditions create problems in maintaining supply and cold chain system.

1.1.2 Administrative and political structure

Islamic Republic of Afghanistan is a parliamentary state with division of power and responsibilities between executive, legislative and judiciary branches of government:[4]

- Executive branch of Afghanistan's central government is comprised of the Office of the President, two Vice Presidents, the Attorney General, the Cabinet comprised of ministers and other central government agencies. After the 2014 Afghan presidential election, as part of a national unity agreement, a new position the Chief Executive Officer of Afghanistan has been created who will share some the powers with the President.[5]
- The President is directly elected for a five-year period and can serve a maximum of two terms. The President is the Head of State, the Chair of the Cabinet, and the Commander-in-Chief of the armed forces.
- The President nominates Ministers, the Attorney General, the Governor of Da Afghanistan Bank (the central bank), the members of the Supreme Court, the Head of the National Directorate of Security. Nominees are then subject to parliamentary vote, and if rejected by the National Assembly, may not assume office.
- Legislative branch comprises the National Assembly—commonly referred to as the Parliament— which consists of two houses, a 250-member House of the People (lower Wolesi Jirga) and a 102-member House of Elders (Meshrano Jirga). Members of the Wolesi Jirga are directly elected for five years by provincial constituencies. The Meshrano Jirga is selected by a mixture of presidential appointments (one -third) and indirect elections following popular elections for the Wolesi Jirga and Provincial and District Councils (two-thirds).
- Judiciary branch consists of the Supreme Court, the Courts of Appeal, and the Primary Courts.

Afghanistan's public sector consists of the central government, provinces, districts (rural sub-units of provinces ranging from 4-27 districts in a single province) and municipalities (urban sub-units of provinces) (**Error! Reference source not found.**).

The provinces are the basic units of local administration.[3] The executive at the provincial level is the Governor (Wali), who is appointed by the President. Although provincial councils, elected through direct elections, have been set up at the provincial level, the provinces are not distinct political entities and have a very limited role in decisions concerning their own structure, recruitment of senior staff,

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[4] Afghanistan Research and Evaluation Unit (2012). The A to Z Guide to Afghanistan Assistance: 10th Edition

[5] Katzman, K (2014) Afghanistan: Post-Taliban Governance, Security, and U.S. Policy. Congressional Research Service http://fas.org/sgp/crs/row/RL30588.pdf

and size and composition of work force. Their powers and responsibilities are determined (and therefore may be withdrawn) by the central government. In effect, the administration of each province is a collection of branches of central government ministries. Administrative arrangements between the province and its districts are similar to those in the relationship between the central government and the province. Authority and powers are decentralized largely through de-concentration of management functions from center towards the provinces and districts. The provincial and district level officers mostly execute the responsibilities that are entrusted upon them by their superiors and have limited role in policy making and planning processes.

It is important to note that the number of districts have increased over time to 399 on account of political and administrative requirements. However, the National EPI is still using the number of 336 districts for planning purposes. It creates problems in setting and monitoring district-level indicators. This inconsistency was also identified in the EPI- Review conducted in 2012.[6] The participants of the National cMYP workshop[7] decided that for current cMYP and future planning, National EPI will follow the data on administrative units in line with the broader government system.

Figure 2: Details of the administrative units in Afghanistan

Administrative Unit	Number	Average Population (2013)
Provinces	34	904,609 [8]
District	399	77,084
Municipalities	153[9]	40,357
Region [10]	07	4,393,815

1.1.3 Security

The security situation in Afghanistan remains volatile.[11] More than 20 thousand security incidents were recorded in Afghanistan in 2013, making the year second only to 2011 in terms of the level of violence seen since the fall of the Taliban regime. A very large majority those incidents were reported

6 WHO & UNICEF (2012) EPI- Review Afghanistan 26 August – 5 September 2012

7 National CMYP Planning Workshop was held in Kabul on 12-15 October 2014. The participants included: Director General Preventive Health Care (MoPH), EPI Program Managers from national, regional and provincial levels, high officials from MoPH's finance department, planning and development department, GAVI-HSS Unit, GCMU, representatives from WHO EMRO, GAVI Geneva, Civil Society Organizations, and representatives from local offices of WHO and UNICEF.

8 Range: 216810 (Panjshir) to 4085694 (Kabul)

9 Boex, J et al. (2011). An Assessment of Afghanistan's Municipal Governance Framework. IDG Working Paper No. 2011-03. Urban Institute. http://www.urban.org/UploadedPDF/412448-An-Assessment-of-Afghanistans-Municipal-Governance-Framework.pdf

10 Historically, Afghanistan is divided into seven regions. However, it is pertinent to mention that the regions are not a separate level of the government hierarchy. The immunization system has divided Afghanistan into seven regions primarily for distribution of vaccines and other logistics. However, the regional offices are under the administrative control of the concerned provincial health authorities.

11 United Nations (2014) Report of the Secretary-General: Situation in Afghanistan and its implications for international peace and security http://unama.unmissions.org/Portals/UNAMA/SG%20Reports/SG-report-Afghanistan-March2014.pdf

mainly in the east, the south-east and, in particular, the south. Terrorism, foreign interference, and instability and weak capacity in governance are preventing the government from establishing effective control in these regions.[12] Poor security and deteriorating law and order situation has not only impacted the Afghanistan people but also has made difficult for the government functionaries and development partners and donor organizations to carry out mandated tasks and activities. This situation creates problems for local health authorities to provide health services in the conflict affected areas. The security situation remains as one of the main challenges affecting access to children and quality of vaccination campaigns, particularly in the low performing districts of Kunar, Nangarhar, Kandahar, Helmand, and Uruzgan.[13] Also in these areas there are pockets of children who are not accessed for vaccination persistently or access varies from time to time, due to insecurity related reasons.

1.1.4 Demography

Lack of accurate information on the size of the population in Afghanistan is a key problem in health planning and management. The last count of the population of Afghanistan was done in the 1979 Population and Housing census. The Central Statistics Organization (CSO), Government of Afghanistan, projects annual populations estimates of the settled population based on a constant population growth rate of 2.03 percent since 1979.[14] As per CSO projections the population size was 26.01 million for January 2013. In addition, the nomadic Kuchi population is established at 1.5 million persons. However, this population projection is different from the estimates that are used by the National Expanded Program on Immunization (EPI) system which are based on UNIDATA. These projections are based on a study conducted in 1991 with support from United Nations Development Funds (UNDP). Based on a population growth rate of 2.4%, UNIDATA estimates a population size of 30.75 million for January 2013 (Baseline year for cMYP). It is argued that the CSO projections does not account for the refugee population; therefore, the UNIDATA estimates are closer to the reality. The State of the World Population Report 2013 also reports Afghanistan's population size as 30.6 million.[15] It is also pertinent to mention that the previous cMYPs and program proposals submitted for funding by National EPI also used population profile based on UNIDATA. It was a key concern of the cMYP Workshop participants that the MoPH has used CSO data for target setting for its Basic Package of Health Services (PBHS) Project which is nearly 5 million less than the UNIDATA projections. However, the participants of the National cMYP workshop decided that until a fresh demographic study is conducted, National EPI will continue to use the UNIDATA for its projections of population targets.[16]

As compared to its neighboring countries, Afghanistan has a very high proportion of population under 15 years of age (46.1%).[17] Having a large number of children makes poor households more vulnerable to the lack of maternal and child health services.[12] In addition, only 3.7% of the population is 65 years

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[12] Belay, Tekabe A.. 2010. Building on Early Gains in Afghanistan's Health, Nutrition, and Population Sector : Challenges and Options. World Bank. https://openknowledge.worldbank.org/handle/10986/2459

[13] MoPH (2013) Polio Eradication Initiative Report 2013

[14] Central Statistics Organization (2014), National Risk and Vulnerability Assessment 2011-12. Afghanistan Living Condition Survey. Kabul, CSO. http://cso.gov.af/Content/files/Chapter3%20POPULATION%20STRUCTURE%20AND%20CHANGE.pdf

[15] State of the World Population Report 2013. United Nations Population Fund.

[16] It is that UNFPA will conduct a mini-census in 1995. The findings of the mini-Census can potentially be another solution for setting baseline population.

[17] Afghanistan Statistical Book 2011-12.

and above. It has resulted in a high dependency rate. The average household size in Afghanistan is 7.4 persons.

The average population density has been estimated as 47.2 persons per square kilometer; however, there is gross variation among provinces and districts. Kabul is the most thickly populated province. Nearly seventy-seven percent population lives in rural areas where as remaining 22.7% is settled in urban areas. Further details are presented in Figure 3.

Figure 3: Demographic profile of Afghanistan for the year 2013 (baseline)

Demographic Profile	Urban	Rural	Total
Population	6,981,773	23,774,935	30,756,708
Surviving Infants	229,413	781,216	1,010,629
Pregnant Women	248,551	846,388	1,094,939
Women of Child Bearing Age	1,396,355	4,754,987	6,151,342

Source: UNIDATA

Birth registration is essential for maintaining accurate vital statistics. In Afghanistan, Ministry of Interior Affairs is responsible for birth registration at the union council. Afghanistan Civil Registration Law Article 31 clearly specifies that 'birth of child shall be reported by child's legal guardian to nearest civil registration office within six months after birth'. However, most new born children particularly girls remain unregistered. The findings of Multiple Indicator Cluster Survey (2012) reveal that only 37.4% of the children under age 5 were registered with civil authorities.[18] Moreover, among the parents of children who were not registered, only 5.5% knew how to register birth. This is a major cause for inaccessibility of children to services and their rights for protection against abuse, violence and exploitation.[19] Although multiple health service delivery programs including EPI also record data on births but it is not used for or integrated with the official birth register maintained by the Ministry of Interior Affairs.

Migrant population and its contextual factors are quite complex in Afghanistan. Migrant population is a major concern for health and development planners. Migration ranges from regular and traditional migrant flows, both internal and cross border, to displacement of refugee population and a sizable nomadic population – *Kuchi* population.[14]

- As per the findings of the National Risk and Vulnerability Assessment 2011-12, the analysis of the age structure of international immigrants and emigrants indicates that immigrants are predominantly families returning from Pakistan (67%) and Iran (32%). Majority of the immigrants have settled down in Kabul – the national Capital. Nearly 360,000 (half of all the immigrants) have settled in Kabul. The other preferred provinces are Nangarhar, Jawzjan and Farah. They had fled to these neighboring countries during wartimes in previous decades. In

[18] Central Statistics Organization and UNICEF (2012). Afghanistan Multiple Indicator Cluster Survey 2010-2011: Final Report. Kabul: Central Statistics Organization and UNICEF.

[19] Ministry of Interior Affairs. Situation of Birth Registration in Afghanistan. MOIA Newborn Registration Service http://moi.gov.af/en/page/7180

comparison, the emigrants are in productive age group who move out of the country primarily to find employment. Almost three-fourth of them prefer for Iran whereas remaining prefer for Pakistan (13%) and Gulf States (8%).

- The patterns of internal migration indicate a significant rural to urban shift. Among the recent migrants, nearly 5% of the population, almost 44% have migrated from rural to urban areas within the province whereas the rest of them have migrated to another province. The major underlying reasons are employment and marriage. However, internal migrants are not limited to young age group because they move along with their families as dependents, mostly women, children and elderly.

- Seasonal migration is an important phenomenon in Afghanistan and is closely related to the shift in job opportunities during the year. Nearly, 4% of the population of 14 years and above migrates for seasonal work every year.

- According to UNICEF Annual Report 2013 for Afghanistan, there are about 590,184 conflict-induced internally displaced persons.[20] They are prone to health catastrophes, families and children become more vulnerable. In addition, persistent insecurity hampers access to parts of the affected population.

- Kuchi population – the nomads – constitutes 6% (1.5 million) of the total population of Afghanistan. They are Pashtuns from the southern and eastern parts of Afghanistan. For centuries the Kuchi have migrated across the country in a search of seasonable pastures and milder weather.[21] Most of Kuchi women are engaged in agriculture and pastoral activities. The health indicators among the nomad population are the worst, compare to the other population.

1.1.5 Social and political context

(1) Poverty

According to the World Human Development Report 2014, with a Human Development Index (HDI) of 0.468, Afghanistan is ranked 169 among 187 countries of the world.[22] Although major gains have been made since 1980 (HDI 0.209) and 2000 (HDI 0.236), the overall situation remains below satisfactory. The economy of Afghanistan is highly reliant on agriculture which contributes more than 50% to the GDP and is 60% of total employment. High dependency on rain water makes this population vulnerable to poverty.[23]

A recent study on assessing poverty indicates that the overall poverty rate for Afghanistan is 36% of the total population, which means 36% of the total population (approximately 9 million Afghans)

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[20] UNICEF (2013) Annual Report 2013 for Afghanistan http://www.unicef.org/about/annualreport/files/Afghanistan_COAR_2013.pdf

[21] Isabel Mehlmann. Migration in Afghanistan: A Country Profile 2011. Maastricht Graduate School of Governance

[22] United Nations Development Fund (2014). Human Development Report 2014 - Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf

[23] World Bank (2013) System Enhancement for Health Action in Transition (SEHAT) Project http://documents.worldbank.org/curated/en/2013/02/17368947/afghanistan-system-enhancement-health-action-transition-sehat-project-emergency-project-paper

cannot meet their basic consumption needs. [24] According to CSO and World Bank's Report on Setting the Official Poverty Line for Afghanistan 2010, the Food Poverty Line[25] was USD15.2 per capita. It is also pertinent to mention that more than half of the population is consuming at a level of just 20% above the poverty line which makes them extremely vulnerable and one small negative shock has the potential to move many individuals into poverty. Another study conducted at sub-national level indicates that relationships, power and inequality are linked with rural poverty and livelihood insecurity.

On account of their poor socio-economic status, the general population in Afghanistan is vulnerable to health-related financial catastrophes. In addition, it makes them more dependent upon public sector health services.

(2) Education

Difficult terrain, geographical isolation, widespread in security in the south and east In Afghanistan literacy rate is estimated 12% for females and 39 % for male with high discrepancy between rural and urban areas, disparities in service delivery as a result of gender and social imbalances and geographical location have resulted in low literacy rates in Afghanistan.[26]

According to the National Risk and Vulnerability Assessment 2008, the literacy rate for the population aged 15 and over was 26% (39% for men and 12.5% for women).[27] There is a vast difference in literacy rates for women among provinces ranging from 31% in Kabul to 19% in Balkh to merely 1% in Helmand, Kandahar, and Uruzgan.

The findings from the latest Multiple Indicator Cluster Survey (MICS) 2012 reveal that only 22.2% of the women (15-24 years) were literate with a regional disparity of 40.5% in the Central region to a meagre 2.7% in the South.[28] This proportion was only 15% among the rural women in this age group as compared to 51% in the urban settings. Poverty makes them more vulnerable. Only one in twenty women in this age group is literate if they belong to the poorest wealth index quintile as compared to every second women from the richest wealth index quintile.

Maternal education is considered a cornerstone in health and development. Therefore, poor female literacy rates in Afghanistan point towards difficulties and obstacles that the health program managers and implementers have to face in demand generation and social mobilization for health promotion in an effective manner.

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[24] CSO and World Bank (2010) Setting the Official Poverty Line for Afghanistan – Technical Report. Central Statistics Organization and World Bank. http://cso.gov.af/Content/Media/Documents/CSO-WB_Tech-Report-Pov_v4%282%29116201112104565155332532 5.pdf

[25] The level of per capita consumption expenditure at which the nutritional requirements are met.

[26] Ministry of Education (2011) National Education Interim Plan, Government of Afghanistan. http://moe.gov.af/Content/files/TheInterimPlan.pdf

[27] Ministry of Education (2014) Draft National Education Strategic Plan (2015-2020). Government of Afghanistan. http://moe.gov.af/Content/files/NESP%20III%20English.pdf

[28] Central Statistics Organization and UNICEF (2012). Afghanistan Multiple Indicator Cluster Survey2010-2011: Final Report. Kabul: Central Statistics Organization and UNICEF.

(3) Culture and traditions

Afghanistan's crossroads position in Central Asia has subjected it to constant invasion and conquest throughout its long recorded history.[29] Although many countries, mainly Great Britain and Russia, over the years have tried to take over Afghanistan, they remained unsuccessful. This is why Afghans pride themselves on their country's independent heritage.

Pashtu and Dari (Afghan Persian/Farsi) are the official languages. The other languages include Turkmen, Uzbek, Baluchi, Pashai, Nuristani, etc.), and bilingualism is very common. Nawroz – New Year Day – is the most festive holiday celebrated by Afghan which occurs on March 21. *Buzkashi* – goat bashing – is the national game of Afghanistan.

The official religion is Islam and 99% of Afghanis are Muslims. Between 80-85% percent of Muslims are Sunni and 15-19% are Shia.[30] The remaining are Hindus.

Afghanistan people have strong values, beliefs and rules surrounding the family and its member's behavior. Because of this, the family remains the single most important institution in Afghan society. The families are highly dependent upon one another to meet many aspects of everyday life. Characteristically, the Afghan family is endogamous (with parallel and cross-cousin marriages preferred) and patriarchal (authority vested in male elders).

Afghan families have a high regard for age, as well as a reverence for motherhood. The senior woman is responsible for delegating domestic responsibilities. The extended family households may contain three to four generations and serve as a support system, economically and socially. Women are responsible for most of the domestic work of the house, cooking, cleaning, entertaining and socializing children.

Afghan families are very sensitive about privacy and family matters. Generally, men have the right to make decisions that control female behavior and it is done to preserve male prestige and family honor.

For the health program designers, it is important to account for these social and cultural power structures which could provide potential areas to influence for acceptance of health care interventions.

1.1.6 Public expenditure management

The Ministry of Finance (MoF) is specifically responsible for the management and execution of the annual budget, collection of taxes, organization and control of public expenditure and payments to the government.

Historically, the Government of Afghanistan followed the Afghan Calendar (from 21 March to 22 March) for preparation of budgets and other financial statements. However, since October 2011, the duration of a fiscal year is changed from 21st December to 20th December.

The Budget preparation cycle is comprised of two main phases:[31]

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[29] Merrill, L et al (2006) An Introduction to Afghanistan Culture http://afghanag.ucdavis.edu/country-info/culture-and-working-locally/Man_Afghan_Culture_CWTI.pdf

[30] Library of Congress Country Studies (2008) "Country Profile: Afghanistan". http://lcweb2.loc.gov/frd/cs/profiles/Afghanistan.pdf

[31] Synergy International Systems, Inc. (2012) State Budget Planning System for the Government of Afghanistan: User Manual

1. Preparation of Preliminary Draft Budget or Medium Term Budget Framework (by the end of September) in order to ensure that essential budget policies are sustainable and facilitate in identifying desirable policy changes

2. Preparation of National Budget for detailed budget costing and provincial allocation in order to ensure that budget is cost effective

Medium Term Budget Framework (MTBF) allows the Government to plan its expenditures, for both the operating and development budgets, in the medium term and link its financial resources with the benchmarks it needs to achieve under the Afghanistan National Development Strategy (ANDS) and Millennium Development Goals (MDGs) and other strategic priorities.[21] The aim of preparing the MTBF is to estimate available financial resources in the following two years (both from domestic revenue and donor funds), to select most important priorities, based on the Afghanistan National Development Strategy (ANDS), that can be financed from the available funds and establish budget ceilings. The Ministry of Finance (MoF) is responsible for gathering required information from line ministries. To provide this information, ministries need to do priorities' cost estimation.

Based on the information from MTBF, the MoF requests the ministries including Ministry of Public Health to prepare detailed budget calculations for selected priorities and within given ceilings. The line ministries and other budgetary units prepare the budgetary requests for both operational and development components. The budgetary allotments, set by MoF, are used as control figures to indicate any discrepancy between allowances and budgetary requests.

Whenever the budgetary requests exceed the allotments specified, the MoF organizes additional consultations for each line ministry on their requested budget in order to bring budget allowances in balance with budget requests. Based on the results of the negotiations, the MoF appears in a position either to increase allotments, by reallocating available funds by budgetary categories and charts of accounts, or to reduce the planned expenditures by reprioritizing them.

Once the budget negotiations are finalized and the budget is provided for the Parliamentary hearings and necessary changes are incorporated as per the recommendations of the Parliamentarians. After the approval by the Parliament, the draft budget is finalized for further release to the concerned government miniseries and departments.

The timeline of the budget preparation starts in February when Ministries define spending priorities. The MTBF is created in June. Detailed National Budget is prepared in July which is submitted for approval to the Parliament in November. The MoF creates the Citizen's Budget in December.[32]

It is important for the MoPH and especially for National EPI to understand the procedural requirements of the government cycle in using cMYP in order to compete with other government departments and justify for allocation of funds.

The Integrated Core Budget is comprised of operating and development budgets.[33]

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http://dadafghanistan.gov.af/dad/Documents/help/Application/ENG/UsersGuide/AFGHANISTAN_SBPS_UserManual.pdf

[32] A citizens' budget is a simplified digest of the national budget produced in a format that makes it easy for all citizens to understand the main features of what the government has planned for the financial year.

- Operating budget covers the day-to-day operations cost for instance the cost of salaries, fuel, perdiems for outreach, and medicines. It contains about 99% recurrent spending[34], but also a small amount of capital spending[35]. This is primarily funded through the domestic revenues, with amount of donor funds.

- Development budget covers expenditures on capital and development projects such as road building, irrigation systems, civil service reform, school construction, irrigation projects etc. This is made up of about 1/3 recurrent spending, and 2/3 capital spending. This is almost entirely funded by donor grants and loans.

For the financial year 2014 (1393), Afghanistan government approved a total budget of AFs 428.378 billion (USD 7.6 billion) which was heavily dependent upon donor contribution.[36] Domestic resources financed 34% of the total budget whereas 66% was contributed through donor funding. One percent of the national budget was met through loans. A major portion of budget (44%) is spent on security and measures for improving law and order situation. Further details are presented in Figure 4.

Figure 4: Budgetary allocations under Afghanistan government budget for the year 2014 (1393)

Details	Allocation Afs (USD) in billions	%
Total Integrated Core Budget	**428.378 (7.6)**	
Operating Budget	280.472 (5.00)	65%
Development Budget	147.905 (2.64)	35%
Sources of Funding		
Domestic Revenues	145.6 (25.58)	34%
Donor Contribution (Grants 65%, Loans 1%)	282.7 (5.01)	66%
Share of Sectors		
Security	189.0 (3.34)	44%
Infrastructure and Natural Resources	60.26 (1.06)	14%
Education	55.2 (0.98)	13%
Health	18.3 (0.30)	04%

[33] Ministry of Finance (2013) 1392 Annual Fiscal Report, Government of Afghanistan http://www.budgetmof.gov.af/images/stories/DGB/Reports_publication/FiscalBulletin/1392/1392%20Annual%20Fiscal%20Report_English.pdf

[34] Recurrent Expenditures covers: Compensation of Employees (i.e. wages and salaries), the Use of Goods and Services (e.g. fuel, text books, electricity, repairs and maintenance and the purchase of goods valued less than Afs 50,000), Interest Payments on loans, and Transfers (e.g. pensions, social benefits, subsidies and grants to other governmental organizations)

[35] Capital Expenditure, also called the Acquisition of Non-Financial Assets, covers the purchase of any asset over the value of Afs 50,000, such as photocopier, new building, mining equipment, land, etc.

[36] Ministry of Finance (2014) 1393 National Budget Statement, Government of Afghanistan http://www.budgetmof.gov.af/images/stories/DGB/BPRD/National%20Budget/1393/1393_National_Budget_statement__final.pdf

Given the limited fiscal space available, health sector has to compete with other national priorities such as security, education, rural development, infrastructure, and other national investments in order to increase its share for resource allocation.

1.2 Health Sector Analysis

1.2.1 Governance

Article 52 of the Constitution of Afghanistan 2004 provides the overarching guiding principles for health provision by stating that '*the state shall provide free preventative healthcare and treatment of diseases as well as medical facilities to all citizens in accordance with the provisions the law. Establishment and expansion of private medical services as well as health centers shall be encouraged and protected by the state in accordance with the provisions of the law*'.[37]

This constitutional obligation is reaffirmed in the mission statement of the Ministry of Public Health who is committed '*to improve the health of the people through quality health care services provision and the promotion of healthy life styles in an equitable and sustainable manner*'.[38]

The Ministry of Public Health is fully committed to achieve the goals and targets set under Millennium Development Goals (MGDs) (Figure 5 & Figure 6).[39]

Figure 5: Indicators and Targets for MDG 4: Reduce Child Mortality

Indicators	Baseline (2003)	2008	2010	2012	2015	2020
Target: Reduce by 50% between 2003 and 2015, the under 5 mortality rate and further Reduce it to one third of the 2003 level by 2020						
Under 5 mortality rate (per 1000 live births)	257	161	97	102	93	76
Infant mortality rate (per 1000 live births)	165	111	77	74	70	46
Proportion of 1-year old children immunized against measles (%)	35	56	62	62	90	100

Figure 6: Indicators and Targets for MDG 5: Improve Maternal Health

Indicators	Baseline (2003)	2008	2010	2011	2012	2014	2015	2016	2020
Target: Reduce by 50% between 2002 and 2015 the maternal mortality ratio, and further reduce the MMR to 25% of the 2002 level by 2020									
Maternal Mortality Ratio (in 100,000)	1600	-	327	NA	NA	320	315	312	To be revised
Births attended by skilled health personnel (%)	6	24	34	37	47	40	43	46	75

[37] Government of Afghanistan (2004) Constitution of Afghanistan 2004, page 14

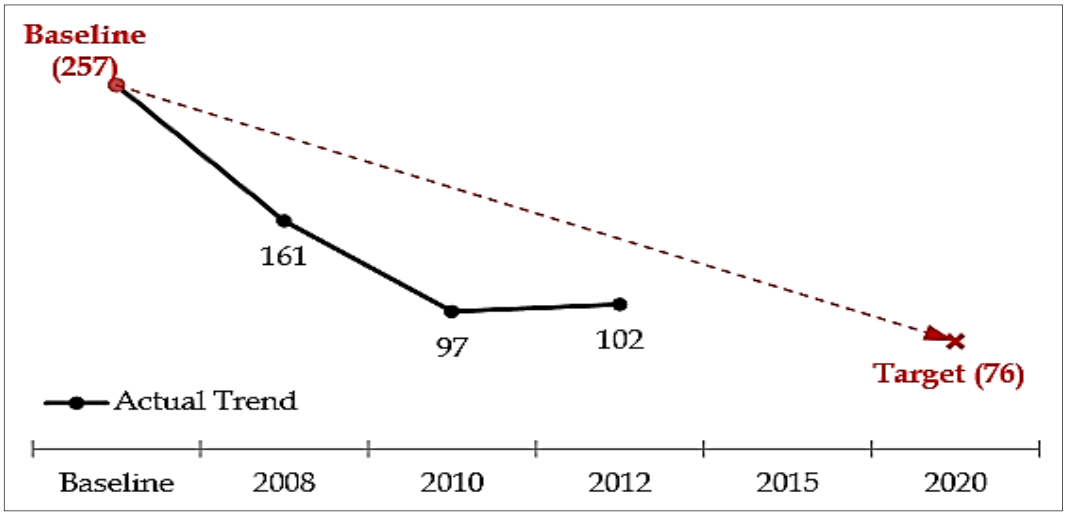
[38] Ministry of Public Health Strategic Plan, 2011-2015, Government of Afghanistan

[39] Ministry of Economy (2013) Millennium Development Goals Report 2012. General Directorate of Policy, Monitoring and Evaluation of Afghanistan National Development Strategy, Government of Afghanistan http://moec.gov.af/Content/files/Afghanistan%20%20MDGs%202012%20Report.pdf

Indicators	Baseline (2003)	2008	2010	2011	2012	2014	2015	2016	2020
Antenatal Coverage (at least one visit)	5	36	60	48	53	61	65	69	100

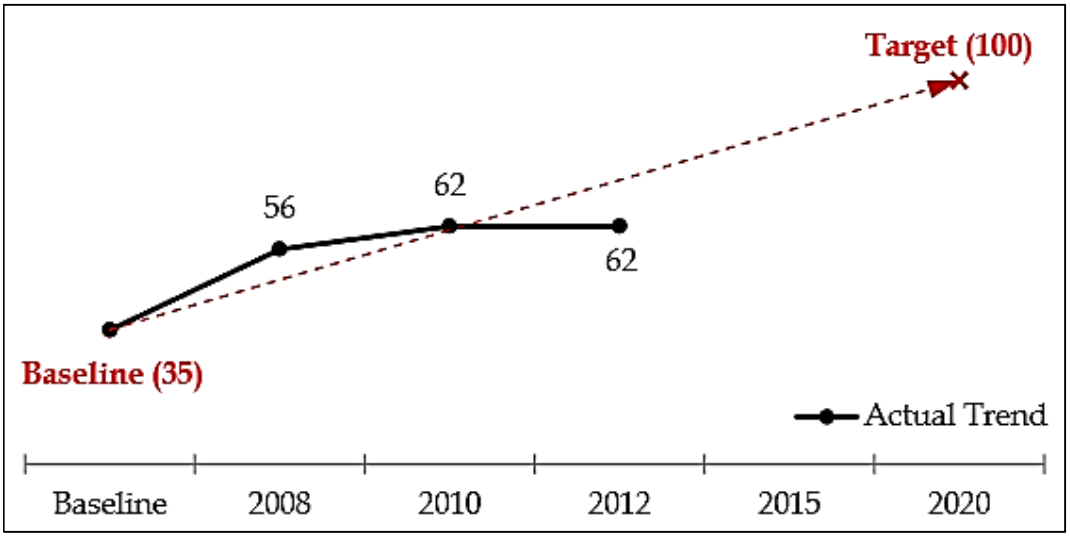
Error! Not a valid bookmark self-reference. and Figure 8 present the trends of progress against MDGs 3 and 4.

Figure 7: Trend of progress in Under five mortality rate



Source [39]

Figure 8: Trend of progress in Proportion of 1-year old children immunized against measles



Source [39]

(1) Policy Environment

The health system in Afghanistan has shown a steady progress over the last 13 years, with an increasing coverage of primary health care services throughout the country.[40] Afghanistan health system's vision, roadmap and policy frameworks and top priorities are developed and being implemented within the Afghanistan National Development Strategy (ANDS) in 2008. Based on these strong foundations, National Strategic Health Plan 2011-2015 and National Health and Nutrition Policy 2012-2020 have been developed. Over the period of time, Afghanistan has transformed from a conflict-torn health system both in infrastructure and service delivery terms to a relatively functional one through an innovative approach by contracting out Basic Package of Health Services and Essential Package of Health Services at primary and tertiary levels to NGO sector.

The overall configuration of the organization structure of the public health sector and policy environment are primarily based on the foundations laid down during Afghanistan's transition in February 2000. The comprehensive interim health policy developed by the MoPH was based on the broader principles of establishing an equitable, accessible, acceptable quality health care system for the people of Afghanistan.

During 2004, under the new National Health Policy and Strategy 2005-2009, the MoPH strengthened its focus on improving access to health care services in underserved rural areas which resulted in significant reductions in infant, child and maternal mortality rates.

Despite gains in the health outcome indicators, the health system faced many problems.[41] The objectives of developing core skills and efficient institutions for effective and efficient health system management and administration could only been partially met. Private health sector remained unregulated.

Although most of public services were being provided through contracting out mechanism, the MoPH performed most of its stewardship functions in a centralized manner without paying adequate attention to the provincial level. In addition, the centralized management approach was one of the major causes that led to under par management of public hospitals and failure in providing quality essential hospital services.

There was weak coordination across the board including liaison with other ministries, coordination between different branches and secretariats of MoPH and especially with the NGOs. It is also pertinent to mention that the planning processes are generally driven by the needs of the central government and donor agencies.

In order to address these systemic problems of the health system, in 2012, MoPH introduced the National Health and Nutrition Policy 2012-2020 which outline key policy directions for the development of the health sector.[28] As per this policy, 'the MoPH will maintain its role as the steward of the health sector and will ensure oversight, transparency, accountability and legitimacy at the health sector through appropriate mechanisms and actions'. Institutional capacity and organizational capacity will be strengthened at both central and provincial levels for better leadership,

[40] World Health Organization (2014) Afghanistan - Country Cooperation Strategy at a glance http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_afg_en.pdf

[41] National Health and Nutrition Policy 2012 – 2020, Ministry of Public Health, Afghanistan

administration and management. The public private partnership model will be critically reviewed and expanded gradually.

(2) Organization and Administration

The governance structure of public health sector can be divided into three tiers: national, provincial, and districts.

At the national level, the Ministry of Public Health (MoPH) is the central government body established with a mission 'to improve the health of the people through quality health care services provision and the promotion of healthy life styles in an equitable and sustainable manner'. The MoPH is headed by a Minister of Public Health, who is appointed by the President of Afghanistan and approved by the Afghan Parliament.[42]

The Minister of Health chairs the High Council which is the supreme decision-making body for MoPH Afghanistan. The other members are three deputy health ministers.[43] Below the HC is the Executive Board of MoPH, which consists of the Minister, 3 deputies, advisors, general directors and key program managers. Below the level of Deputy Ministers there is position of Secretary General who is directly reporting to minister, overseeing all activities of the underlying General Directorates (GDs) and is responsible for the implementation of the overall policies of the MoPH. The General Directorates (GD) serve as the implementing arms of the MOPH, enabling concerned departments to examine their mandates, policies, budgets, programs, projects, services and operations.

Different departments of MoPH initiate policies, strategies and guidelines are initiated at the different departments of MoPH that are refined by the various taskforces and finalized by the Consultative Group on Health and Nutrition (CGHN). After thorough reviews by the Technical Advisory Group (TAG), these initiatives are approved by the Executive Board of MoPH. In addition, National Immunization Technical Advisory Group (NITAG), an independent technical advisory body specifically for EPI related issues, has been established. With EPI unit playing the role of secretary, NITAG has an independent chairperson and other members including representatives from development partners.

The Director General for Preventive Health Looks after the preventive and promotive health programs in MoPH including National EPI. A National Program Manager who is directly responsible to the Director General for Preventive Health is the technical head of the National EPI at the central level. The National EPI is responsible for planning, co-ordination, vaccine procurement and supply, training, information collection and sharing, monitoring and evaluation and collaboration with other partners.

At the provincial level, a Provincial Public Health Director (PPHD) heads the provincial health directorate (PHD) and is responsible for overall supervision of the health care services within the province. He is supported by a team of the respective health programs, for example, an EPI supervisor is responsible for supervision of the immunization activities in the province. It is pertinent to mention that PHD is a collection of different branches/departments of the MoPH and has limited powers in

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[42] Governance of MoPH. Ministry of Public Health, Government of Afghanistan. http://moph.gov.af/Content/Media/Documents/Governance-of-MoPH712011121022786.pdf

[43] 1. Deputy Minister for Policy/planning and preventive, 2. Deputy Minister for Reproductive health and mother and child health care, and 3. Deputy minister for Administrative and curative health care

decision making and resource allocation. By and large, PHD is an extension of the MoPH at the provincial level.

Provincial Public Health Coordination Committees (PPHCC's) have been created in each province to coordinate the activities of all stakeholders (MoPH, hospitals, NGO's, other ministries and provincial government). Under the direction of the Provincial Public Health Director, the PPHCC's play a critical role in ensuring effective implementation of MOPH priority programs at all levels throughout the province.

At district level, in 31 out of 34 provinces, the health service management including immunization has been outsourced to non-governmental organizations (NGOs) under Essential Package of Hospital Services (EPHS) and Basic Package of Health Services (BPHS). The EPHS and BPHS are the backbone of public health sector and are supported through donors.[44]

- **Basic Package of Health Services** (BPHS) was developed with two strategic objectives: (1) To provide a standardized package of basic services which forms the core of service delivery in all primary care facilities (2) To promote the redistribution of health services by providing equitable access, especially in underserved areas

- **Essential Package of Hospital Services** (EPHS) was later added with objectives of focusing on hospitals, improving their facilities and equipment, staff training and development and enhancing the referrals between different levels of the health system.

- **MoPH-Strengthening Mechanism Model** (MoPH-SM): In rest of the 3 provinces (Kapisa, Panjshir, and Parwan), the MoPH has 'contracted in' the Provincial Health Offices under the 'MoPH-Strengthening Mechanism Model'— similar to NGOs — to provide service in accordance with the BPHS.[45]

- **Service Delivery through For-profit Civil Society Organization** (CSOs Model): The BPHS is being operated through not-for-profit organizations but these health service packages do not cover the entire population. Therefore, initially in 2008 under '*GAVI Alliance CSO Support – Type B: Support to Strengthen the Involvement of Civil Society Organizations in strengthening Immunization and Related Health Services*'[46] and then scaled up in 2012 under '*Health Systems Funding Platform (HSFP): Health Systems Strengthening (HSS) Support*',[47] for-profit civil society organizations (CSOs) from private sector were contracted through an open bidding process to increase the coverage of health services in remote and hard to reach areas and especially, in 6 highly insecure provinces[48] where it is difficult for the government to directly operate health services including immunization. New Health Sub-centers and Mobile Health Clinics have been established many of which have been absorbed by the donors over the passage of time.

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[44] World Bank, European Union (EU), United States Agency for International Development (USAID)

[45] Waldman, R et al. (2006) Afghanistan's Health System Since 2001: Condition Improved, Prognosis Cautiously Optimistic. Afghanistan Research and Evaluation Unit

[46] www.gavi.org/Country/Afghanistan/Documents/Proposals/Proposal-for-CSO-Type-B-support--Afghanistan/

[47] www.gavi.org/Country/Afghanistan/Documents/Proposals/Proposal-for-HSS-support--Afghanistan/

[48] Uruzgan, Paktya, Kandahar, Nuristan, Farah and Hilmand

In MoPH, a Grants and Service Contracts Management Unit (GCMU) has been established as an authorized procurement and contract management entity which acts as an interface between International Development Partners and the MoPH in capturing and managing the public health funds related to the country wide provision of BPHS and EPHS, in coordination with other MoPH departments, and stakeholders.[49] It is responsible for service procurement, contract management and to manage and oversee grants and service contracts.

It is quite evident that the Afghan health system is being operated under a mix of service delivery models in which the MoPH is responsible for policy making, stewardship and monitoring and supervision whereas, to a large extent, delivery of basic and hospital-based services is executed through the NGOs.

1.2.2 Health workforce

The quantity and quality of the health workforce are positively associated with various health service outcomes, for example, immunization coverage, outreach of primary healthcare, and child and maternal survival.[50] Afghanistan is listed among 'Low-density-high-mortality' countries and the overall density of the workforce is well below the threshold level of 0.4 workers per 1,000 population.[51]

Afghanistan falls much below the WHO's minimum level of threshold of 23 doctors, nurses and midwives (combined) per 10 000 population required as necessary to deliver essential maternal and child health services.[52] Afghanistan has 7.26 which is merely one-third of the minimum level required.[53] of this The World Health Only 5 of the 49 countries categorized as low-income economies by the World Bank meet the minimum threshold of 23 doctors, nurses and midwives per 10 000 population that was established by WHO as necessary to deliver essential maternal and child health services.

The Report on Demographic, Social and Health Indicators for Countries of the Eastern Mediterranean 2013 informs that, in Afghanistan, only 2.9 doctors are available per 10,000 population.[54] Similarly, for every 10,000 people only 3.6 nurses or midwives are available. Nearly 50% of the technical human resource at national level is on contract and paid by donors. Similarly almost all the service delivery staff is employee of NGOs and is working on contractual basis. Figure 9 presents further details about availability of EPI related workforce.

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[49] Grants and Service Contracts Management Unit, Ministry of Public Health, Government of Afghanistan http://moph.gov.af/en/page/580/procurement/gcmu

[50] The world health report 2006: working together for health.

[51] Joint Learning Initiative Report 2004. Human Resources for Health: Overcoming the Crisis

[52] World Health Organization. Achieving the health-related MDGs. It takes a workforce! http://www.who.int/hrh/workforce_mdgs/en/

[53] MoPH (2011) Afghanistan National Health Workforce Plan 2012-16 http://www.who.int/workforcealliance/countries/Afghanistan_HRHplan_2012_draft_wlogos.pdf

[54] World Health Organization (2013) Demographic, Social and Health Indicators for Countries of the Eastern Mediterranean http://applications.emro.who.int/dsaf/EMROPUB_2013_EN_1537.pdf

Figure 9: Availability of health workforce in Primary Health Care of Afghanistan in 2013

Type of Health Personnel	Number
Healthcare Providers	
Nurse (Female) [55]	751
Midwife [55]	2,149
Generalist (Medical Doctor) [55]	1,153
Outreach Immunization Workers	
Vaccinator [56]	2906

The issues related with human resources are not limited to availability in numbers alone. The health sector workforce continues to face three major imbalances: (1) Geographic imbalance - a disproportionately large number of health care workers are concentrated in cities and peri-urban areas while rural areas still suffer from shortages, (2) Gender imbalance: there is still a shortage of female staff, especially in rural areas, and (3) Skills-mix imbalance: there is a shortage of staff with public health, reproductive health, and child health skills.[57]

The selection criteria for recruitment against different cadres of staff (physician, nurses, midwives) require certification from a recognized training institute. These procedural protocols are followed at the time of induction in service. However, the appointments and relocations are often influenced by politicians. There is no culture of conducting formal performance appraisals.

1.2.3 Finance

The General Government Health Expenditure (GGHE) incurred by the Afghanistan government during 2013 was Afs 10,285 million, 3.8% of the total General Government Expenditure (GGE) in comparison to 3.35% in 2012.[58] Out of the total spending on health sector, 3.6% and 0.2% was spent on recurrent and capital expenditure respectively.

Out of the total GGHE, 69.7% of the budget was spent on development schemes. Under development budget, BPHS, Improving Quality of Hospital Services and National Immunization Program were the large projects, with overall expenditure of Afs 1394.1 million. The expenditure under National Immunization Program was mainly incurred on payment of governments share under co-financing of GAVI supported vaccines. Further analysis of GGHE is presented in Figure 10.

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[55] Total requirement of health workforce estimated on the basis of total staff positions available under BPHS/EPHS and MoPH – Strengthening Mechanism

[56] Actual number based on National EPI Data

[57] Belay, Tekabe A.. 2010. Building on Early Gains in Afghanistan's Health, Nutrition, and Population Sector : Challenges and Options. World Bank. https://openknowledge.worldbank.org/handle/10986/2459

[58] Ministry of Finance (2013) 1392 Annual Fiscal Report, Government of Afghanistan http://www.budgetmof.gov.af/images/stories/DGB/Reports_publication/FiscalBulletin/1392/1392%20Annual%20Fiscal%20Report_English.pdf

Figure 10: Comparison of Government Expenditures for the years 2012-13

		2012 (1391)	2013 (1392)
		Afs in Millions	Afs in Millions
General Government Expenditure (GGE)	*Operating*	135,780	197,746
	Development	53,592	80,160
	Total	189,372	277,906
General Government Health Expenditure (GGHE)	*Operating*	1,799	3,115
	Development	4,560	7,169
	Total	6,359	10,285
GGHE as % of GGE		3.35%	3.8%
Annual increase in GGE			46.7%
Annual increase in GGHE			61.7%

One of the key issues in spending is the spending rate, especially under development budget. In the year 2013, the overall execution rate for the operating budget was 97.8%. In comparison, the execution rate under development budget was only 50.8%. However, in case of health sector, the execution rate for operating and development budget was 90% and 74.7% respectively. The high execution rate was attributable to program management, effective program implementation by NGOs and counterparts, timely access to program funds and monitoring and evaluation systems to be able to assess implementation and respond to constraints as identified.

In comparison, the projects "Improvements of Health Services Delivery through Expansion of the health System Strengthening Efforts" and "Surveillance and Response to Avian and Pandemic Influenza by Afghan Health Institute" were the low spending projects with an execution rate of 2% and 18% respectively. The low execution rate was attributed to delays in designing the projects.

The latest report on National Health Accounts (2011-12) indicates that the Total Health Expenditure (THE) per capita is USD 55.59 out of which 73.3% (USD 41) is Out-Of-Pocket (OOP) whereas the central government's contribution is only 5.6%.[59] The rest of THE (20.8%) is financed by the international community. increased by 43.8% from 2008-09 to 2011-12. The total government health expenditure also increased by 31.7% during this period. However, this represented only a 0.2% increase in total government health expenditures as a percentage of total government expenditures (from 4.0% to 4.2%).

A high proportion of OOP in THE places the general population at more risk to fall below the poverty line when exposed to health catastrophes. In addition, low contribution from the central government provides less fiscal space to preventive and promotive health initiatives as majority of the funds are spent on provision of outdoor and indoor health care at the health facility level.

1.2.4 Medical products and Technology

In July 2014, the General Directorate of Pharmaceutical Affairs of the MoPH has promulgated Afghanistan National Medicines Policy 2014-2019.[60] In the public health sector, medicines and drugs are procured and supplied based on an Essential Drug List (EDL) which contains 430 medicines. The

[59] MoPH (2013) Afghanistan National Health Accounts with Subaccounts for Reproductive Health 2011–2012
[60] General Directorate of Pharmaceutical Affairs (2014) Ministry of Public Health, Government of Afghanistan

procurement process for the MoPH-run health facilities is centralized at the National level. Contracts are signed with pre-qualified bidders and procurements are processed after selection of the successful bidders. A quality control laboratory exists at the central level to ensure the quality of products that are publicly procured. The government supply system department in Afghanistan has a Central Medical Store at National Level also known as Central Stocks of the MoPH. There are 35 public warehouses in the secondary tier of the public sector distribution.[61] Procurement in the public sector is a very bureaucratic and prolonged process. In comparison under BPHS and EPHS, procurement of medicines and drugs is decentralized to the NGOs. In some instances, donors procure and supply these medicines to the implementing NGOs.

Vaccines are procured off-shore by UNICEF and then distributed through National EPI at central, regional and provincial level. Presently, UNICEF is responsible for procurement of vaccines and shipment to Afghanistan for further supply to National EPI. The supply of vaccines and injection supplies from National EPI office to regional stores and provincial stores has been outsourced to a private goods transportation firm. Government vehicles are not used for transportation of vaccines and injection supplies from National EPI in Kabul to the regional stores on account of security concerns. From Provinces to districts and health care facilities, vaccine transportation is the responsibility of the concerned NGO.

1.2.5 Service delivery

Health service delivery in Afghanistan is organized at three levels:[62],[63]

Primary Care Services

Primary Care Services: Operate at the community or village level and offered through Health Posts, Community Health Workers, Sub-Health Centers, Basic Health Centers and Mobile Health Teams.

- Health Posts (HP) are established the community level to cover a catchments area of 1,000–1,500 people which is equivalent to 100–150 families. A health post is ideally staffed by one female and one male Community Health Workers (CHWs) who are not health professionals but who have received targeted training.
- Health Sub-Centers (HSC), intermediate health delivery facilities to bridge the services gap between Health Posts and other BPHS levels of service delivery, covering a population about 3,000-7,000, provide health services including health education, immunization, antenatal care, family planning etc. HSCs, staffed by two technical staff (a male nurse and a community midwife), also provide support to health posts and CHWs.
- Basic Health Center (BHC) covers a population of about 15,000–30,000 and provides primary outpatient care, immunizations and maternal and newborn care. The minimal

[61] Director General of Pharmaceutical Affairs (2011) Afghanistan Pharmaceutical Country Profile. Ministry of Public Health and World Health Organization http://www.who.int/medicines/areas/coordination/AfghanistanPSCPnarrative.pdf

[62] Belay, Tekabe A.. 2010. Building on Early Gains in Afghanistan's Health, Nutrition, and Population Sector : Challenges and Options. World Bank. https://openknowledge.worldbank.org/handle/10986/2459

[63] MoPH (2010) A Basic Package of Health Services for Afghanistan – 2010/1389, Ministry of Public Health, Government of Afghanistan

staffing requirements for a BHC are a nurse, a community midwife, and two vaccinators. The BHC also supervises the activities of the health posts in its catchment area.

- Mobile Health Teams (MHTs) are an extension of BHC services; therefore, the services they provide are in most cases those recommended for a BHC. The MHT ideally has the following staff, male health provider (doctor or nurse), female health provider (community midwife or nurse), vaccinator and driver.

Secondary Care Services

Secondary Care Services: Operate at the district level and offered through Comprehensive Health Centers and District Hospitals operating in the larger villages or communities of a province.

- Comprehensive Health Center (CHC) covers a catchment area of about 30,000–60,000 and offers a wider range of services than does the BHC. The facility usually has limited space for inpatient care, but has a laboratory. The staff includes both male and female doctors, male and female nurses, midwives, laboratory technicians and vaccinators.

- District Hospital (DH) is a 30-75 bedded hospital and covers a population of about 100,000–300,000 at the district level and handles all services in the BPHS, including the most complicated patients. These are the first referral hospital for PBHS and operate as a linking point between BPHS and EPHS. The district hospital is staffed with a number of doctors, including female obstetricians/gynaecologists; a surgeon, an anaesthetist, a paediatrician, midwives; laboratory and X-Ray technicians etc.

Tertiary Care Services

Tertiary Care Services: Operate at the provincial and national levels and offered through provincial, regional, and specialty hospitals.

- Provincial Hospital is a 100-200 bedded hospital that provides all clinical and support services provided at district hospitals, plus rehabilitation services and infectious disease control services.

- Regional Hospital is a 200-400 bedded that provides all of the above plus surgery for ENT, urology, neurology, orthopaedics etc.

- Speciality Hospital provides tertiary care services including teaching facilities.

Figure 11: Service delivery capacity by type of public healthcare facilities – static and outreach

Type	Total Functional Health Care Facilities	Delivering EPI
Static		
Sub-Health Centers	536	88
Basic Health Centers	821	821
Comprehensive Health Centers	405	405
District Hospitals	87	87
Provincial Hospitals	28	28
Regional Hospitals	6	6

Specialty Hospitals	26	26
Others	260	
Outreach		
Mobile Clinics	116	116

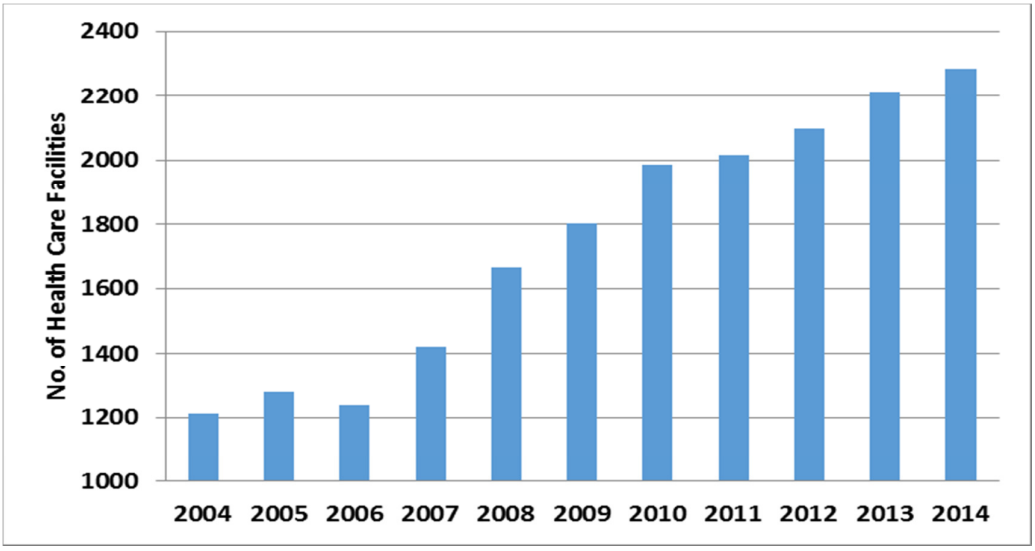
Source: HMIS Quarterly Report (Quarter 1) 2014/Epi Data Database (estimated)

Figure 12: Service delivery capacity per type of healthcare professional – community level

Type of Health Care Professional	Trained in Delivering EPI
Midwives/Nurses	464
Vaccinators (Total)	2906
Male Vaccinators	2206
Female Vaccinators	700

Over years, the network of functional public health facilities has enormously increased in coverage. Figure 13 shows the trend in increase in number of health facilities from 2004 to 2014. However, limited access to primary health care remains prevalent. Nearly 57% of the population has access to any public health facility within one hour walking distance.[64] Fast growing coverage requires provision of adequate infrastructure for health care facilities. The HMIS Annual Report 2013 reveals that 650 health care facilities are established in temporary buildings.

Figure 13: Increase in the number of health care facilities in Afghanistan during 2004-14



Source: Health Management Information System Reports

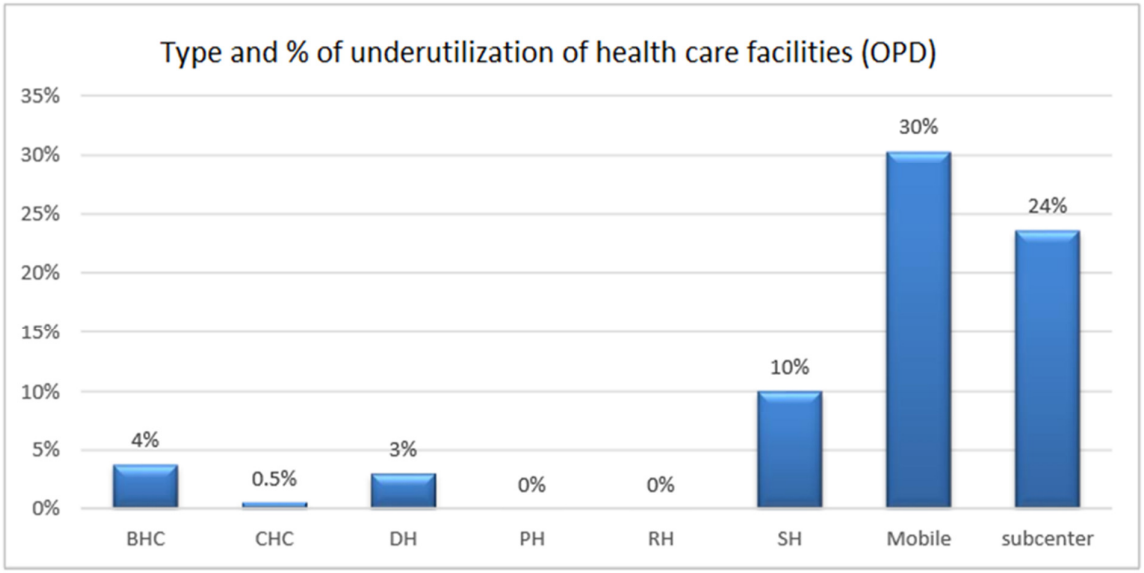
However, the analysis from HMIS Annual Report 2013 indicates that that nearly one-third of Mobile Health Teams and one-fourth of Sub-Health Centers are underutilized (Figure 14). These health facilities could not achieve their targets for Out-Patient-Department (OPD). These are the health care facilities which have been established in the remote rural areas of the country that are general difficult

[64] MoPH. National Health and Nutrition Policy 2012-20

to access and the population living over there has to travel long distances before reaching another health facility.

Underutilization of health care facilities can potentially undermine the preventive health services including immunization service delivery. Rapidly expanding formal and informal private health sector is one of the main reasons. Despite the existence of an extensive network of public sector health facilities, the private sector provides services to a large segment of the rural population. Data show that 58% households go to private health care providers for the first visit in seeking care. This percentage goes up to 57% for the subsequent visits. However, public providers are preferred for maternal and child health services.

Figure 14: Underutilization of health care facilities in terms of Targets for Out-Patient-Department



Source: HMIS Report 2013

1.2.6 Health Information management

A reliable information system is considered the backbone of any health system because it provides the required information to analyze any gaps between health needs and health service provision. It helps the leadership and governance at different levels to analyze the effectiveness and efficiency of the existing service delivery apparatus. In a way, the information flow provides a tool to integrate all the system building blocks for achieving the health system objectives and goals.

Afghanistan's Health Information System (HIS) is primarily comprised of the following components:[65]

- HMIS service reporting system
- Reporting systems of special programs including EPI
- Disease Early Warning System (DEWS)

[65] MoPH (2009) Afghanistan Comprehensive Health Information System Strategic Plan 2009-2013 http://moph.gov.af/Content/Media/Documents/StrategicPlan2009-20136122014103345971553325325.pdf

- Data support for administrative system including human resources, financial management and supply management
- Population census, health facility assessments and various household surveys capturing information on various indicators in the health and nutrition sector.

The MoPH has established a 'common database' through which other departmental databases (M&E database, HMIS, DEWS, EPI database, HR database and procurement database) interact with the core system.

Under the HMIS service reporting system, health service data collection starts from the level of Health Post and then it follows up the organizational hierarchy of the public health sector. This information is compiled at all the health facilities working under BPHS and EPHS before submission to the Provincial Health Office. There exists a HMIS Unit in the MoPH which consolidates and analyses HMIS reports at the national level. The HMIS data quality, completeness, timeliness and accuracy, is validated by a third party. These assessments demonstrate accuracy of over 90%. However, the HMIS is limited to priority indicators that are used to monitor the progress under BPHS and EPHS.

In addition to HMIS reporting system, multiple information systems are operating as per the reporting requirements of various health programs including EPI. However, these reporting systems including EPI are not adequately integrated at the service delivery level and during data transmission.[66] This not only creates some duplication in data collection but also results into inconsistencies in reported figures from various sources. However, according to HIS Publication of MoPH 2012, there is a major limitation. *'The population denominator is reduced by 25% because it was assumed that 75% of the population only has access to health services. This means that the HMIS does not capture information on 25% of the population, which may or may not have a higher morbidity and mortality thus could lead to over or under reporting of the services statistics or morbidity and mortality'* (page 3).[67] In comparison, the targets of EPI are calculated without account for any such reduction in population denominator.

1.3 Immunization system

1.3.1 Routine Immunization

Figure 15: Situational Analysis – routine immunization

Indicators	2011	2012	2013
Official Coverage Estimates			
Penta/DTP1[68]	102%	107%	116%
Penta/DTP3 [68]	89%	92%	101%
Measles 1 [68]	82%	85%	85%
Measles 2 [68]	48%	54%	57%
OPV0 [68]	48%	53%	59%

[66] MoPH (2009) Afghanistan Comprehensive Health Information System Strategic Plan 2009-2013 http://moph.gov.af/Content/Media/Documents/StrategicPlan2009-20136122014103345971553325325.pdf

[67] General Directorate of Policy and Planning (2012) HIS Publication. Ministry of Public Health http://moph.gov.af/Content/Media/Documents/HMISNEWSLETTERJUNE2012612201410153637155332532 5.pdf

[68] National EPI Coverage Data 2011-2013

Most Recent Survey Coverage % DTP3	40%[69]		59.7%[70]
% Fully Immunized Child [68]	82%	85%	85%
Access and demand			
% Drop Out Penta/DTP1 – Penta/DTP3	12%	15%	15%
% Drop Out Penta/DTP1 - Measles (1st dose)	19%	22%	30%
% Drop out Measles 1st and 2nd dose	34%	31%	28%
Immunization Equity			
% gap in coverage for fully immunized children between highest and lowest socio economic quintiles			22%[71]
Number and proportion of districts with Penta/DTP3 coverage > 80% [72]	179 (57%)	195 (59%)	222 (67%)
New vaccines introduced into the routine schedule in the last plan period			
	No	No	PCV-13

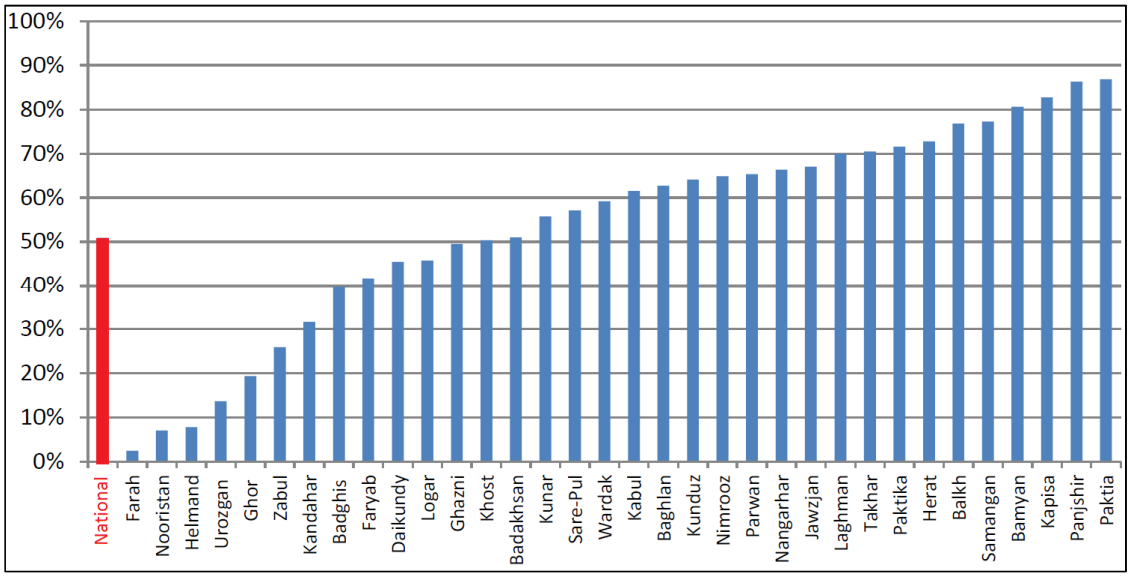
Level of Program Coverage

The official National EPI coverage data reflect very high coverage rates for the last three years (2011-13). However, achievement reported as high vaccine coverage, especially more than 100%, cast doubts over the reliability of report because a substantial number of districts are yet to achieve Penta-3 coverage of more than 80%. Similarly, 85% children are being reported as fully immunized. In practice, coverage for Measles-1 is reported as fully immunized children which is not in line with the laid down criterion. In comparison, the survey reports show a lower coverage when compared with official reports. The recently conducted National Immunization Coverage Survey 2013 reports Penta-3 coverage of 59.7%. By 2013, 72% of the districts were reporting Penta-3 coverage of 80% or more.

The government officials and other stakeholders who participated in cMYP planning workshop were cognizant of this discrepancy in reporting and with a consensus decided that the findings of the National Immunization Coverage Survey 2013 will be used as baseline for cMYP planning process.

[69] Data Quality Self-Assessment Survey 2010
[70] MoPH and UNICEF (2013) National Immunization Coverage Survey 2013
[71] Richest wealth quintile 60%, Poorest wealth quintile 38% (National Immunization Coverage Survey 2013)
[72] WHO/UNICEF Joint Reporting Form Reports 2011-2013

Figure 16: Percentage of fully immunized children aged 12-23 months by province July-Nov 2013



There is gross difference in coverage of immunization services at provincial level as shown in Figure 16 above. The National Immunization Coverage Survey 2013 indicates that the proportion of fully immunized children ranged from merely 2.5% in Farah province to 86.8% in Paktia province. In only 4 provinces, proportion of fully immunized children was above 80% whereas 13 provinces were found below that national coverage of 51%. The major area of concern is that 18.3% children never received a vaccination shot. The findings of the survey also reveal that there exists a wide gap (22%) of vaccine coverage between poor and rich households. Residence in rural areas increases the chances of not getting vaccinated. The proportion of fully vaccinated children in rural areas (49%) was significantly lower when compared to the urban areas (61.8%).

Program effectiveness

The findings presented in Figure 15 reflect that a substantial proportion of children are dropped out before they become due for next dose of an antigen.[73] On average 15% children are lost between Penta-1 and Penta-3. This proportion further increases to 30% before receiving Measles-1. The drop out percentage not only continues but the gap further increases between Measles-1 and Measles-2. Dropout rate indicates the inability of the EPI to follow-up and protect the cohort of children initially reached. Persistent dropout has implications in terms of more chances of morbidity and mortality but also for wastage of resources. These gaps are the key areas to be addressed in order to achieve effective and efficient vaccine coverage and outcomes.

For program effectiveness, it is important that different doses are not administered before the recommended age and/or interval otherwise the desired improvement in developing immunity may

[73] Dropout cases refer to the children/women who have initially received at least one dose of any antigen and then failed to receive the next doses to get them fully immunized. (National Immunization Coverage Survey 2013, page 13)

not be achieved and the given dose will be considered an invalid dose.[74] The National Immunization Coverage Survey 2013 reveals that a substantial number of vaccine doses were administered were invalid. For example, 23% of Penta-1 doses were found to be administered before the recommended age of 6 weeks after birth. Moreover, 31% received Penta-2, 30% Penta-3 OPV2 and 3 were invalid due to being taken before the recommended interval of 4 weeks between two consecutive doses, due to inappropriate interval from birth or due to the first dose being invalid. Further details are mentioned in Figure 17 below:

Figure 17: Antigen-specific proportion of Invalid Doses in Afghanistan in 2013

Antigen-specific Dose	Proportion of Invalid Doses
OPV-0	14%
Polio-1	23%
Polio-2	30%
Polio-3	30%
Penta-1	23%
Penta-2	31%
Penta-3	30%
Measles	27%

This aspect is further substantiated by the reality that the reported data is not validated in the field by supervisors and monitors from all the levels. High proportion of invalid vaccine doses not only result in wastage of resources but also undermine the efforts to reduce the vaccine preventable morbidity and mortality.

1.3.2 Accelerated Disease Control Initiatives

Figure 18: Situational Analysis - by accelerated disease control initiatives

Indicators	2011	2012	2013
Polio			
OPV3 coverage	89%	85%	88%
Number of rounds and sub-national rounds per year	13	7	7
Coverage Range	101%	98%	107%
MNT			
TT2+ coverage	50%	52%	41%
Number and proportion of districts reporting >1 case of neonatal	-	-	-

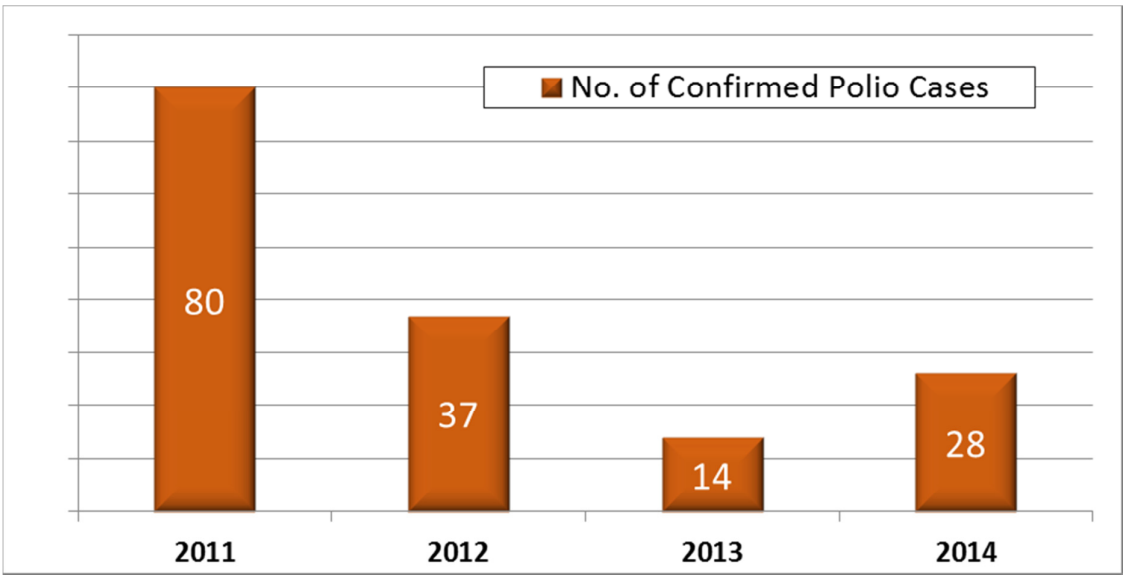
[74] Invalid doses are those doses which are administered at the wrong age and/or at the wrong interval. Doses administered before the minimum prescribed age in the case of Penta/Polio-1 doses and Measles vaccine or with less than four weeks interval in the case of Penta or Polio vaccines are classified as "invalid" doses. For Penta 2 and 3 in addition to the above two conditions they were also considered invalid if Penta-1 was invalid. (National Immunization Coverage Survey 2010, page 13)

Indicators	2011	2012	2013
tetanus per 1000 live birth			
Was there an SIA? (Y/N)	No	No	Yes
Neonatal deaths reported and investigated	20	21	13
Delivery at Facility Rate	33%	36%	
Measles & Rubella			
Measles / MR vaccination coverage (1st dose)	82%	85%	85%
Measles / MR vaccination coverage (2nd dose)	48%	54%	57%
Number of lab confirmed measles/rubella outbreaks	146	213	35
Geographic extent National Immunization Day			
Age Group (in months)	0-60	9-120	0-60
Coverage		105%	
Total Measles Cases (Lab/Clinical/epidemiological)	4856	10094	1902
Total Rubella Cases (Lab/Clinical/epidemiological)	750	871	367

Source: Multiple sources including (EPI, DEWS, HMIS, AFP Reporting)

The overall situation for accelerated disease control initiatives indicates low vaccine coverage and high morbidity levels for vaccine preventable diseases. In addition, although the incidence of confirmed cases of Poliomyelitis has markedly reduced from 80 in 2011 to 14 in 2013, it remains a major concern for the National EPI health managers (Figure 19). As of December 2014, the 28 confirmed cases of Poliomyelitis have been reported.

Figure 19: Incidence of Polio in Afghanistan 2011-14



The surveillance system is in place but its sub-optimal performance is an accepted reality. Therefore, the participants of cMYP workshop decided that it would be unwise to use the presently reported figures as baseline for morbidity and mortality. The targets for reducing vaccine preventable morbidity and mortality will be revised once a fully functional surveillance system is in place.

Afghanistan PEI Networks Support to EPI through use of PEI Assets

The Global Polio Eradication and End-Game Strategic Plan for 2013-2018 has provided a window of opportunity with an Objective 2: Routine Immunization Strengthening & OPV Withdrawal/IPV Introduction and a set forth Goal: To systematically use the GPEI infrastructure to more effectively strengthen routine immunization services in Afghanistan.[75] Since 2013, a consultative process has been started to identify how and where polio program can and will facilitate strengthening routine immunization through wide spread polio network in the country.

Under this broad framework, WHO-UNICEF jointly supported project 'Afghanistan PEI Networks Support to EPI through use of PEI Assets' has been planned for implementation from June 2014 to December 2015. The main objectives are as follows:

- 10% year-on-year increase in Penta3/OPV3 coverage in pilot districts
- 10% reduction in number of unimmunized children year-on-year in pilot districts
- 50% reduction during the project period of 18 months in number of pilot districts having drop-out rate more than 16%
- More than 80% of caregivers aware of the need for 5 visits for a fully immunized child

This project is planned for implementation in 30 districts out of which 6 are priority Low Performing Districts (LPDs). The main activities include: training of PEI staff on EPI, development of training curriculum and training of sub-district level staff on EPI, coordination meetings at regional, provincial, district and health facility levels including National EPI Task Force meetings and Provincial EPI Standing Committee meetings, quarterly micro-planning, household listing , defaulter tracing, strengthening VPD surveillance and integrated communication. Further details of activities and budget are presented in Annex 15.

[75] GPEI-PEI WHO-UNICEF JOINT PROJECT PROPOSAL-Afghanistan PEI Support to EPI-23 04 14-final

1.3.3 Analysis of Immunization system performance

DOMAINS	PROGRAMME MANAGEMENT	2011	2012	2013
Law & Regulation	Is there legislation or other administrative order establishing a budget line item for vaccines?	No	No	No
	Is there legislation identifying the sources of public revenue for immunization financing?			Yes
	Is the line item for vaccines in regular / recurrent Budget?	No	No	No
Policy	Has the national immunization policy been updated in the last 5 years?	No	No	No
	Is there any mismatch between National Health Policy/Strategy and National EPI Policy?	No mismatch on paper but problems at the implementation level.		
Planning	Does the country have an annual work plan for immunization funded through Ministry of Health budgeting processes?	No	No	No
	What is the number and proportion of provinces with an annual micro-plan for immunization?	Provinces develop their plans but these are often not reviewed afterwards [76]		
	What is the number and proportion of districts with an annual micro-plan for immunization?	Plans are mostly developed at provincial and health facility level		
Coordination	What was the number of ICC/HSS Steering Committee meetings held last year at which routine immunization was discussed?	3	4	3
Domains	HUMAN RESOURCES MANAGEMENT	2011	2012	2013
Availability of qualified workforce	Number of healthcare skilled immunization staff per 10,000 population		0.91	0.93
	% vaccinator posts currently vacant		9%	10%
	Turnover rate of Skilled Immunization Staff (or vaccinators specifically)	No data [77]		
	No. of Provinces with fully functional EPI Management Team			28
Capacity Building	No. & proportion of EPI managers trained in immunization services through MLM training			
	(1) Managers	None	48 NGO EPI supervisors	None

[76] As per policy, each health facility is responsible to cover all eligible children and women with vaccination in its catchment areas through fixed, outreach and mobile strategies. With the support from provincial EPI management teams, every health facilities is responsible for developing its annual micro-plan with rescheduling every six months. The micro-plan includes all necessary information about the total/target population, mapping, geographical situation, and immunization sessions etc.

[77] No data available, but this issue was clearly mentioned by the participants in cMYP Workshop and also in WHO/UNICEF Joint EPI review.

	(2) Midwives and Nurses	None	None	None
	(3) Vaccinators	1,243 (45%)		1,573 (53%)
	No. & proportion of skilled immunization staff trained in immunization services through Immunization Practices training	1,243 (45%)		1,573 (53%)
	% of health workers trained in immunization in the last two years			
	Curriculum review for pre-service medical and nursing immunization education conducted	None	None	None

Domains	COSTING AND FINANING	2011	2012	2013
Financial sustainability	What percentage of total routine vaccine spending was financed using government funds? (including loans and excluding external public financing)			5.8%
	What proportion of the line item in the national budget for immunization was actually funded (actually allocated / planned)?			100% (co-financing share for PCV-13)
	What % of immunization resources are being met by the domestic health budget (as identified in the annual budget plan)			
	Government expenditures on routine immunization per surviving infant			USD2.1
	Are provincial immunization budgets and expenditures monitored and reported at national level?	Yes	Yes	Yes

DOMAINS	VACCINE SUPPLY, QUALITY AND LOGISTICS	2011	2012	2013
Transport / Mobility	Percentage of districts with a sufficient number of supervisory/EPI field activity vehicles (based on their need) in working condition			All except high-risk districts
	Number of Districts with vaccinators using transportation means for outreach			Transportation is provided by NGOs
Vaccine supply	Was there a stock-out of any antigen at provincial or district level during 2013?			Yes – due to global shortage
	If yes, specify duration in months			Sept-Oct
	If yes, specify which antigen(s)			BCG
Cold chain / logistics	Number of EPI Centers with adequate numbers of appropriate and functional cold chain equipment vs. Number of EPI Centers with functioning health facilities			1340/1474

	(1) With ILR (RCW 50 EG)			1288
	(2) With any kind of refrigerators (RCW 50 EK)			52
	Availability of a cold chain replacement plan			No
Waste disposal	Availability of a waste management policy (guidelines/SOP)			Yes
	Number of districts implementing waste management policy			All

DOMAINS	IMMUNIZATION SERVICE DELIVERY	2011	2012	2013
Geographical Access	Number of population per each EPI fixed sites	21,196	20,559	19,996
	Proportion of area covered by immunization service to the total populated area			75%
	Proportion of districts not having EPI centers	0	0	2%
	Proportion of districts not having Skilled Immunization Staff (SIS)	0	0	0
Efficiency of service delivery	Share of immunization services delivered by EPI centers	No data	No data	No data
	Average time EPI Centers provide immunization service per day	7 hours per day	7 hours per day	7 hours per day
Domains	**Surveillance and Reporting**	2011	2012	2013
Routine Surveillance	Percentage of integrated VPD surveillance reports received at provincial level from districts compared to number of reports expected:[78]			
	(a) Timeliness	99.1%	99.8%	99.5%
	(b) Completeness	100%	100%	100%
	AFP detection rate/100,000 population under 15 year of age[79]	5.7	5.9	6.0

[78] National DEWS Annual Reports (2011-2013)
[79] MoPH. Afghanistan: Polio Eradication Annual Reports (2011-13)

	% suspected measles cases for which a laboratory test was conducted	45% [80]	28.7% [81]	36% [82]
	Number of neonatal deaths for which a follow up investigation was conducted	No Data	No Data	No Data
	Sentinel Surveillance for Rotavirus established	Yes	Yes	Yes
	Sentinel Surveillance for meningitis (Hib/PCV) established	Yes	Yes	Yes
	% of suspected meningitis cases tested for Hib/pneumococcal disease according to standard protocol	No Data	No Data	No Data
Coverage monitoring	% gap in match between DTP3 survey coverage and officially reported figures	49%[83]		41.3%[84]
Immunization Safety	% of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations	100%	100%	100%
Adverse Events	National AEFI System is active with a designated national/provincial committee	No	Yes	Yes
	Number of serious AEFI cases reported and investigated		No data	No data
Domains	**Demand Generation and Communication**	**2011**	**2012**	**2013**
Communication Strategy	Availability of a routine immunization communication plan	No	No	No
	KAP Study conducted in relation to immunization	No	Yes [84]	No
Evidence based communication	% of government funds on demand generation / communication: EPI and PEI			
	(1) EPI (without PEI)	0	0	0
	(2) PEI	0	0	0

[80] There were 4856 suspected measles notifications and samples were collected for laboratory confirmation from 2187 cases, of which 1472 (67.3%) were laboratory-confirmed. (National DEWS Report 2011)

[81] There were 10094 suspected measles notifications and samples were collected for laboratory confirmation from 2902 cases, of which 2099 (72.3%) were laboratory-confirmed. (National DEWS Report 2012)

[82] There were 1902 suspected measles notifications and samples were collected for laboratory confirmation from 694 cases, of which 378 (54.5%) were laboratory-confirmed. (National DEWS Report 2013)

[83] World Health Organization (2010) Assessment Survey Conducted in 22 provinces

[84] MoPH (2013) National Immunization Coverage Survey 2013

(1) Program Management

EPI Policy Objectives

With a vision of contributing for the reduction of morbidity and mortality due to vaccine preventable diseases among targeted population and a mission to deliver safe, potent, reliable and free immunization services available and accessible to all eligible children and women regardless their ethnicity, race, religion, gender, geographical location and political affiliations, the National EPI has set the following objectives under the (draft) National EPI Strategy 2013-15:

- To achieve and sustain 90% coverage of childhood immunization of all antigens among under one years old children at national and 80% at districts level by the end of 2015.
- To reach universal coverage for Measles1 95% and Measles confirm cases less than 1/1000000 (each year), by the end of 2015.
- To eradicate polio virus transmission by the end of 2015 and sustain till global certification obtained.
- To achieve and maintain 80 % coverage of TT2+ among pregnant and Child Bearing Age women (15-45 years) and less than one case /1000 life birth per district (each year) by the end of 2015.
- To ensure 100% injection safety is provided in immunization program.
- To increase government financial contribution for immunization program, key human resources and vaccine procurement.
- To provide OPV0, BCG, Hepatitis-B birth dose at all maternity service delivery.

Organization and Administration

The program management of EPI is aligned with the organizational and administrative hierarchy of the public health sector in Afghanistan. At the national level, EPI along with other preventive health programs is placed under Preventive Medicine and PHC Directorate of MoPH, directory responsible to the Deputy Minister of Policy and Planning and Preventive Care (Annex 3). At the provincial level, EPI is administratively integrated into the public health system under the Provincial Health Directorate. At the district level, EPI is implemented through district managers of BPHS, EPHS, MOPH-SM and CSOs.

At the central level, EPI department headed by a National EPI Program Manager. The National EPI management team is responsible for leadership, policymaking and standard setting, planning and priority setting, co-ordination with other government agencies, private sector and development partners, identification of long-term funding sources, information collection and sharing, quality assurance, training and capacity building, disease surveillance, management of EPI vaccines and supplies, monitoring, supervision and evaluation, and advocacy and communication.

At the provincial level, EPI management in integrated into the public health system under the provincial health directorates.[85] A provincial health director is the departmental head at provincial level. The EPI activities are supervised and monitored through Provincial EPI Management Team (PEMT) comprising one Provincial EPI Manager and Supervisor each and two Cold Chain Technicians. In cases where provinces and the region are the same, this team is known as Regional EPI Management Team (REMT) comprising a Regional EPI Manager, 2 EPI Supervisors and 3 Cold Chain Technicians. REMTs and PEMTs are responsible for consolidating health facility reports, training of vaccinators and health care providers, and monitoring and supervision of EPI activities.

At the district level, vaccinators, health facility focal persons, health care providers and community health workers are responsible for creating awareness on EPI and vaccination of child and women at health facility level, and field visits to remote and hard to reach areas through Mobile Health Teams. The overall responsibility of managing EPI activities within a district is dependent upon to whom MoPH has decentralized these powers: NGOs under BPHS (31 provinces), PHDs under MoPH-SM (3 provinces), and CSOs in insecure areas (districts in 6 provinces).

Coordination Mechanisms

The implementation arrangement of EPI shows a complex environment in which multiple models of immunization service delivery are in place. In addition, vaccination of women and children is an essential activity of different PHC and MNCH programs and interventions. It requires effective and efficient coordination by the National EPI department, and also the relevant policy makers within the MoPH.

At present, multiple coordination mechanisms are in place at national and provincial levels.

Figure 20: EPI coordination mechanism at national and provincial levels

Coordination Mechanisms for EPI
National Level
Interagency Co-ordination Committee (ICC)
Health System Strengthening (HSS) Steering Committee
National EPI Task Force
National Immunization Technical Advisory Group (NITAG)
National Surveillance Committee
Provincial Level
Provincial EPI Subcommittee (working under Provincial Health Coordination Committee)

It is pertinent to mention about Health System Strengthening (HSS) Steering Committee which consists of USAID, European Union, World Bank, WHO, UNICEF, Ministry of Finance, CSOs and MoPH representatives.[86] This committee is set of the key partners of the Consultative Group for

[85] Meyer, M and Jawhary, A (2013) Inter-Governmental Roles in Service Delivery: Afghanistan Sub-National Governance Study Paper No. 3. United Nations Development Fund

[86] GAVI Alliance Annual Progress Report 2011. Government of Afghanistan

Health and Nutrition (CGHN) which is the high level health sector coordination forum. The support of this committee is highly important and instrumental in implementation of GAVI HSS funds which include the process of approval of HSS plans allocation of funds, modifications of budget, and recommendations for procurement decisions. The ICC does not play any major role in the management of HSS funds after the establishment of HSS Steering Committee.

Despite the present of a network of coordination committees both at national and provincial levels, the needs of the EPI department are often not translated into action. One of the major factors is failure in playing an effective role substantiated with supportive evidence. Over the period of time, EPI department could not adequately align with the changes taking place in the broader administrative system. For example:

- Total number of districts has increased to 399 but EPI planning is still based on 329 districts
- Difference in baseline population (Section 1.1.4)
- Difference in target setting for population coverage: BPHS uses CSO determines population profile whereas EPI uses UNIDATA population data as bench mark for setting district-specific and health facility-specific immunization targets; hence, the difference in targets.
- Difference in target coverage for vaccination: End project immunization coverage targets (Penta-3 60%) under System Enhancement for Health Action in Transition (SEHAT) Project are much lower than the National EPI targets [87]
- Lack of integration in EPI and other departmental plans on account if difference in coverage population, administrative areas and programmatic targets: difference in population denominator for TT vaccination between EPI (women of child bearing age 15-45 years) and National Health Information System Strategic Plan 2009-13 (pregnant ladies only)[88]

Translation of National Health and Nutrition Policy 2012-2020 is heavily dependent upon strong and efficient coordination between different parts of the public health system which is a weak link under the exiting scenario. There is inadequate coordination between National EPI and NGOs. It is reflected not only in target setting but also in hiring and training of vaccinators. Monitoring and supervision of health care delivery is the responsibility of the Monitoring and Evaluation (M&E) Department of the MoPH. Tracking EPI outputs is one component of the monitoring activities. However, there is a lack of coordination between M&E department and NEPI on account of which the findings from the field are often contested and disputed.

Planning

Planning is one of the weak areas in immunization system. On account of the reasons mentioned above, it is difficult for the National EPI department to develop their plans in an integrated manner. The program managers are well aware of the importance of linking cMYP with other government documents. However, the activities and targets of this cMYP are generally not considered when new policy and planning documents are developed. The National EPI Policy is not fully clear on the role of

[87] World Bank (2013) System Enhancement for Health Action in Transition (SEHAT) Project http://documents.worldbank.org/curated/en/2013/02/17368947/afghanistan-system-enhancement-health-action-transition-sehat-project-emergency-project-paper

[88] MoPH (2009) Afghanistan Comprehensive Health Information System Strategic Plan2009-2013

BPHS NGOs and also, implementation strategy in war affected districts. Under GAVI Health System Strengthening (GAVI HSS) Grant major initiatives have been taken to build the capacity of MoPH but how much this contribution has contributed to strengthening performance of National EPI in particular is a question to be answered. The National EPI department has started the process to develop National EPI Strategy with the help of development partners especially WHO and UNICEF which provides an excellent opportunity to meet the demands of EPI both with short-term and long-term strategies.

(2) Human Resource Management

The available health force formally trained on immunization primarily comprises vaccinators only. There are 2,969 vaccinators available throughout Afghanistan out which 75% (2,226) are male. In addition, in 2014, 464 midwives/nurses have been trained on immunization practices in regional and provincial hospitals. Figure 21 presents details of trained vaccination staff available at various health care facilities.

Figure 21: Health Care Facilities and required allocation of immunization staff

Trained Vaccination Staff	Type of Health Care Facility					
	HP	HSC	BHC	CHC	Hospital	MHT
Vaccinators[89]	-	-	02*	02*	02*	01
Midwife/Nurse[90]	-	-	-	-	01**	-

***HP**-Health Post, **HSC**-Health Sub-Center, **BHC**-Basic Health Center, **Hospital**-District, Provincial, Regional, **MHT**-Mobile Health Team*
** One male and female vaccinators each*
*** Provincial and Regional Hospitals only*

It is pertinent to mention that a vaccinator can be appointed at an HSC if the workload is 10 or more per day. Similarly, an additional vaccinator can be appointed at a hospital if the daily workload is 50 or more. Moreover, midwives and nurses are not a formal part of the National EPI workforce but 400 midwives/nurses have been trained in early 2014 for vaccination at provincial and regional hospitals.

Availability of vaccination staff is a key problem in Afghanistan. Keeping in view the cultural and traditional construct of Afghani society, availability of female vaccination workers possess a significant importance in accessibility of services for the women. However, on account of low literacy rates and limitations for females in working outside their homes, availability of female workers is a key problem especially in remote rural areas.

The other factors include: low remuneration and absence of career pathways for vaccinators. It is difficult to precisely estimate the attrition rate among vaccinators; the participants of the workshop were of view that there is a strong tendency among vaccinators to opt for other cadres within or outside the health sector whenever such an opportunity arises.

[89] MoPH (2010) A Basic Package of Health Services for Afghanistan – 2010/1389
[90] National EPI Office (2014) Training Database, Ministry of Public Health.

It is imperative for any health system to have a well trained workforce in order to provide quality health services. Similarly, availability of trained vaccination staff is crucial for effective immunization delivery. The issues of poor coordination and inadequate integration have also influenced recruitment and training of vaccination staff. The BPHS NGOs are fully authorized to recruit vaccinators as per the requirement. It has been pointed out that sometimes they lower the bar for selection criteria in places where suitable candidates are not available. This flexibility is not allowed in areas other than covered by BPHS. The National EPI department has strong reservations on exercise of such flexibility. This is an important issue that needs to be addressed because more and more health care facilities are being made operational/functional across the country every year.

As per the government policy, two vaccinators are posted in hospitals at district, provincial and regional levels. Although there is provision of hiring a third vaccinator in case the daily workload is 50 or more clients. It has been observed that this proves insufficient in covering big catchment areas in big cities and EPI faces problems in handling workload of EPI clients.

Similarly, as per the policy decision, National EPI department is responsible for training of the EPI staff. However, NGOs have also conducted such trainings without taking the National EPI department in confidence. Such trainings were not conducted without any quality control by the National EPI department.

The National EPI office regularly conducts refresher training for the vaccinators and other immunization related staff. However, these trainings are dependent upon availability of funds that are usually provided by WHO and UNICEF. At the national level, only one EPI training officer is available who is not only responsible for assessing the trainings needs and ensuring training quality but also for preparing annual training plans. Responsibility of the training officer is to coordinate the related EPI training activities in the country, but WHO /UNICEF/regional master trainers and provincial EPI managers are taking part in the different aspect of the routine immunization trainings. It becomes and a big ask to cover the entire country in one year because his role is not just limited to trainings of vaccinators but also included training of supervisors and mid-level managers.

Nearly half of the total vaccinators are provided refresher trainings every year. In 2013, 1573 (53.8%) vaccinators were trained during 73 sessions for refresher trainings conducted by REMTs and PEMTs and supervised by National EPI office. In addition, National EPI organized trainings of trainers (TOTs) for MNT Campaign (2), micro planning (4) and PCV-13 introduction (4).

(3) Costing and Financing

The costing and financing of the immunization system is highly dependent upon the donors' contribution. Vaccines are procured by UNICEF with support from various development partners. The Government's contribution towards procurement is in the form of co-financing for of GAVI supported vaccines i-e Pentavalent (DPT-HepB-Hib) and PCV-13.

Funding for salaries and operations of National EPI office are primarily supported from GAVI ISS. The services delivery at health care facility level under BPHS and EPHS is financed through the respective donors (World Bank, European Union and USAID). These funds are met through development budget of the central government. It is pertinent to highlight that the donor funding in this case is placed under non-discretionary component of the development budget due to which the government cannot utilize/divert these resources for any other purpose. Such a budgetary support ensures that funds are utilized as per the agreed terms and conditions of the project. However, on the

other hand, it reduces the scope of adding up other interventions or increasing the scope of an ongoing project.

Some of the operational costs including salaries of the provincial staff and their monthly expenditures are borne by the central government through its regular budget.

Further details and analysis is presented in section (financing and funding gap analysis)

(4) Vaccine, Cold Chain and Logistics

Uninterrupted supply of vaccine, proper maintenance of cold chain and availability of other logistics are the key components of a functional immunization program.

The vaccine supply chain in Afghanistan is comprised of four levels:

- **Central**: UNICEF procures all the vaccines and other supplies from international suppliers which are transported to Afghanistan through air shipments. National EPI Office receives vaccines and supplies from UNICEF and stores in the national EPI stores.
- **Regional**: 7 Regional EPI Offices receive vaccines and injections supplies from National EPI Office and supplies to 27 Provincial EPI Offices.
- **Provincial**: Provincial EPI Offices receive vaccines and injections supplies from Regional EPI Offices and supplies to Health Care Facilities at district level.
- **District**: BPHS NGOs receive vaccines and injections supplies from provincial EPI Offices and supply to Health Care Facilities at district level where these are stored for use at clinic-based and outreach immunization services. There is no vaccine storage facility at the district level except health care facilities which maintain their own stock levels.

A detailed description of roles and responsibilities in vaccine procurement, transportation and storage is given in Figure 22.

Figure 22: Roles and responsibilities in vaccine procurement, storage and transportation

ACTION	RESPONSIBILITY					Mode of Transport
	UNICEF	National EPI Office	Regional EPI Office	Provincial EPI Office	BPHS/EPHS NGOs	
Procurement from international vendors	Yes	-	-	-	-	
Transportation to Afghanistan	Yes	-	-	-	-	By Air
Storage at National EPI Office	-	Yes	-	-	-	
Transportation to Regional EPI Office	Outsourced to 3rd Party and financed by UNICEF					By Road
Storage at Regional EPI Office	-	-	Yes	-	-	
Transportation to Provincial EPI Office	Outsourced to 3rd Party and financed by UNICEF					By Road
Storage at Provincial EPI Office	-	-	-	Yes	-	
Transportation to Health Care Facilities	-	-	-	-	Yes	By Road
Storage at Health Care Facilities	-	-	-	-	Yes	

Procurement, Transportation and Storage

Presently, UNICEF is responsible for procurement of vaccine and consumables from international vendors (Figure 23). The vaccines are shipped by air to the Kabul International Airport. National EPI is completely dependent on UNICEF to manage the customs clearance process. It involves risks that in case of unexpected delays, shipments coming through on weekends may not be cleared within the 24 hour-period, and will require temporary cold storage facilities at the airport. However, no cold rooms are available at the airport.

The overall security situation is not considered conducive for transportation of vaccines and consumables from Kabul to the peripheral regions and provinces on big refrigerated vehicles bearing government or donor logos. Therefore, distribution of vaccines and consumables has been outsourced to a third party. However, the point of concern is the use of non-refrigerated vehicles in transporting vaccines.

The implementation practices of supply frequency and duration of vaccine storage are not entirely in line with the National EPI policy guidelines (Figure 23). Presently, supply from the international vendors is being organized on quarterly basis. However, PCV-13, a single vial packaging, and introduction of new vaccines (IPV and Rota Virus) may increase this requirement. The total net cold storage capacity of EPI is 245.5 cubic meters of which 76.82 cubic meters is at national, 114.68 cubic meters at regional level, 20.4 cubic meters at provincial and 33.6 cubic meters at health facility levels.[91] The present capacity of cold rooms in in sufficient to meet the storage requirements with addition of the new vaccines.

Figure 23: Comparison of policy guidelines and practices for vaccine supply and storage

Level	Supply frequency and duration of storage	Criteria as per National EPI Policy Guidelines	Implementation Practices
National EPI Office	Supply frequency	6 month	4 months (sometimes more frequent)
	Storage duration	6 months	4 months
Regional EPI Office	Supply frequency	3 months	3 months
	Storage duration	3 months	3 months
Provincial EPI Office	Supply frequency	2 month	1 month
	Storage duration	2 months	1 month
Health Care Facilities	Supply frequency	1 month	1 month
	Storage duration	1 month	1 month

Temperature Monitoring

Maintenance and active monitoring of cold chain becomes more important in this context. Although cold chain temperature monitoring is ensured by monitoring both at the point of departure and arrival during transportation, long distances to remote regions could potentially affect the quality vaccine. A

[91] Draft Expanded Program on Immunization Strategy 2013-15, Ministry of Public Health, Afghanistan

Multilog Trace Temperature Monitoring System has been piloted in the National EPI cold rooms. The initial results are very encouraging. The regional and provincial EPI offices are connected with Internet which provides the opportunity to introduce new technologies for reporting and monitoring temperature levels and stocks availability.

Inventory Control

The National EPI office has maintained an inventory for vaccine supplies, consumables and cold chain equipment. However, there are important shortcomings on account which annual cold chain replacement plans cannot be prepared. The data of installation of equipment, for example Refrigerator RCW 50 EG, is not entered in the system due to which the EPI logistic management staff cannot forecast when and where replacements are required. There is no policy on cold chain replacement under implementation. As a general practice, 10-15% of the equipment is replaced every year subject to fresh supplies from donors and demand generation from the lower levels.

Vaccine Wastage Policy

The EPI is observing an open vial and multi-dose policy to increase the coverage rates and minimize wastage rates. However, there are differences in policy guidelines and implementation practices (Figure 24).

Figure 24: Comparison of policy guidelines and practices for vaccine wastage rates

Antigen	Accepted Wastage Rate as per National EPI Policy Guidelines	Implementation Practices
BCG	50%	70%
Oral Polio Vaccine (OPV)	25%	20-22%
Pentavalent (DPT-HepB-Hib)	10%	12%
Measles	50%	45%
Pneumococcal (PCV13)	5%	7%
Tetanus Toxoid (TT)	25%	10-12%

(5) Immunization Services Delivery

Immunization Schedule

Figure 25: Immunization schedule for Routine Immunization among Children and Women

Vaccine Name	Target Population	Vaccine Classification	1st Dose	2nd Dose	3rd Dose	4th Dose	5th Dose
BCG	Births	Traditional	Birth				
Oral Polio Vaccine (OPV-zero dose)	Births	Traditional	Birth				
Hep-B (Birth Dose)	Births	Underused	Birth [92]				
Oral Polio Vaccine (OPV)	Surviving Infants	Traditional	6 weeks	10 weeks	14 weeks	9 months	
Pentavalent (DPT-HepB-Hib)	Surviving Infants	Underused	6 weeks	10 weeks	14 weeks		
Pneumococcal (PCV13)	Surviving Infants	New	6 weeks	10 weeks	14 weeks		
Rotavirus vaccine	Surviving Infants	New	6 weeks	10 weeks			
Inactivated Polio Vaccine (IPV)	Surviving Infants	New			14 weeks		
Measles	Surviving Infants	Traditional	9 months	18 months			
Tetanus Toxoid (TT)	Child Bearing Age Women	Traditional	First contact	+1 month	+6 month	+1 year	+1 year

Immunization Service Delivery

There are 1575 EPI centers established in 1836 health facilities. Presently, immunization services are being provided through:[91]

- **Fixed sites services**: Routine immunization services, providing all routine immunization antigens, performed on working days at a health facility by health facility staff and the fixed site distance will determine 0.5-1 hour by walking. As per the government policy, Fix Center must be opened in all working days, each fix center should have two vaccinators, and if clients are more than 50/day additional vaccinator/s should be added.
- **Outreach services**: Routine immunization services, providing all routine antigens, conducted on fixed days in selected communities by the staff of the responsible health facility using locally available means of movement, walking, bicycle, Motorbike, vehicle and locally arranged transport(required cost will be provided by implementing partners). The definition

[92] Hepatitis-B birth dose is only being provided at those health facilities where deliveries are conducted. Presently, 461 health care facilities with delivery services are providing this service.

of outreach is that the EPI health workers be able to conduct immunization session and return back to duty station in the same day. The number of outreach visits to a community must be once per month considering target population in distance of the village (low populated community and far area are to be planned once each quarter).

- **Mobile**: Mobile is a visit of outreach to a location where longer travel is required and the team has to stay overnight. Each team marks days of fixed, outreach and mobile through micro plan.
- **Sub-Center**: Health sub-centers in specific geographical areas with significant population. The sub-center should have cold box and vaccine carrier, and the midlevel should be trained on EPI. Immunization sessions should be scheduled according to the population. The main recommendation is to provide immunization outreach through sub-centers to cover its catchment area at least four times per year. Those sub centers which have 10 or more immunization clients in each working day, should be upgraded to EPI fixed centers and it will be eligible for cold chain equipment (refrigerators, cold box, ice pack and vaccine carrier), recording and reporting materials.

In 31 out of 34 provinces, these EPI centers are operated by the BPHS/EPHS NGOs whereas in the remaining 3 provinces EPI centers are operated by MoPH-Strengthening Mechanism. The BPHS and EPHS are being operated through not-for-profit organizations but these health service packages do not cover the entire population. Therefore, for-profit civil society organizations from private sector have been engaged to increase the coverage of EPI in remote and hard to reach areas and especially, in 6 highly insecure provinces[93] where it is difficult for the government to directly operate health services including immunization. In addition, 15 mobile health clinics have been established to cater for the health needs, including immunization, of the Kuchi population.

Although vaccination coverage rates are better in urban areas as compared to the rural areas, there are issues in provision of immunization services to big catchment areas from a limited number of health care facilities. As per policy guidelines, vaccination at fixed EPI centers is encouraged. It is expected that the population living around these fixed EPI centers will utilize these health care facilities whereas remote and hard to reach population will be covered through outreach and mobile vaccination teams. In this context where there is no active population registration system in place, it is not possible for the immunization system to keep a track of every child and women, especially those who never visit a public sector health care facility. This situation makes the positioning and functionality of CHWs critical for improving vaccination coverage rates by increasing awareness and motivating the target population for getting their children and women vaccinated against vaccine preventable diseases. In few provinces, under a UNICEF initiative, household listing has been compiled but it is yet to be replicated at a higher scale and further research is warranted to identify possible enablers and barriers.

(6) Surveillance, Monitoring and Reporting

Surveillance is very important for monitoring the status of vaccine preventable diseases. It requires that all reports are received complete and timely, from health centers to the central level.

[93] Uruzgan, Paktya, Kandahar, Nooristan, Farah and Hilmand

There are four parallel surveillance systems operating for surveillance of vaccine preventable diseases (VPD).

- **Disease Early Warning System (DEWS)** is a mixture of active and passive surveillance systems and there are 368 sentinel sites established under DEWS. Central Public Health Laboratory (CPHL), a national reference laboratory, supports DEWS in confirmation of the suspected outbreaks detected countrywide. These reports are submitted to Surveillance (DEWS) Department in the General Directorate of Afghan Public Health Institute of MoPH. In 2013, there were 174 outbreak alerts reported and investigated and clinically or laboratory confirmed in 2013.[94] A total of 7,714 cases were associated with outbreaks with an average of almost 44 cases per outbreak.

- **Health Management Information (HMIS)** is a passive surveillance system that collects information from the health care facilities throughout the country. HMIS is also used for assessing the implementation status of BPHS and EPHS. HMIS is not directly linked to Central Public Health Laboratory. Presently, 2214 health facilities are reporting under HMIS. The information reported under HMIS is also validated by a third party demonstrating an accuracy of 90%.[95] There are limitations is using HMIS data as baseline. The population denominator is reduced by 25% because it was assumed that 75% of the population only has access to health services. This means that the HMIS does not capture information on 25% of the population.

- **EPI Surveillance System** is a case based active and passive surveillance system and focal persons from the health facilities notify whenever a suspected case is reported. These reports are submitted upwards through EPI management system to the National EPI office. EPI surveillance system is also linked to Central Public Health Laboratory. EPI uses a different denominator for the total population which leads to difference in calculation of reporting rates.

- **AFP Surveillance System**, being operated by WHO, was primarily started for surveillance of Polio. However, now it also reports on measles and neonatal tetanus. There is a country wide network of AFP Focal Points linked with various health facilities within a district and community-based reporting volunteers. In every district, at least one focal point who is usually a doctor (preferably a paediatrician) is responsible for AFP case notification, investigation, sample collection and its shipment to provincial office. Each focal point is linked with a network of community-based reporting volunteers including pharmacists, traditional healers, shrine keepers, general practitioners and mullahs who are responsible for case notification and their referral to the concerned FP. There are 578 focal points, 1568 zero reporting sites and 1085 active surveillance sites.

The official reports indicate that more than 95% health facilities or reporting sites submit their reports in time. However, the participants of the cMYP workshop were of view that high reporting coverage is a result of repeated reminders. As far as capturing all the expected cases is concerned, they opined that almost 50% cases are not captured by the existing surveillance systems.

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94 World Health Organization (2013) DEWS Annual Report 2013

95 General Directorate of Policy and Planning (2012) HIS Publication. Ministry of Public Health.

EPI data compilation is done at the provincial level for onward submission. The National EPI Office has no access to the individual health facility data except during field visits which does not allow validation of consolidated reports. Under a new initiative, health facility based EPI data is being computerized at the provincial level for onward submission to the national level. The provincial EPI supervisor is responsible for entering this data at the provincial level. However, it is a long process which in provinces with large number of health facilities takes 10-12 days. Despite NGOs maintain their datasets in softcopies, health facilities data is provided to the provincial level on hard copies only. On account of this workload, EPI supervisors are left with less time for the field visits.

A recent research study also indicates a very high percentage of completeness of these reports: 95% for HMIS and EPI and 97% for DEWS.[96] However, while using reporting of measles cases as a lens, this study finds that EPI Surveillance System, HMIS and DEWS are working on three different objectives and reporting to three different directorates. Data management and data integration between three systems in almost never performed which results in difference in the levels of measles vaccination coverage and reporting on number of cases and outbreaks. The main reasons for lack of integration are different reporting systems, reporting periodicity, parallel staffing structures and supervisory mechanisms. Further, the existing surveillance systems are more dependent upon the public sector health facilities for data recording and reporting. Despite being the main health care provider in term of patient load, private sector plays a limited role in expanding the coverage of the existing surveillance systems.

Feedback mechanisms are an essential component of a functional surveillance and reporting system. Sometimes, EPI reviews are conducted at national and/or regional levels subject to availability of funds. In addition, poor law and order situation hampers field trips by the national level staff. Field monitoring by the Regional and Provincial EPI Management Teams is often jeopardized by cumbersome procedures of reimbursement of expenditures by the government treasury.

(7) Demand Generation, Communication and Advocacy

Demand generation, communication and advocacy are importance for multiple reasons. These provide an opportunity to use EPI data as evidence to create awareness on importance of immunization for reducing morbidity and mortality due to vaccine preventable diseases. These activities not only enhance acceptability of immunization services but also create opportunities to tap support from communities and other stakeholders like political leadership.

The government is implementing National Health & Nutrition Communication Strategy 2008-13. The communication strategy for EPI is part of this broader communication strategy. While stating its mission *'to work effectively with communities and developing partners to improve the health nutritional status of the people of Afghanistan, with a focus on women and child and under-served areas of the country'*, National Health & Nutrition Communication Strategy identifies that the common themes within the existing multiple strategies are:

- Ensuring adequate IEC materials for all health issues
- Intensive focused communication

[96] Mofleh, J., & Ansari, J. (2014). Evaluation of measles surveillance systems in Afghanistan-2010. Journal of Public Health and Epidemiology, 6(11), 407-416. http://www.academicjournals.org/article/article1412951519_Mofleh%20and%20Ansari.pdf

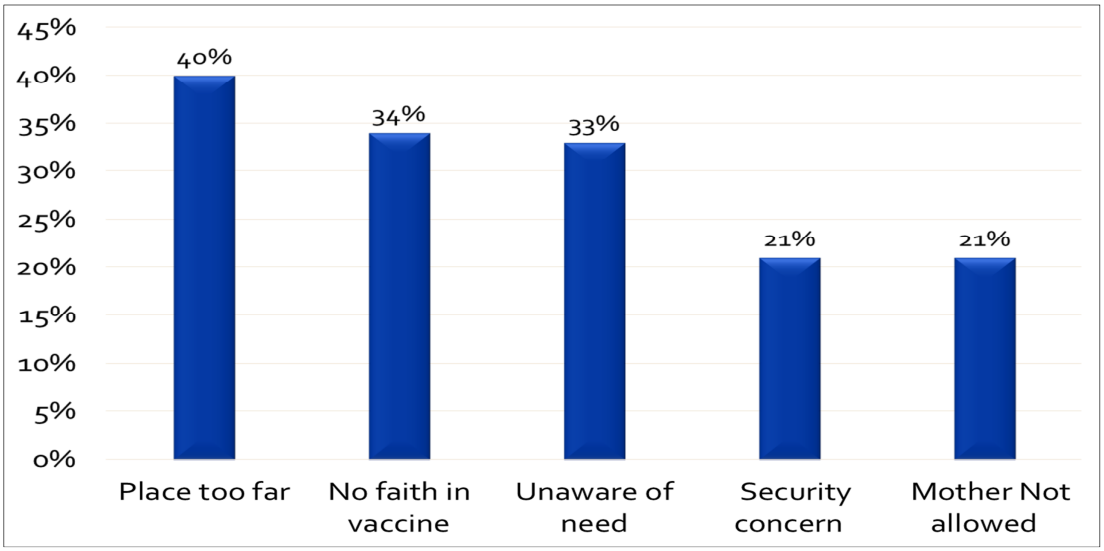
- Use of multiple channels
- Inclusion of interpersonal communication channels within BPHS
- Capacity building of health service providers in communication and counselling
- Use of health Shuras, teachers, community and religious leaders, private sector
- Use of advocacy and social mobilization approaches
- Evidence based interventions
- Inter-ministerial collaboration and cross sector involvement.

The National Health & Nutrition Communication Strategy 2008-13 identifies the following underlying causes that are essential to be addressed for improving immunization coverage and decreasing morbidity and mortality due to vaccine preventable diseases:

- Low awareness about importance of vaccination including TT and AFP symptoms
- High drop out because side effects of vaccination are not explained
- Missed opportunities
- Misconception about injection, side effects and vaccines
- Reluctance to be vaccinated by male vaccinators
- Low knowledge of sentinel and reported facilities

The findings of the National Immunization Coverage Survey 2013 reveal that 18.3% children were never received any vaccine. Multiple reasons were identified. Figure 26 presents the top 5 reason that the mothers of children who never received a vaccine.

Figure 26: Top-5 reasons for not getting a child vaccinated



Despite the fact that these weaknesses have been identified in the national policy documents on demand generation and communication, the National EPI has not developed a yearly communication plan. The planning and execution of the majority of communication related activities are dependent upon availability of funds from donors, primarily UNICEF. In order to prepare effective demand generation and communication plans, it is important that the health program designers understand the core requirement of the local communities and use such opportunities to increase receptiveness of the local population towards immunization. For example, pneumonia is a well-recognized life threatening disease in Afghanistan. Introduction of PCV-13 as prevention from pneumonia among children was highly appreciated by the local communities and a very percentage of population, even above the recommended age group, insisted for PCV-13 vaccination. As a result, many of the health care facilities were forced to send urgent demands for PCV-13.

1.4 Summary – SWOT

Program Management	
Strengths	**Weaknesses**
• Immunization a recognized government responsibility • National immunization policy and schedule in place • High-level oversight bodies are established (ICC, EPI Steering Committee and Health Sector Coordination Committee) • EPI Taskforce established for reviewing EPI Progress • EPI management structure available at all levels • Private sector is formally involved in EPI service delivery under BPHS • Monitoring of EPI services a formal responsibility of EPI and M&E department of MoPH	• Multiple oversight structures with overlapping roles and responsibilities • EPI Progress reviews are not a regular practice and even when undertaken recommendations not fully implemented • Existing management structure of EPI insufficient for training needs at national level • Poor coordination between different departments of MoPH for M&E • Issues of conflicts in jurisdiction of roles and responsibility, and poor coordination between National EPI and NGOs in EPI service delivery • Inconsistencies in use of population statistics and number of districts between National EPI and other health programs • Dual supervisory system for vaccinators (NGOs and PEMT Managers) • Weak planning and monitoring processes • Absence of cMYP-based annual development plans • Lack of clarity in roles and responsibilities of different stakeholders • cMYP not used for as planning and advocacy tool
Opportunities	**Threats**
• Involvement of top political leadership in PEI • Government's focus on developing long-term health policies and strategies • Integration of EPI in BPHS • Engagement of private sector in immunization services • GAVI support for Health System Strengthening • UNFPA will conduct mini-census next year	• Political instability • Fast-paced reform process in health sector • Insufficient EPI managerial support in conflict affected areas • Concerns about continuity in donor support for vaccine procurement • Poor law and order situation • High incidence of Poliomyelitis in Pakistani

• Support from external partners	areas adjoining Afghanistan border • Natural disasters • Lack of involvement in broader policy processes can sideline immunization system
Human Resource Management	
Strengths	**Weaknesses**
• Human resource policy available • Sufficient fulltime dedicated managerial and supervisory EPI staff available at regional and provincial levels • Allocation of EPI-specific staff (vaccinators) in majority of PHC health facilities • Master trainers available at national, regional and provincial levels • Provision of an additional vaccinator in high workload health facilities • Availability of training materials and guidelines both in English and local language	• Lack of clarity in roles and responsibilities among National EPI and BPHS NGOs especially recruitment and training of vaccinators • High turnover of vaccinators • Low remuneration of vaccination staff • Absence of carrier pathways for vaccinators • Low proportion of female vaccinators • Paramedical staff not trained in immunization protocols • Inadequate manpower for training team at national level • Lack of flexibility in recruitment criteria in MoPH-served areas
Opportunities	**Threats**
• Training of nurses/midwives on immunization practices through GAVI HSS support • Presence of other female paramedical staff (nurses, and midwives) for involvement in vaccination activities • Increasing focus on community midwives • Flexibility for NGOs to recruit vaccinators in areas of need by lowering the selection criterion • Availability of qualified human resources in private health sector	• Cultural and traditional barriers in recruiting female vaccinators • Training programs heavily dependent upon funding from donors • Inequitable distribution of health staff between urban and rural areas
Costing and Financing	
Strengths	**Weaknesses**
• Health sector long-term financing policy developed • EPI staff is paid through non-discretionary development fund annual budget • EPI activities financed under BPHS and EPHS • Government contributes for procurement of vaccines through co-financing share	• EPI managers not trained in costing and financing • No budget line item for vaccine procurement except co-financing under cost share • Prolonged and cumbersome administrative procedure for releasing of fund for EPI supervisory staff
Opportunities	**Threats**
• EPI activities financed under BPHS and EPHS • Donor support from GAVI and other development partners	• Limited fiscal space due to revenue deficit • Heavy dependence on donor funding may lead to donor fatigue • Low budget execution rate of development budget by MoPH and delayed disbursement of budgetary funds

Vaccine supply, quality and logistics	
Strengths	**Weaknesses**
• Availability of functional cold chain equipment in a large majority of provinces and districts • Digital temperature monitoring system in place at national cold rooms • Waste management policy available • Autodestruct syringes available for reducing injection harms	• Potential delays customs clearance of vaccines at Kabul Airport • Distribution of vaccines through non-refrigerated vehicles • Inadequate storage capacity for new vaccines and other logistics in future • Aging cold chain equipment • Incomplete inventory and stocktaking • Cold chain replacement plans not developed • Inadequate supply of spare parts and other equipment required for repair and maintenance • Procurement and supply of vaccines is a UNICEF responsibility • Discrepancy in policy guidelines and implementation practices in vaccine storage
Opportunities	**Threats**
• Donor support available for installing cold rooms and other cold chain equipment • Use of innovative technologies for improving temperature and supply system monitoring and supervision • Pilot interventions of using Solar Refrigerators by UNICEF	• Geographical landscape not suitable for maintaining a single warehouse for vaccine storage • High extremes in weather conditions • Poor security conditions threaten supply of vaccines and consumables through government or donor vehicles
Immunization Service Delivery	
Strengths	**Weaknesses**
• Extensive network of 1,575 fixed EPI centers across the country • EPI an established part of PHC services • New Health Sub-centers and Mobile health teams established to increase coverage of EPI services • Engagement of civil society organizations (CSOs) in EPI service provision	• High proportion of population per fixed EPI center, especially in urban areas • High dropout rates between successive vaccine doses not being monitored due to lack of validation of data in the field • One-third districts with Penta-3 coverage of less than 80% • Entire population not covered under BPHS • Low utilization of Health sub-centers and mobile health clinics • Lack of a strategy for follow up of children and women who live nearby Fixed-EPI centers but are not covered through outreach services • Difficulty in target setting for districts due to difference in denominators • Poor micro planning at health facility level • 650 health facilities established in temporary buildings • Significant proportion of children not vaccinated
Opportunities	**Threats**
• Donor support for micro planning at local level • Fast speed of opening of new health facilities	• Poor law and order and ongoing militancy • Large nomadic population

under BPHS • Engagement of private sector for using their infrastructure especially in insecure areas	• Scattered population in rural areas • High rate of urbanization is increasing load on existing facilities in urban areas • Hilly and difficult terrain
Surveillance, Monitoring and Reporting	
Strengths	**Weaknesses**
• Availability of up-to-date guidelines and standardized case definitions and reporting forms • 368 sentinel sites established under DEWS • 2214 health care facilities submitting HMIS reports • 578 AFP focal points established • Formal case-based reporting system in place • Laboratory confirmation for measles and rubella available in Central Public Health Laboratory at national level • High report submission rates	• Four surveillance systems working in parallel • No use of surveillance data for program management • Absence of feedback mechanism from national and provincial levels • Data quality self-assessment not practiced • Lack of staff qualified in surveillance • Irregular reporting from health facility level • Lack of validation of reported data • High percentage of discrepancy between survey and admin reported data • Periodic program reviews not a regular feature • High workload in computerization of surveillance reports at provincial level • Poor documentation of outbreaks
Opportunities	**Threats**
• Donors are willing to support strengthening of surveillance system	• Lack of trust in importance of surveillance if data is not used for decision making • High incidence of Poliomyelitis in Pakistani areas adjoining Afghani borders
Demand Generation, Communication and Advocacy	
Strengths	**Weaknesses**
• National Health & Nutrition Communication St rategy available • High demand for PCV-13 by communities • IEC materials (booklets, posters and brochures) available at health care facilities • Celebration of immunization weeks	• Annual advocacy and communication plan not available • Immunization staff inadequately trained social mobilization and communication • Lack of advocacy to policy makers and other stakeholders by generating annual progress reports
Opportunities	**Threats**
• Availability of multiple mechanism for communication (radio, TV, print media) • Involvement of NGOs and CSOs in immunization • Development partners expertise in communication	• Social and cultural barriers against immunization • Misconception against vaccination • Low female literacy

2 Immunization objectives and strategies

2.1 Program objectives and milestones

Goal of the Afghan Immunization Plan is to decrease VPD associated morbidity and mortality:

- Measles incidence reduced to less than 5 cases per million population by 2019 with optimally functioning surveillance system
- Polio virus transmission is eradicated by the end of 2015 and sustained till global certification is obtained
- Neonatal death caused by neonatal tetanus reduced to less than 1 case per 1000 live births by 2019

The objective of the Afghan Immunization Plan is to improve performance of the immunization system that is measured in terms of coverage and equity as listed below:

Indicators	Baseline 2013	2015	2016	2017	2018	2019
1. Increase DTP3 coverage	59.7%	70%	75%	80%	85%	90%
2. Increase Measles 1 coverage	58.8%	70%	75%	80%	85%	90%
3. Increase the % of population protected at birth from neonatal tetanus	50%	60%	65%	70%	75%	80%
4. Increase OPV3 coverage	63.5%	70%	75%	80%	85%	90%
5. Increase PCV13	NA	70%	75%	80%	85%	90%
6. Increase IPV coverage	NA	30%	75%	80%	85%	90%
7. Increase Rota vaccine coverage	NA			80%	85%	90%
8. Increase the % of children fully immunized –(% of children aged 12-23 months who receive all basic vaccinations)	51%	60%	65%	70%	75%	80%
9. Improve geographical equity - % of districts that have at or above 80% DTP3 coverage	67%	69%	72%	75%	78%	80%
10. Improve socio-economic equity - DTP3 coverage in the lowest wealth quintile is less than % points of the coverage in the highest wealth quintile	22%	20%	18%	15%	12%	10%
11. Decrease dropout rate - % point difference between DTP1 and DTP3 coverage	18.6%%	17%	15%	13%	11%	10%
12. Increased demand - % of children whose mothers intend to vaccinate children	No Data	Increased by 5% from the baseline	Increased by 10% from the baseline	Increased by 15% from the baseline	Increased by 20% from the baseline	Increased by 25% from the baseline

2.2 Strategies and main activities

2.2.1 Program Management

The objective of the immunization system component is to increase program management performance. It means that by 2019:

- Immunization program planning is integrated into national budgeting, namely:
  - Integrated EPI annual plans are developed and consistent with the national cMYP
  - Program Proposals are Grant Applications are adjusted and aligned with the EPI annual plans
- One implementation annual progress report is produced and discussed with key stakeholders every year
- The national cMYP is updated regularly reflecting either changes in the context (epidemiological, vaccine availability, etc.), resource availability or immunization system outcomes (achievements)
- At least 2 meetings demonstrating contribution of EPI partners to the decision-making are held every year

Strategies and activities to achieve the component objective are as follows:

ISC Objective 1: **Increase program management performance**

Strategy 1.1: EPI Policy/strategy formulation for strengthening institutional framework of immunization program

Activity 1.1.1: Constitute EPI Policy/strategy technical review committee under National EPI Task Force

Activity 1.1.2: Mobilize Technical support for EPI policy/strategy formulation

Activity 1.1.3: Review existing EPI policy/strategy, guidelines and institutional framework of immunization program in consultation with major stakeholders

Activity 1.1.4: Clarify upon the institutional arrangement and roles and responsibilities of MoPH, National EPI, donors, and BPHS and EPHS NGOs

Activity 1.1.5: Submit draft EPI policy/strategy to National EPI Task Force for review and endorsement

Activity 1.1.6: Seek approval of draft EPI policy/strategy from relevant authorities

Strategy 1.2: Development and institutionalization of performance management system

Activity 1.2.1: Mobilize Technical support for developing Minimum Service Delivery Standards for EPI

Activity 1.2.2: Set EPI-specific Minimum Service Delivery Standards (EPI-MSDS) for national, regional, provincial and district levels

Activity 1.2.3: Develop criteria/methodology for competency assessment and performance appraisal of key EPI management staff (managers and supervisors) and skilled immunization staff (vaccinators, other paramedics trained in vaccination)

Activity 1.2.4: Develop criteria for performance-based financial and non-financial rewards for EPI managerial and immunization skilled staff

Activity 1.2.5: Select indicators for measuring performance standards at national, regional, provincial and district levels

Activity 1.2.6: Seek approval for implementation EPI Minimum Services Delivery Standards from relevant authorities

Activity 1.2.7: Implement EPI Minimum Service Delivery Standards

Strategy 1.3: Development and institutionalization of effective and efficient management structure and procedures

Activity 1.3.1: Mobilize Technical support for review and develop effective and efficient management structure and procedures

Activity 1.3.2: Review and analyze existing EPI management structure at national, regional, provincial and district levels in view of EPI Policy/strategy and EPI-MSDS

Activity 1.3.3: Identify gaps in availability of human resources and skill mix required for implementation of performance management system

Activity 1.3.4: Re-align/re-organize existing management structure at national, regional, provincial and district levels

Activity 1.3.5: Revise selection and appointment criteria of skilled immunization staff in remote hard-to-access geographical areas and thickly populated urban areas

Activity 1.3.6: Review and develop mechanism for involvement of other paramedical staff (nurses/midwives) in immunization service delivery in consultation with relevant health authorities and agree on feasible and sustainable arrangements (Activity 2.3.5:)

Activity 1.3.7: Revise job descriptions for managerial/administrative staff at all levels

Activity 1.3.8: Revise or introduce new standard operating procedures for EPI management units

Activity 1.3.9: Revise government rules and regulations for implementation of newly developed management structure and procedures

Strategy 1.4: Streamlining EPI planning processes

Activity 1.4.1: Develop integrated EPI annual implementation plans

Activity 1.4.2: Review and align cMYP with EPI annual implementation plan

Activity 1.4.3: Develop annual capacity building plan for managers, supervisors and skilled immunization staff (see corresponding Strategy 2.3:)

Activity 1.4.4: Develop annual HR recruitment plan (see Strategy 2.1: & Strategy 2.2:)

Activity 1.4.5: Develop EPI service delivery expansion and infrastructure development plan

Activity 1.4.6: Develop cold chain replacement plan and update on annual basis

Activity 1.4.7: Develop communication and advocacy plan

Activity 1.4.8: Develop emergency plan to deal with disaster like situation

Activity 1.4.9: Develop monitoring and evaluation plan

Activity 1.4.10: Develop region-specific, province-specific and district-specific EPI implementation plans with target setting

Strategy 1.5: Streamlining accountability mechanisms at program management level

Activity 1.5.1: Conduct annual EPI performance reviews at national level

Activity 1.5.2: Conduct quarterly EPI performance reviews at regional level

Activity 1.5.3: Conduct monthly EPI performance reviews at provincial level

Activity 1.5.4: Present EPI progress report and achievements against EPI CMYP, challenges and constraints to HSS Steering Committee/ICC and National EPI Taskforce every six months

Activity 1.5.5: Conduct performance appraisal and competency assessment of all EPI management and supervisory staff and skilled immunization staff every two years

Strategy 1.6: Advocacy and partnership building

Activity 1.6.1: Publish and disseminate EPI annual progress report every year

Activity 1.6.2: Organize quarterly coordination meetings between National EPI, GCMU, BPHS/EPHS NGOs and CSOs

Activity 1.6.3: Regular advocacy meetings with national health authorities/ policy makers (Steering and technical committees)

Activity 1.6.4: Produce regularly policy briefs/guidelines/advocacy materials to share with high level officials

Activity 1.6.5: Organize consultations meetings with EPI partners and follow up implementation of decisions and actions agreed in the past

2.2.2 Human Resource Management

The objective of the immunization system component is to increase the availability of qualified human resources for the immunization program. It means that by 2019:

- Proportion of population served to skilled immunization staff (SIS) increases from 39% to 89%
- 95% of managerial and technical positions are staffed with qualified human resource

Strategies and activities to achieve the component objective are as follows:

ISC Objective 2: **Increase the availability of qualified human resources for the immunization program**

Strategy 2.1: Increase in number of technical staff for training (national level) and surveillance (provincial level) (see corresponding Activity 1.4.4:)

Activity 2.1.1: Advertise position for a training manager at national level

Activity 2.1.2: Advertise positions for 34 surveillance officers at provincial level

Activity 2.1.3: Advertise further positions of technical staff required after re-aligning/re-organizing existing management structure at national, regional, provincial and district levels (see corresponding Strategy 1.3: Activity 1.3.4:)

Activity 2.1.4: Conduct interviews and select appropriate technical staff

Strategy 2.2: Increase in number of Skilled Immunization Staff

Activity 2.2.1: Advertise for recruitment against 600 new positions of vaccinators positions as part of MoPH staff in provincial/local media

Activity 2.2.2: Conduct meetings with local authorities/communities promoting job of vaccinators and identification of potential candidates especially for female vaccinators

Activity 2.2.3: Select and contract new vaccinators preferably from the areas where they will be appointed to

Activity 2.2.4: Explore and provide professional/carrier growth opportunities to vaccinators (see corresponding **Error! Reference source not found.**)

Strategy 2.3: Capacity building of EPI Managers, supervisors and skilled immunization staff: (see corresponding Activity 1.4.3:)

Activity 2.3.1: Carry out induction trainings for 600 newly recruited vaccinators in immunization practices, introduction of new vaccines, micro-planning, advocacy and awareness, surveillance and reporting mechanisms etc.

Activity 2.3.2: Carry out Mid-level-Manager's (MLM) training for national managers (10), regional staff (14), provincial staff (54) and district staff every two years

Activity 2.3.3: Train EPI program managers on program management and developing mechanisms for financial efficiency (5 trainings per year)

Activity 2.3.4: Carry out refresher training for each skilled immunization staff in immunization practices, introduction of new vaccines, advocacy and awareness, surveillance and reporting mechanisms etc. at least once in 2 years

Activity 2.3.5: Carry out training for paramedical staff (nurses/midwives) in immunization practices staff in immunization practices, introduction of new vaccines, advocacy and awareness, surveillance, data quality self-assessment (DQS) and reporting mechanisms etc. at least once in 2 years (see corresponding Activity 1.3.6:)

Activity 2.3.6: Carry out training of EPI managers, supervisors and skilled immunization staff on newly developed MSDS

Activity 2.3.7: Carry out training of EPI managers, supervisors and skilled immunization staff on revised job descriptions, standard operating procedures, and reporting and feedback mechanisms

Activity 2.3.8: Carry out refresher trainings of cold chain technicians in cold chain repair and maintenance

Activity 2.3.9: Train vaccine management personnel in logistic management

Activity 2.3.10: Training of national, regional and provincial EPI managers on orientation and implementation of cMYP

Strategy 2.4: Increase in effectiveness of trainings of EPI managerial, supervisory and skilled immunization staff:

Activity 2.4.1: Introduce training need assessment, and pre & post trainings assessment as a mandatory requirement of training programs

Activity 2.4.2: Revise training materials as and when required under training need assessment reports

Activity 2.4.3: Maintain database for training programs and compare training outcomes prior to conducting follow up trainings

Activity 2.4.4: Introduce assessment of motivations of trainees in refresher courses

2.2.3 Costing and Financing

The objective of the immunization system component is to increase financial efficiency and sustainability of the immunization program. It means that by 2019:

- Cost per Penta-3 child will be increased from USD62.2 to USD83

- Immunization system outcome targets are balanced with the financial resources available:
  - 90% of financial resources (secure + probable) mobilized vs. planned
  - Coverage targets revised/adjusted to the availability of funding

ISC Objective 3: **Increase financial efficiency and sustainability of the immunization program.**

Strategy 3.1: Enhance efficient utilization of human resources by developing synergies with other health initiatives

Activity 3.1.1: Train EPI program managers on program management and developing mechanisms for financial efficiency (see Activity 2.3.3:)

Activity 3.1.2: Increase number of skilled immunization staff through integration of EPI with other PHC programs being implemented under BPHS (see corresponding Activity 2.3.5:)

Activity 3.1.3: Develop synergies with PEI through the project on 'Afghanistan PEI Networks Support to EPI through use of PEI Assets'

Strategy 3.2: Minimize wastage of resources under immunization program

Activity 3.2.1: Rationalize use of POL for monitoring and supervision by management staff at national, regional, provincial and district level

Activity 3.2.2: Develop and introduce need-based supply of vaccines, syringes and other materials

Activity 3.2.3: Minimize vaccine wastages, practice of invalid vaccine doses and drop-out rates for different antigens

Strategy 3.3: Advocacy for resource mobilization for ensuring financial sustainability of immunization program

Activity 3.3.1: Use cMYP for financial projections on the 'funding gap' between existing resources and future requirements

Activity 3.3.2: Utilize cMYP as the foundation document for developing program proposals and grant application for the government and donor community

Activity 3.3.3: Inform political and technical leadership about the importance of funding gap in terms of burden of morbidity and mortality due to vaccine preventable diseases

Activity 3.3.4: Mobilize political and technical leadership for increasing share for EPI-specific costs under regular government budget

Activity 3.3.5: Develop financial projections for mobilizing donors and development partners on yearly basis

2.2.4 Vaccine, Cold Chain and Logistics

The objective of the immunization system component is to improve/sustain uninterrupted supply of vaccines to immunization service delivery. It means that by 2019:

- Stock out at facility level is decreased to zero
- 90% districts with at least 01 month buffer stock available within the district
- 70% of districts with average EVM score above 80%

Strategies and activities to achieve the component objective are as follows:

ISC Objective 4: **Improve/sustain uninterrupted supply of vaccines to immunization service delivery**

Strategy 4.1: Strengthening of Vaccine Logistic Management Information System (vLMIS)

Activity 4.1.1: Establish and regularly update inventory of exiting cold chain equipment and logistics (including data of installation/supply) by collecting data from regional, provincial and health facility levels

Activity 4.1.2: Develop and install 'Dash Board' for real time data monitoring on vaccine distribution through mobile technology

Activity 4.1.3: Determine need for new supply and replacement of cold chain equipment and logistics

Activity 4.1.4: Develop specifications and procurement plan (aligned with the availability of funding) (see corresponding Activity 1.4.6:)

Strategy 4.2: Expansion of existing cold chain and vaccine management for the introduction of new vaccines and opening of new service delivery facilities

Activity 4.2.1: Procure and install new walk-in-cold rooms (plus) and walk-in-cold rooms (minus) at national and regional levels

Activity 4.2.2: Procure and install Ice-lined Refrigerators and Chest Freezers for provincial vaccine stores

Activity 4.2.3: Procure and install RCW 50 EG Refrigerators for health care facilities

Activity 4.2.4: Procure and install solar refrigerators as pilot intervention for further upscaling based on the final results

Activity 4.2.5: Procure and supply other cold chain equipment including spare parts, electricity generators and toolkits for repair and maintenance

Activity 4.2.6: Establish provincial EPI office and a provincial warehouse

Activity 4.2.7: Expand cold chain storage capacity at district level

Activity 4.2.8: Train vaccine management personnel in logistic management (see Activity 2.3.9:)

Strategy 4.3: Expansion in EPI managerial and storage facilities (see corresponding Activity 1.4.4:)

- Activity 4.3.1: Construct cold room for transit storage of vaccines at Kabul Airport to deal with delays in customs clearance
- Activity 4.3.2: Construct National EPI Office for expansion in office space and training facilities
- Activity 4.3.3: Construct EPI warehouses at national (01), regional (07) and provincial (27) levels
- Activity 4.3.4: Construct Provincial EPI Offices in Ghazni, Logar, Zabul, Nooristan, Takhar, and Baghlan
- Activity 4.3.5: Procure and supply office equipment including computers, photocopies, printers, furniture etc. at national, regional and provincial levels
- Activity 4.3.6: Procure and provide furniture for establishing new Fix-EPI centers in health care facilities

Strategy 4.4: Expansion/up-gradation of transport system for field monitoring and supervision and supply of vaccines/logistics

- Activity 4.4.1: Procure and supply 4-wheel drive pickups for field monitoring and supervisory staff at national, regional and provincial levels
- Activity 4.4.2: Procure and supply refrigerated trucks for supply of vaccines from national to regional EPI stores
- Activity 4.4.3: Procure and supply refrigerated pickups for supply of vaccines from regional to provincial EPI stores

Strategy 4.5: Up gradation of cold chain temperature monitoring and tracking system by using innovative IT technologies

- Activity 4.5.1: Procure and install Remote Temperature Monitoring Device (RTMD) System at national and regional level with plan for expansion to provincial levels
- Activity 4.5.2: Procure and install 30-day electronic temperature logger (TR06) devices for installation at EPI-fixed centers
- Activity 4.5.3: Develop and install 'Dash Board' for temperature monitoring of cold rooms through mobile technology and integrate the system with online monitoring of vaccine stocks and distribution (see corresponding Activity 4.1.2:)

Strategy 4.6: Improvement in vaccine management by implementing EVM Improvement Plan

- Activity 4.6.1: Carry out EVM assessment every three years

Activity 4.6.2: Revise the annual work plan in accordance with the EVM improvement plan

Activity 4.6.3: Report on the progress of implementation of the EVM improvement Plan

2.2.5 Immunization Service Delivery

The objective of the immunization system component is to strengthen capacity of immunization service delivery. It means that by 2019:

- Geographical access increased: Number of population per each EPI fixed sites decreased from 19,996 to 18,912
- Proportion of health care facilities not having EPI centers decreased to zero
- Proportion of Fixed-EPI centers not having Skilled Immunization Staff (SIS) decreased to zero

Strategies and activities to achieve the component objective are as follows:

ISC Objective 5: **Strengthen and optimize capacity of immunization service delivery**

Strategy 5.1: Expansion in the existing coverage of EPI-fixed centers

Activity 5.1.1: Establish 300 new EPI-Fixed centers in health care facilities including private sector (see corresponding Activity 1.4.4:)

Activity 5.1.2: Identify Health Sub-centers with daily workload of 10 clients or more for establishing new EPI Fixed Centers

Activity 5.1.3: Recruit qualified staff (see corresponding Strategy 2.2: under component 2.2.2 "Human Resource Management")

Activity 5.1.4: Install cold chain equipment and other logistics (see corresponding Strategy 4.2: & Strategy 4.3: under component 2.2.4 "Vaccine, Cold Chain and Logistics")

Activity 5.1.5: Involve CSOs and private sector in increasing number of EPI Fixed centers

Strategy 5.2: Increase in performance/efficiency (effective coverage) of existing EPI Centers

Activity 5.2.1: Implement EPI MSDS (see corresponding Activity 1.2.7:)

Activity 5.2.2: Mobilize additional qualified staff SIS (see corresponding strategy 2.4 under component 2.2.2 "Human Resource Management")

Activity 5.2.3: Improve micro-planning by increasing use of household listing through regular supportive supervision of designated staff at EPI centers

Activity 5.2.4: Improve data validation through field monitoring

Strategy 5.3: Expansion in vaccination coverage for remote areas and nomadic population (Kuchi population) through effective outreach and mobile services

Activity 5.3.1: Identify the geographical areas not covered under the curative health services provided under BPHS and EPHS

Activity 5.3.2: Identify and map geographical areas to be covered through outreach and mobile immunization services

Activity 5.3.3: Prepare area-specific outreach immunization plans based on RED[97] Strategy

Activity 5.3.4: Increase number of outreach and mobile vaccination teams as per requirement especially for Kuchi population

Activity 5.3.5: Monitor and supervise outreach immunization services

Strategy 5.4: Implementation of Supplementary Immunization Activities (SIAs)

Activity 5.4.1: Conduct 4 rounds each for National and Sub-National Immunization Days under Polio Eradication Initiative every year with expected coverage of 95%

Activity 5.4.2: Conduct Measles campaign for children (9-59 months) in 2015 and 2018 with expected coverage of 95%

Activity 5.4.3: Conduct Maternal and Neonatal Tetanus (MNT) campaign for women of child bearing age (15-45 years) – three doses – with expected coverage of 15% per year for 5 years

Strategy 5.5: Introduction of new vaccines in routine immunization schedule

Activity 5.5.1: Scale-up Hepatitis-B Birth Dose in 2015

Activity 5.5.2: Introduce IPV in June 2015

Activity 5.5.3: Introduce Rotavirus vaccine in 2017

2.2.6 Surveillance, Monitoring and Reporting

The objective of this immunization system component is to increase performance of surveillance and routine monitoring/reporting. It means that by 2018:

- Reliability and accuracy of administrative data increased:
  - Discrepancy ratio (between administrative and survey data) decreases from 41% to 5%
  - 80% of reporting units receiving satisfactory DQS score
  - Drop-out rate between Penta-1 and Penta-3 decreases from 18.6%[98] to 10%

[97] RED Strategy – Reaching Every District Strategy
[98] National Immunization Coverage Survey 2013

- Ability of surveillance to detect and report on certain cases increased:
  - At least 2 non-polio AFP cases per 100,000 population are detected and reported
  - At least 2 discarded measles cases per 100,000 population are detected and reported

Strategies and activities to achieve the component objective are as follows:

ISC Objective 6: **Performance of surveillance and routine monitoring/reporting improved**

Strategy 6.1: Expansion in surveillance coverage

Activity 6.1.1: Review map the existing active surveillance sites for further need assessment

Activity 6.1.2: Increase number of active surveillance sites involving both public and private sector

Activity 6.1.3: Recruit qualified staff (see corresponding Strategy 2.1: under component 2.2.2 "Human Resource Management")

Activity 6.1.4: Conduct active surveillance of Measles and Neonatal Tetanus through available AFP surveillance sites

Activity 6.1.5: Develop synergies with PEI for strengthening of VPD surveillance

Strategy 6.2: Streamlining data collection and reporting practices

Activity 6.2.1: Assess main causes of data quality flaws

Activity 6.2.2: Introduce regular system of formal feedback mechanism on the administrative reports of subordinated entities

Activity 6.2.3: Conduct periodic EPI progress review at national, regional and provincial levels (see corresponding Strategy 1.5: under Section 2.2.1 Program Management)

Activity 6.2.4: Strengthen data recording, reporting and analysis of cases of Adverse events following immunization (AEFI)

Activity 6.2.5: Integrate EPI routine monitoring into mainstream data management

Activity 6.2.6: Conduct Data Quality Self-Assessment (DQS) at regular interval

Strategy 6.3: Strengthening accuracy of reporting through validation in field

Activity 6.3.1: Conduct data validation through field monitoring visits

Activity 6.3.2: Introduce Geo-location monitoring system for web-based tracking EPI supervisors and vaccinators through android cell phones

Activity 6.3.3: Introduce pilot initiative for community-based reporting and monitoring system by using mobile technology through community health workers (CHWs)

Activity 6.3.4: Organize for annual third-party evaluation of EPI progress report

2.2.7 Demand Generation, Communication and Advocacy

The objective of the immunization system component is improved knowledge and attitude toward immunization among target population. It means that by 2019:

- OPTION 1
- At least 90% parents/care takers of children under one year are aware and strongly agree on the need for complete RI to protect their children from vaccine preventable diseases.
- At least 80% families of women (15-45 years) are aware and strongly agree on the need for five times vaccination against TT.
- OPTION 2
- % of children whose mothers intend to vaccinate children is increased by 25% from than the baseline
- % of parents with children under 1 year of age aware of at least two benefits of immunization is increased by 25% from the baseline
- % of parents with children under 1 year of age who can identify the nearest immunization center is increased by 25% from the baseline

Strategies and activities to achieve the component objective are as follows:

ISC Objective 7: **Knowledge and attitude toward immunization improved among target population**

Strategy 7.1: Advocacy and partnership building (see Strategy 1.6: under section Program Management)

Activity 7.1.1: Conduct workshop for developing social mobilization/ communication plan (see Activity 1.4.7: under Strategy 1.4: Streamlining EPI planning processes)

Activity 7.1.2: Conduct activities as per annual communication and advocacy plan

Activity 7.1.3: Organize two advocacy seminar for political leadership every year

Activity 7.1.4: Organize advocacy meetings with technical leadership of MoPH, Ministry of Finance and Ministry of Education

Activity 7.1.5: Conduct advocacy meetings with political leadership and administration at provincial level

Activity 7.1.6: Conduct advocacy meetings with donors and philanthropists

Activity 7.1.7: Conduct one advocacy seminar for media/religious leaders/ shura members etc. every year

Strategy 7.2: Behaviour change communication

Activity 7.2.1: Standardize of immunization related information and content materials

Activity 7.2.2: Improve look of IEC/BCC materials and increasing visibility of immunization sites

Activity 7.2.3: Reinforce promotion of positive attitude towards immunization through creating synergies between multiple channels of communication

Activity 7.2.4: Increase effectiveness of interpersonal communication by using the existing network of human resources

Strategy 7.3: Community mobilization

Activity 7.3.1: Activate social networks (community leaders, volunteers, women groups) and encourage peer communication to reach remote areas in order to disseminate information about the benefits of immunization.

Activity 7.3.2: Mobilize key government, community figures at national, provincial and district level and involving them in immunization activities in the form of launching and making public statements in support of the program.

Strategy 7.4: Capacity building of human resources

Activity 7.4.1: Develop social mobilization plans at all levels (see Activity 1.4.7: Develop communication and advocacy plan)

Activity 7.4.2: Build capacity of the existing health care providers and community-based health workers in creating awareness on importance of immunization (see Strategy 2.3: under section Human Resource Management)

Strategy 7.5: Research, evidence generation and dissemination

Activity 7.5.1: Conduct formative research (KAP studies) of the target population regarding immunization

Activity 7.5.2: Assess the effectiveness of the communication strategies

Activity 7.5.3: Conduct research studies on: Burden of Hepatitis B, Burden of Rubella/Congenital Rubella Syndrome and NGOs performance in routine immunization

Activity 7.5.4: Develop quarterly EPI policy briefs

Activity 7.5.5: Publish and disseminate EPI annual progress report every year

Activity 7.5.6: Conduct immunization coverage survey every two years

Activity 7.5.7: Identify at least one human interest story per quarter

Activity 7.5.8: Develop case studies based on already identified human interest stories from district level

2.3 Alignment with GVAP, Regional Targets and Health Sector Strategy

The national cMYP is aligned with most of GVAP and regional targets as shown in Annex 1 'GVAP Checklist'.

3 Implementation and M&E

3.1 Timelines for the cMYP

Objective/strategies/activities	2015	2016	2017	2018	2019
PROGRAM MANAGEMENT					
ISC Objective 1: Increase program management performance					
Strategy 1.1: EPI Policy/strategy formulation for strengthening institutional framework of immunization program					
Activity 1.1.1: Constitute EPI Policy/strategy technical review committee under National EPI Task Force					
Activity 1.1.2: Mobilize Technical support for EPI policy/strategy formulation					
Activity 1.1.3: Review existing EPI policy/strategy, guidelines and institutional framework of immunization program in consultation with major stakeholders					
Activity 1.1.4: Clarify upon the institutional arrangement and roles and responsibilities of MoPH, National EPI, donors, and BPHS and EPHS NGOs					
Activity 1.1.5: Submit draft EPI policy/strategy to National EPI Task Force for review and endorsement					
Activity 1.1.6: Seek approval of draft EPI policy/strategy from relevant authorities					
Strategy 1.2: Development and institutionalization of performance management system					
Activity 1.2.1: Mobilize Technical support for developing Minimum Service Delivery Standards for EPI					
Activity 1.2.2: Set EPI-specific Minimum Service Delivery Standards (EPI-MSDS) for national, regional, provincial and district levels					
Activity 1.2.3: Develop criteria/methodology for competency assessment and performance appraisal of key EPI management staff (managers and supervisors) and skilled immunization staff (vaccinators, other paramedics trained in vaccination)					
Activity 1.2.4: Develop criteria for performance-based financial and non-financial rewards for EPI managerial and immunization skilled staff					

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 1.2.5: Select indicators for measuring performance standards at national, regional, provincial and district levels					
Activity 1.2.6: Seek approval for implementation EPI Minimum Services Delivery Standards from relevant authorities					
Activity 1.2.7: Implement EPI Minimum Service Delivery Standards					
Strategy 1.3: Development and institutionalization of effective and efficient management structure and procedures					
Activity 1.3.1: Mobilize Technical support for review and develop effective and efficient management structure and procedures					
Activity 1.3.2: Review and analyze existing EPI management structure at national, regional, provincial and district levels in view of EPI Policy/strategy and EPI-MSDS					
Activity 1.3.3: Identify gaps in availability of human resources and skill mix required for implementation of performance management system					
Activity 1.3.4: Re-align/re-organize existing management structure at national, regional, provincial and district levels					
Activity 1.3.5: Revise selection and appointment criteria of skilled immunization staff in remote hard-to-access geographical areas and thickly populated urban areas					
Activity 1.3.6: Review and develop mechanism for involvement of other paramedical staff (nurses/midwives) in immunization service delivery in consultation with relevant health authorities and agree on feasible and sustainable arrangements (Activity 2.3.5:)					
Activity 1.3.7: Revise job descriptions for managerial/administrative staff at all levels					
Activity 1.3.8: Revise or introduce new standard operating procedures for EPI management units					
Activity 1.3.9: Revise or introduce new reporting and feedback mechanisms					
Activity 1.3.10: Develop criteria/methodology for competency assessment and performance appraisal of key EPI management staff (managers and supervisors) and skilled immunization staff (vaccinators, other paramedics trained in vaccination)					
Activity 1.3.11: Develop criteria for performance-based financial and non-financial rewards for EPI managerial and					

Objective/strategies/activities	2015	2016	2017	2018	2019
immunization skilled staff					
Activity 1.3.12: Revise government rules and regulations for implementation of newly developed management structure and procedures					
Strategy 1.4: Streamlining EPI planning processes					
Activity 1.4.1: Develop integrated EPI annual implementation plans					
Activity 1.4.2: Review and align cMYP with EPI annual implementation plan					
Activity 1.4.3: Develop annual capacity building plan for managers, supervisors and skilled immunization staff (see corresponding Strategy 2.3:)					
Activity 1.4.4: Develop annual HR recruitment plan					
Activity 1.4.5: Develop EPI service delivery expansion and infrastructure development plan					
Activity 1.4.6: Develop cold chain replacement plan and update on annual basis					
Activity 1.4.7: Develop communication and advocacy plan					
Activity 1.4.8: Develop emergency plan to deal with disaster like situation					
Activity 1.4.9: Develop monitoring and evaluation plan					
Activity 1.4.10: Develop region-specific, province-specific and district-specific EPI implementation plans with target setting					
Strategy 1.5: Streamlining accountability mechanisms at program management level					
Activity 1.5.1: Conduct annual EPI performance reviews at national level					
Activity 1.5.2: Conduct quarterly EPI performance reviews at regional level					
Activity 1.5.3: Conduct monthly EPI performance reviews at provincial level					
Activity 1.5.4: Present EPI progress report and achievements against EPI CMYP, challenges and constraints to HSS Steering Committee/ICC and National EPI Taskforce every six months					
Activity 1.5.5: Conduct performance appraisal and competency assessment of all EPI management and supervisory					

Objective/strategies/activities	2015	2016	2017	2018	2019
staff and skilled immunization staff every two years		■		■	
Strategy 1.6: Advocacy and partnership building					
Activity 1.6.1: Publish and disseminate EPI annual progress report every year	■	■	■	■	■
Activity 1.6.2: Organize quarterly coordination meetings between National EPI, GCMU, BPHS/EPHS NGOs and CSOs	■	■	■	■	■
Activity 1.6.3: Regular advocacy meetings with national health authorities/ policy makers (Steering and technical committees)	■	■	■	■	■
Activity 1.6.4: Produce regularly policy briefs/guidelines/advocacy materials to share with high level officials	■	■	■	■	■
Activity 1.6.5: Organize consultations meetings with EPI partners and follow up implementation of decisions and actions agreed in the past	■	■	■	■	■
HUMAN RESOURCE MANAGEMENT					
ISC Objective 2: Increase the availability of qualified human resources for the immunization program					
Strategy 2.1: Increase in number of technical staff for training (national level) and surveillance (provincial level) (see corresponding Activity 1.4.4:)					
Activity 2.1.1: Advertise position for a training manager at national level	■				
Activity 2.1.2: Advertise positions for 34 surveillance officers at provincial level	■				
Activity 2.1.3: Advertise further positions of technical staff required after re-aligning/re-organizing existing management structure at national, regional, provincial and district levels (see corresponding Strategy 1.3: Activity 1.3.4:)		■			
Activity 2.1.4: Conduct interviews and select appropriate technical staff	■	■			
Strategy 2.2: Increase in number of Skilled Immunization Staff					
Activity 2.2.1: Advertise for recruitment against 600 new positions of vaccinators positions as MoPH staff in provincial/local media	■	■	■	■	■
Activity 2.2.2: Conduct meetings with local authorities/communities	■	■	■	■	■

Objective/strategies/activities	2015	2016	2017	2018	2019
promoting job of vaccinators and identification of potential candidates especially for female vaccinators	■	■	■	■	■
Activity 2.2.3: Select and contract new vaccinators preferably from the areas where they will be appointed to	■	■	■	■	■
Activity 2.2.4: Explore and provide professional/carrier growth opportunities to vaccinators (see corresponding **Error! Reference source not found.**)	■				
Strategy 2.3: Capacity building of EPI Managers, supervisors and skilled immunization staff: (see corresponding Activity 1.4.3:)					
Activity 2.3.1: Carry out induction trainings for 600 newly recruited vaccinators in immunization practices, introduction of new vaccines, micro-planning, advocacy and awareness, surveillance and reporting mechanisms etc.	■	■	■	■	■
Activity 2.3.2: Carry out Mid-level-Manager's (MLM) training for national managers (10), regional staff (14), provincial staff (54) and district staff every two years	■		■		■
Activity 2.3.3: Train EPI program managers on program management and developing mechanisms for financial efficiency (5 trainings per year)	■	■	■	■	■
Activity 2.3.4: Carry out refresher training for each skilled immunization staff in immunization practices, introduction of new vaccines, advocacy and awareness, surveillance and reporting mechanisms etc. at least once in 2 years	■	■	■	■	■
Activity 2.3.5: Carry out training for paramedical staff (nurses/midwives) in immunization practices staff in immunization practices, introduction of new vaccines, advocacy and awareness, surveillance, data quality self-assessment (DQS) and reporting mechanisms etc. at least once in 2 years (see corresponding Activity 1.3.6:)		■		■	
Activity 2.3.6: Carry out training of EPI managers, supervisors and skilled immunization staff on newly developed MSDS		■		■	
Activity 2.3.7: Carry out training of EPI managers, supervisors and skilled immunization staff on revised job descriptions, standard operating procedures, and reporting and feedback mechanisms		■		■	
Activity 2.3.8: Carry out refresher trainings of cold chain technicians in cold chain repair and maintenance	■		■		■
Activity 2.3.9: Train vaccine management personnel in logistic management	■		■		■

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 2.3.10: Training of national, regional and provincial EPI managers on orientation and implementation of cMYP	■		■		■
Strategy 2.4: Increase in effectiveness of trainings of EPI managerial, supervisory and skilled immunization staff:					
Activity 2.4.1: Introduce training need assessment, and pre & post trainings assessment as a mandatory requirement of training programs		■			
Activity 2.4.2: Revise training materials as and when required under training need assessment reports		■	■	■	■
Activity 2.4.3: Maintain database for training programs and compare training outcomes prior to conducting follow up trainings		■			
Activity 2.4.4: Introduce assessment of motivations of trainees in refresher courses		■			
COSTING AND FINANCING					
ISC Objective 3: Increase financial efficiency and sustainability of the immunization program.					
Strategy 3.1: Enhance efficient utilization of human resources by developing synergies with other health initiatives					
Activity 3.1.1: Train EPI program managers on program management and developing mechanisms for financial efficiency (see Activity 2.3.3:)	■	■	■	■	■
Activity 3.1.2: Increase number of skilled immunization staff through integration of EPI with other PHC programs being implemented under BPHS (see corresponding Activity 2.3.5:)		■			
Activity 3.1.3: Develop synergies with PEI through the project on 'Afghanistan PEI Networks Support to EPI through use of PEI Assets'	■	■			
Strategy 3.2: Minimize wastage of resources under immunization program					
Activity 3.2.1: Rationalize use of POL for monitoring and supervision by management staff at national, regional, provincial and district level	■				
Activity 3.2.2: Develop and introduce need-based supply of vaccines, syringes and other materials	■				

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 3.2.3: Minimize vaccine wastages, practice of invalid vaccine doses and drop-out rates for different antigens					
Strategy 3.3: Advocacy for resource mobilization for ensuring financial sustainability of immunization program					
Activity 3.3.1: Use cMYP for financial projections on the 'funding gap' between existing resources and future requirements					
Activity 3.3.2: Utilize cMYP as the foundation document for developing program proposals and grant application for the government and donor community					
Activity 3.3.3: Inform political and technical leadership about the importance of funding gap in terms of burden of morbidity and mortality due to vaccine preventable diseases					
Activity 3.3.4: Mobilize political and technical leadership for increasing share for EPI-specific costs under regular government budget					
Activity 3.3.5: Develop financial projections for mobilizing donors and development partners on yearly basis					
VACCINE, COLD CHAIN AND LOGISTICS					
ISC Objective 4: Improve/sustain uninterrupted supply of vaccines to immunization service delivery					
Strategy 4.1: Strengthening of Vaccine Logistic Management Information System (vLMIS)					
Activity 4.1.1: Establish and regularly update inventory of exiting cold chain equipment and logistics (including data of installation/supply) by collecting data from regional, provincial and health facility levels					
Activity 4.1.2: Develop and install 'Dash Board' for real time data monitoring on vaccine distribution through mobile technology					
Activity 4.1.3: Determine need for new supply and replacement of cold chain equipment and logistics					
Activity 4.1.4: Develop specifications and procurement plan (aligned with the availability of funding) (see corresponding Activity 1.4.6:)					
Strategy 4.2: Expansion of existing cold chain and vaccine management for the introduction of new vaccines and opening of new service delivery					

Objective/strategies/activities	2015	2016	2017	2018	2019
facilities					
Activity 4.2.1: Procure and install new walk-in-cold rooms (plus) and walk-in-cold rooms (minus) at national and regional levels	■	■			
Activity 4.2.2: Procure and install Ice-lined Refrigerators and Chest Freezers for provincial vaccine stores	■	■	■		
Activity 4.2.3: Procure and install RCW 50 EG Refrigerators for health care facilities	■	■	■		
Activity 4.2.4: Procure and install solar refrigerators as pilot intervention for further upscaling based on the final results	■				
Activity 4.2.5: Procure and supply other cold chain equipment including spare parts, electricity generators and toolkits for repair and maintenance	■	■	■		
Activity 4.2.6: Establish provincial EPI office and a provincial warehouse	■	■	■		
Activity 4.2.7: Expand cold chain storage capacity at district level	■	■	■	■	■
Activity 4.2.8: Train vaccine management personnel in logistic management (see Activity 2.3.9:)	■		■		■
Strategy 4.3: Expansion in EPI managerial and storage facilities (see corresponding Activity 1.4.4:)					
Activity 4.3.1: Construct cold room for transit storage of vaccines at Kabul Airport to deal with delays in customs clearance	■	■			
Activity 4.3.2: Construct National EPI Office for expansion in office space and training facilities	■	■			
Activity 4.3.3: Construct EPI warehouses at national (01), regional (07) and provincial (27) levels	■	■	■	■	
Activity 4.3.4: Construct Provincial EPI Offices in Ghazni, Logar, Zabul, Nooristan, Takhar, and Baghlan		■	■	■	
Activity 4.3.5: Procure and supply office equipment including computers, photocopies, printers, furniture etc. at national, regional and provincial levels	■	■	■	■	
Activity 4.3.6: Procure and provide furniture for establishing new Fix-EPI centers in health care facilities	■	■	■	■	■
Strategy 4.4: Expansion/up-gradation of transport system for field monitoring and supervision and supply of vaccines/logistics					
Activity 4.4.1: Procure and supply 4-wheel drive pickups for field	■	■	■		

Objective/strategies/activities	2015	2016	2017	2018	2019
monitoring and supervisory staff at national, regional and provincial levels	■	■	■		
Activity 4.4.2: Procure and supply refrigerated trucks for supply of vaccines from national to regional EPI stores	■				
Activity 4.4.3: Procure and supply refrigerated pickups for supply of vaccines from regional to provincial EPI stores	■	■			
Strategy 4.5: Up gradation of cold chain temperature monitoring and tracking system by using innovative IT technologies					
Activity 4.5.1: Procure and install Remote Temperature Monitoring Device (RTMD) System at national and regional level with plan for expansion to provincial levels	■	■			
Activity 4.5.2: Procure and install 30-day electronic temperature logger (TR06) devices for installation at EPI-fixed centers	■	■	■	■	■
Activity 4.5.3: Develop and install 'Dash Board' for temperature monitoring of cold rooms through mobile technology and integrate the system with online monitoring of vaccine stocks and distribution (see corresponding Activity 4.1.2:)	■	■			
Strategy 4.6: Improvement in vaccine management by implementing EVM Improvement Plan					
Activity 4.6.1: Carry out EVM assessment every three years	■			■	
Activity 4.6.2: Revise the annual work plan in accordance with the EVM improvement plan	■			■	
Activity 4.6.3: Report on the progress of implementation of the EVM improvement Plan	■	■	■	■	■
IMMUNIZATION SERVICE DELIVERTY					
ISC Objective 5: Strengthen and optimize capacity of immunization service delivery					
Strategy 5.1: Expansion in the existing coverage of EPI-fixed centers					
Activity 5.1.1: Establish 300 new EPI-Fixed centers in health care facilities including private sector (see corresponding Activity 1.4.4:)	■	■	■	■	■
Activity 5.1.2: Identify Health Sub-centers with daily workload of 10 clients or more for establishing new EPI Fixed Centers	■				
Activity 5.1.3: Recruit qualified staff (see corresponding Strategy	■	■	■	■	■

Objective/strategies/activities	2015	2016	2017	2018	2019
2.2: under component 2.2.2 "Human Resource Management")	■	■	■	■	■
Activity 5.1.4: Install cold chain equipment and other logistics (see corresponding Strategy 4.2: & Strategy 4.3: under component 2.2.4 "Vaccine, Cold Chain and Logistics")	■	■	■	■	■
Activity 5.1.5: Involve CSOs and private sector in increasing number of EPI Fixed centers	■	■	■	■	■
Strategy 5.2: Increase in performance/efficiency (effective coverage) of existing EPI Centers					
Activity 5.2.1: Implement EPI MSDS (see corresponding Activity 1.2.7:)		■			
Activity 5.2.2: Mobilize additional qualified staff SIS (see corresponding strategy 2.4 under component 2.2.2 "Human Resource Management")	■	■	■	■	■
Activity 5.2.3: Improve micro-planning by increasing use of household listing through regular supportive supervision of designated staff at EPI centers	■	■	■	■	■
Activity 5.2.4: Improve data validation through field monitoring	■	■	■	■	■
Strategy 5.3: Expansion in vaccination coverage for remote areas and nomadic population (Kuchi population) through effective outreach and mobile services					
Activity 5.3.1: Identify the geographical areas not covered under the curative health services provided under BPHS and EPHS	■				
Activity 5.3.2: Identify and map geographical areas to be covered through outreach and mobile immunization services	■				
Activity 5.3.3: Prepare area-specific outreach immunization plans based on RED Strategy		■	■	■	■
Activity 5.3.4: Increase number of outreach and mobile vaccination teams as per requirement especially for Kuchi population		■	■	■	■
Activity 5.3.5: Monitor and supervise outreach immunization services	■	■	■	■	■
Strategy 5.4: Implementation of Supplementary Immunization Activities (SIAs)					
Activity 5.4.1: Conduct 4 rounds each for National and Sub-National Immunization Days under Polio Eradication Initiative every year with expected coverage of 95%	■	■	■	■	■

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 5.4.2: Conduct Measles campaign for children (9-59 months) in 2015 with expected coverage of 95%	■			■	
Activity 5.4.3: Conduct Maternal and Neonatal Tetanus (MNT) campaign for women of child bearing age (15-45 years) – three doses – with expected coverage of 15% per year for 5 years	■	■	■	■	■
Strategy 5.5: Introduction of new vaccines in routine immunization schedule					
Activity 5.5.1: Scale up Hepatitis-B Birth Dose in 2015	■				
Activity 5.5.2: Introduce IPV in June 2015	■				
Activity 5.5.3: Introduce Rotavirus vaccine in 2017			■		
SURVEILLANCE, MONITORING AND REPORTING					
ISC Objective 6: Performance of surveillance and routine monitoring/reporting improved					
Strategy 6.1: Expansion in surveillance coverage					
Activity 6.1.1: Review map the existing active surveillance sites for further need assessment	■				
Activity 6.1.2: Increase number of active surveillance sites involving both public and private sector	■	■	■	■	■
Activity 6.1.3: Recruit qualified staff (see corresponding Strategy 2.1: under component 2.2.2 "Human Resource Management")	■				
Activity 6.1.4: Strengthen data recording, reporting and analysis of cases of Adverse events following immunization (AEFI)	■	■	■	■	■
Activity 6.1.5: Conduct active surveillance of Measles and Neonatal Tetanus through available AFP surveillance sites	■	■	■	■	■
Activity 6.1.6: Develop synergies with PEI for strengthening of VPD surveillance	■	■			
Strategy 6.2: Streamlining data collection and reporting practices					
Activity 6.2.1: Assess main causes of data quality flaws		■			
Activity 6.2.2: Introduce regular system of formal feedback mechanism on the administrative reports of subordinated entities		■	■	■	■

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 6.2.3: Conduct periodic EPI progress review at national, regional and provincial levels (see corresponding Strategy 1.5: under Section 2.2.1 Program Management)					
Activity 6.2.4: Integrate EPI routine monitoring into mainstream data management					
Activity 6.2.5: Conduct Data Quality Self-Assessment (DQS) at regular interval					
Strategy 6.3: Strengthening accuracy of reporting through validation in field					
Activity 6.3.1: Conduct data validation through field monitoring visits					
Activity 6.3.2: Introduce Geo-location monitoring system for web-based tracking EPI supervisors and vaccinators through android cell phones					
Activity 6.3.3: Introduce pilot initiative for community-based reporting and monitoring system by using mobile technology through community health workers (CHWs)					
Activity 6.3.4: Organize for annual third-party evaluation of EPI progress report					
DEMAND GENERATION, COMMUNICATION AND ADVOCACY					
ISC Objective 7: Knowledge and attitude toward immunization improved among target population					
Strategy 7.1: Advocacy and partnership building (see Strategy 1.6: under section Program Management)					
Activity 7.1.1: Conduct workshop for developing social mobilization/ communication plan (see Activity 1.4.7: under Strategy 1.4: Streamlining EPI planning processes)					
Activity 7.1.2: Conduct activities as per annual communication and advocacy plan					
Activity 7.1.3: Organize two advocacy seminar for political leadership every year					
Activity 7.1.4: Organize advocacy meetings with technical leadership of MoPH, Ministry of Finance and Ministry of Education					

Objective/strategies/activities	2015	2016	2017	2018	2019
Activity 7.1.5: Conduct advocacy meetings with political leadership and administration at provincial level	■	■	■	■	■
Activity 7.1.6: Conduct advocacy meetings with donors and philanthropists	■	■	■	■	■
Activity 7.1.7: Conduct one advocacy seminar for media/religious leaders/ shura members etc. every year	■	■	■	■	■
Strategy 7.2: Behaviour change communication					
Activity 7.2.1: Standardize of immunization related information and content materials		■			
Activity 7.2.2: Improve look of IEC/BCC materials and increasing visibility of immunization sites		■			
Activity 7.2.3: Reinforce promotion of positive attitude towards immunization through creating synergies between multiple channels of communication	■	■	■	■	■
Activity 7.2.4: Increase effectiveness of interpersonal communication by using the existing network of human resources	■	■	■	■	■
Strategy 7.3: Community mobilization					
Activity 7.3.1: Activate social networks (community leaders, volunteers, women groups) and encourage peer communication to reach remote areas in order to disseminate information about the benefits of immunization.	■	■	■	■	■
Activity 7.3.2: Mobilize key government, community figures at national, provincial and district level and involving them in immunization activities in the form of launching and making public statements in support of the program.	■	■	■	■	■
Strategy 7.4: Capacity building of human resources					
Activity 7.4.1: Develop social mobilization plans at all levels (see Activity 1.4.7: Develop communication and advocacy plan)	■	■			
Activity 7.4.2: Build capacity of the existing health care providers and community-based health workers in creating awareness on importance of immunization (see Strategy 2.3: under section Human Resource Management)		■	■	■	■
Strategy 7.5: Research, evidence generation and dissemination					
Activity 7.5.1: Conduct formative research (KAP studies) of the	■		■		■

Objective/strategies/activities	2015	2016	2017	2018	2019
target population regarding immunization	■		■		■
Activity 7.5.2: Assess the effectiveness of the communication strategies	■		■		■
Activity 7.5.3: Conduct research studies on: Burden of Hepatitis B, Burden of Rubella/Congenital Rubella Syndrome and NGOs performance in routine immunization	■				
Activity 7.5.4: Develop quarterly EPI policy briefs	■	■	■	■	■
Activity 7.5.5: Publish and disseminate EPI annual progress report every year	■	■	■	■	■
Activity 7.5.6: Conduct immunization coverage survey every two years	■		■		■
Activity 7.5.7: Identify at least one human interest story per quarter	■	■	■	■	■
Activity 7.5.8: Develop case studies based on already identified human interest stories from district level	■	■	■	■	■

3.2 Monitoring and Evaluation

3.2.1 M&E Framework for Immunization

File attached (click the icon to open it).

3.2.2 Monitoring and Evaluation Strategy and Plan

The M&E Framework is the essential instrument that the immunization program will use for tracking the performance of cMYP in Afghanistan. The quantifiable indicators are grouped under three broad areas: impact, outcomes and immunization-system-component-specific (ICS) indicators.

The impact and outcomes indicators will facilitate in linking Afghanistan cMYP with the broader national plans. These will reflect whether the planners and funders are getting value for money.

The ICS indicators will be used to link the inputs, processes and outputs. The source of information for ICS indicators is primarily based on EPI and administrative data. Authenticity and accuracy of program and administrative data is often questioned in Pakistan. Therefore, validation of cMYP results through third party monitoring (TMP) and Immunization Coverage Surveys will ensure transparency and accountability within the reporting system.

The main sources of information include EPI MIS, Health Management Information System and other administrative data. In addition to these health sector-specific data sources, Demographic and Health Survey, National risk and Vulnerability Assessments (Afghanistan Living Conditions Survey) and other periodic survey will provide the information that is not covered under public health sector.

The M&E Framework will be used in planning and decision making while developing new grant proposals, revisiting cMYP, and conducting periodic reviews at national, regional and provincial level. It will also be used to negotiate the resource requirement from the Afghanistan government, donors and development partners.

The National EPI Manager will be responsible for maintaining and updating the information required for M&E Framework by developing a Plan of Action (PoA) for tracking implementation of cMYP.

Monitoring and evaluation of the Plan of Action (PoA) will be an essential component of cMYP. The program implementers will primarily be focusing on three areas:

1. Program Inputs (human resources, finances and materials)

2. Processes (procedures of carrying out strategy-specific activities)

3. Immediate Outputs (expected deliverables)

The main purpose is to critically and systematically review:

- The extent to which inputs (human resources, finances and materials) are actually being made available and utilized against what was targeted as per plan in a given quarter.

- The procedures and timeliness of processes of program activities are being observed as per plan in order to translate inputs into outputs in a given quarter.
- The degree to which immediate outputs are achieved against the targets to be accomplished in a given quarter.

Such a critical review will enable EPI program implementers, planners and partners to examine and analyze:

- Resource availability and utilization
- Bottle-necks, faults in implementation, or best practices
- Degree and speed of achieving program targets

This evidence will help in identifying the root causes of failures and under achievements to gaps in implementation and learning lessons from best practices of high achievers so that implementation processes can be modified or improved, where and when required.

4 Immunization Program Costing and Financing

4.1 Current program costs and financing

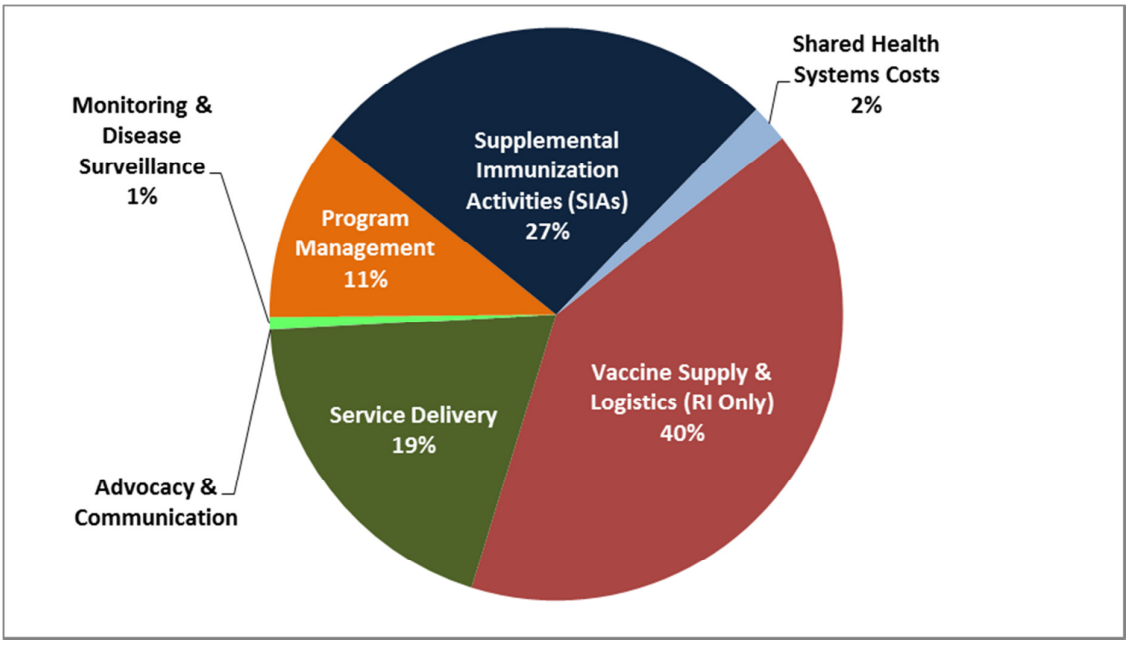
4.1.1 Current Program Costing

The total cost of immunization system was USD52.6 million in 2013. Forty percent of the total cost was spent on vaccine supply and logistics for routine immunization. In comparison, almost one-fourth of the total expenditure was allocated to SIAs (including both vaccines and operational costs). The remaining costs were allocated to program management (11%), service delivery (19%) and disease surveillance and advocacy and communication (1%). The contribution of shared health system costs was 2%. Further details are given in Figure 27 and Figure 28.

Figure 27: Baseline Cost Profile of Immunization Program in 2013

Cost Category	Expenditure in 2013 (USD)
Vaccine Supply and Logistics (Routine Immunization Only)	21,231,766
Service Delivery	10,188,897
Advocacy and Communication	7,820
Monitoring and Disease Surveillance	375,306
Program Management	5,690,747
Supplemental Immunization Activities (SIAs) (includes vaccine and operation costs)	14,016,828
Shared Health Systems Costs	1,129,926
Total	**52,641,291**

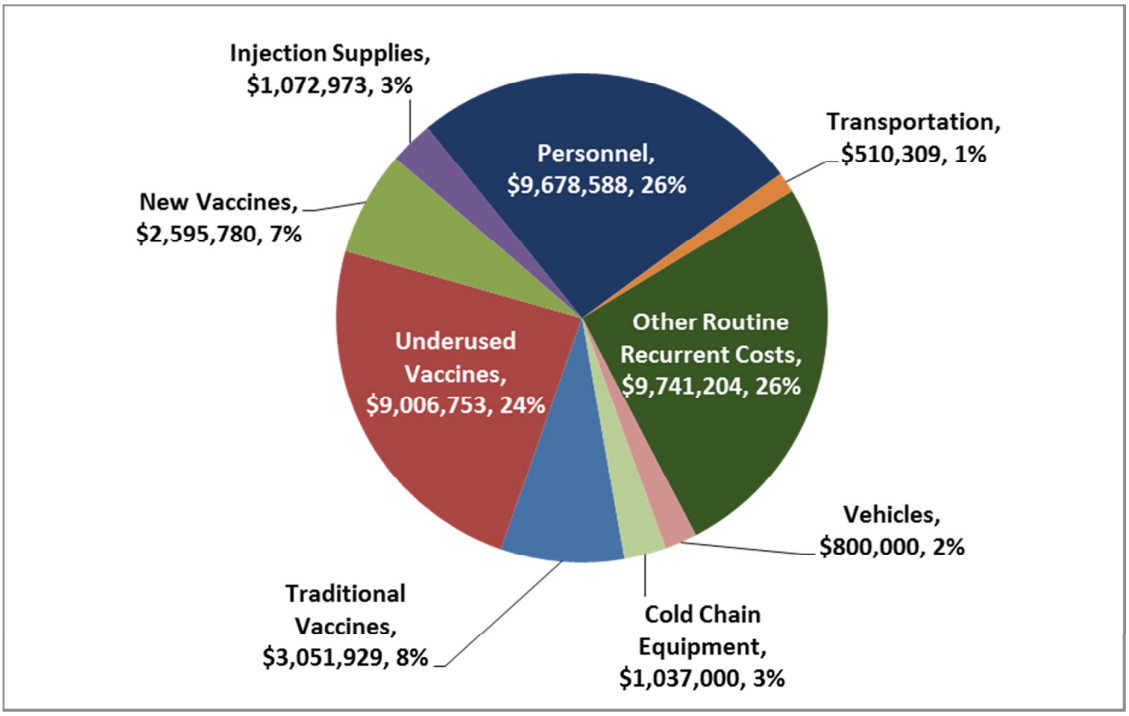
Figure 28: Baseline Cost Profile in 2013: Category-wise proportional distribution



ROUTINE IMMUNIZATION

The baseline cost profile for Routine Immunization in 2013 shows that vaccines and injection supplies (42%), personnel (26%) and other routine recurrent costs (26%) were the major drivers for expenditure. Further analysis is grouped under 5 categories: Personnel, Vaccines and Injection Supplies, Cold Chain Equipment, Vehicles, Transportation and Other Routine Recurrent Costs (Figure 29).

Figure 29: Baseline Cost Profile for Routime Immunization in 2013



1. Personnel

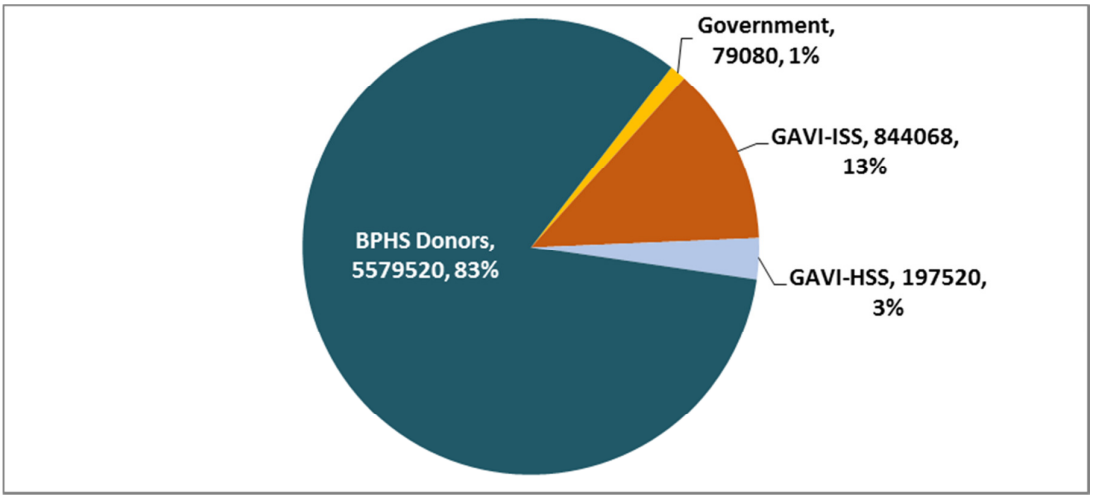
The information pertaining to personnel consisted of three components: Salaries and allowance for full-time EPI staff, Per-diems for vaccinators and mobile teams and Per-diems for supervisory and monitoring staff.

The analysis of the baseline cost profiles (2013) shows that USD9.6 million was incurred on personnel cost which constituted to 26% of the total expenditure on immunization program.[99] Further analysis shows that 69% of this cost was spent on payment of salaries and allowances. In comparison, 29% and 2% was spent on payment for per-diems for vaccinators and mobile teams and per-diems for supervisory and monitoring staff respectively. The expenditure incurred under 'Personnel' was borne by the government 1% (government staff at regional and provincial levels), GAVI-ISS 13% (staff at National EPI Office and some of the staff at Regional and Provincial levels), GAVI-HSS 3% (selected

[99] The baseline information for national, regional and provincial staff was compiled on basis of current payment rates that are used for payment of salaries, allowances and per-diems to the EPI staff at different levels. It also included payments to the vaccinators at health facility level. This information was provided by the National EPI Office. In comparison, the average payment rates for BPHS staff (medical doctors, female nurses and midwives) at district level was estimated based on the National Salary Policy for the BPHS facilities in Afghanistan.

staff at regional and provincial levels), and BPHS donors 83% (mainly vaccinators at health facility level) (Figure 30). This analysis highlights that salaries and allowance were mainly dependent upon the donor contribution in 2013.

Figure 30: Distribution of expenditure on personnel (routine immunization) in 2013



2. Vaccines and Injection Supplies

This category consists of: Traditional Vaccines, Underused and New Vaccines, and Injections and supplies. The traditional vaccines include BCG, OPV, Measles and Tetanus Toxoid whereas the underused vaccines include Pentavalent (DPT-HepB-Hib) and Hepatitis-B birth-dose. New vaccines include PCV-13, IPV and Rotavirus vaccine. Although PVC-13 was formally launched in January 2014, its procurement was done in 2013; therefore, it has been included in the baseline expenditure. The EPI Afghanistan plans to scale up Hepatitis-B birth-dose in 2015. In addition, two new vaccines will also be introduced: IPV in 2015 and Rotavirus vaccine in 2017. All vaccines were procured by UNICEF with support from different funding agencies at the national level and then supplied to EPI.

In 2013, 42% of the total expenditure was incurred on vaccines and injections supplies, a major driver of the costs required for EPI besides the personnel and other routine recurrent costs.[100] In the coming years, this cost will further increase because the government plans to introduce new vaccines, Hepatitis-B birth-dose, IPV and Rotavirus vaccine.

3. Cold Chain Equipment

In 2013, 4 Walk-in-cold rooms, 2 walk-in-freezers, 12 ice pack freezers, 222 Refrigerators RCW50EG and other cold chain equipment were provided to the immunization system. An amount of USD1.0 million, 3% of the total baseline expenses, was spent by UNICEF on procurement and supply of cold chain equipment.

[100] The World Health Organization's forecasting tools was not used for estimating the expenditures made for procuring vaccines and injections. It was based on the information provided by the National EPI office on the number of doses per antigen supplied by UNICEF during 2013. The total expenditure was calculated by using the cost per dose per antigen provided UNICEF accounting for 30% freight charges.

4. Vehicles

The expenditure on vehicles was incurred in purchasing 20 Toyota Hilux 4-wheel vehicles for strengthening monitoring and supervision at national, regional and provincial levels. Two percent of the total baseline expenditure (USD0.8 million) was spent on purchasing these vehicles.

5. Other routine recurrent costs

The other routine costs comprised expenditures for cold chain maintenance and overheads, maintenance of other capital equipment, building overheads (electricity, water etc.), short-term trainings, IEC/social mobilization, disease surveillance, program management and other routine recurrent costs.

The total expenditure against routine recurrent costs was estimated as USD9.7 million, 26% of the total baseline expenditure.[101] Out of this, 39% and 12% was incurred on cold chain maintenance/overheads and building overheads respectively. Four percent of the total expenditure under this category was spent on disease surveillance and related activities. In addition, 42% (USD4.0 million) expenditure was incurred on CSOs Type B project implemented in conflict affected areas through for-profit CSOs. The financial assistance was provided under Health Systems Funding Platform (HSFP) under GAVI-HSS grant.

6. Transportation

The analysis shows that the expenditure on transportation contributed to 1% (USD510,309) of the total expenditure in 2013.[102] As mention earlier (see section 1.3.3(4) Vaccine, Cold Chain and Logistics), UNICEF is responsible for in-country shipment of vaccines and injections supplies from vendors overseas. In addition, transportation of vaccines and injection supplies from national to regional to provincial level has been outsourced to a private contractor. The in-country shipments from overseas are charged as freight charges and are included in the total cost of the medicines and supplies (30% of the total cost). In comparison, the expenses incurred on distribution from national level to the subordinate levels of administration are booked under transportation expenses. In 2013, USD204760 were spent in this regards which constituted 40% of the total expenditure on transportation.[103] The rest of the expenditure (60%) was mainly incurred from GAVI-ISS grant to meet the needs of monitoring and supervision, and outreach and mobile immunization service delivery.

SUPPLEMENTARY IMMUNIZATION ACTIVITIES (SIAs)

Of the total immunization expenditure, 21.1% funds (USD14 million) were spent on Supplementary immunization activities (SIAs) or campaigns: Polio Eradication Initiative (PEI) and Maternal and

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[101] The information on cold chain maintenance and overheads, maintenance of other capital equipment, building overheads was populated by cMYP costing tool based on the standard inputs provided by the National EPI office. No such information, specific to EPI, is maintained and consolidated by the National EPI office.

[102] The expenditure on transportation was based on the type and number of vehicles available at national, regional provincial and district levels. In addition, information was collected regarding average mileage per year of a given vehicle. The National EPI office provided the information on the quantity of average fuel used per 100KM.

[103] USD166,860 (from national to regional level) and USD37,900 (from regional to provincial level)

Neonatal Tetanus (MNT) Elimination. The total expenditure on PEI was 19.6% (USD13 million) and MNT was 1.5% (USD0.98 million).

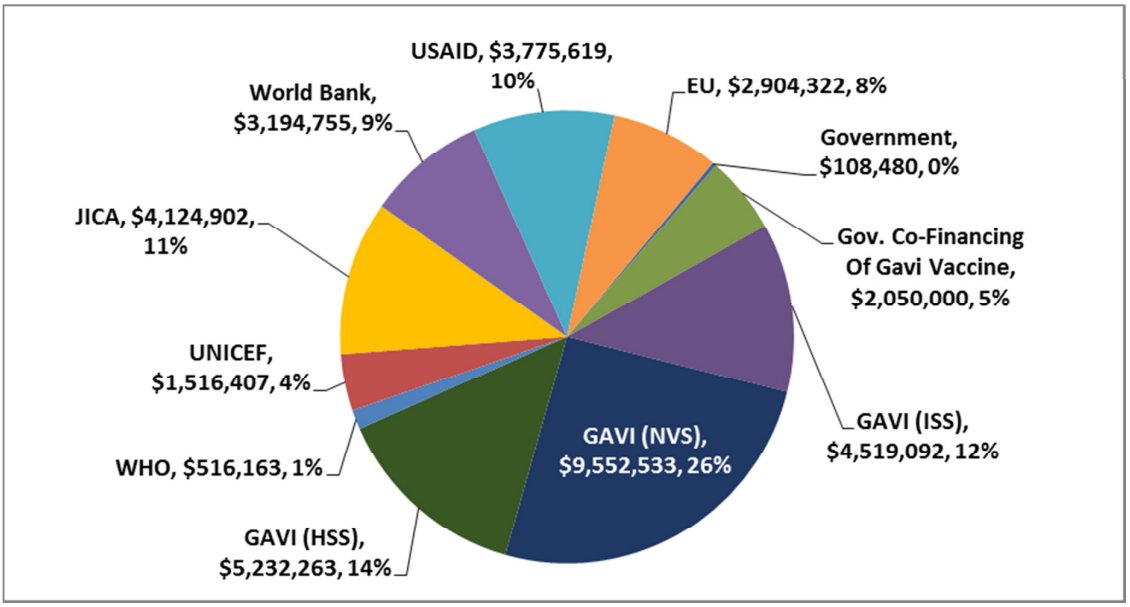
SHARED HEALTH SYSTEM COSTS

It is important to mention that the Government of Afghanistan also contributed USD1.1 million as the Shared Health System costs which formed 2.1% of the total expenditure on immunization system. This expenditure was incurred on shared personnel costs and shared transportation costs. Nearly 2% of these costs were contributed from the government health budget whereas 98% was borne from the development budget earmarked for BPHS.

4.1.2 Current Program Financing

In 2013, the total spending on EPI in Afghanistan was shared among the Government of Afghanistan, Govt. Co-Financing of GAVI support, GAVI grants (GAVI-ISS, GAVI-NVS and GAVI-HSS), WHO, UNICEF, JICA and BPHS donors (;World Bank, USAID, European Union) (Figure 31).

Figure 31: Baseline Financing Profile in 2013



In 2013, GAVI was the largest financer of the EPI which provided 52% of the total resources: GAVI-ISS (12%), GAVI-NVS (26%) and GAVI-HSS (13%). Almost half of this contribution, from GAVI-NVS, was spent on procurement of the underused and new vaccines. The GAVI support also covered the expenditure for payment of salaries and allowances (6%), transportation (1%) and maintenance of cold chains and overheads (15%) and 21% under program management for CSOs Type B project. The expenses from GAVI-ISS were mainly spent on payment of salaries to the National EPI staff. The funding under GAVI-ISS will cease by December 2015. Therefore, Government of Afghanistan, being highly dependent upon external donors, needs exploring further avenues including future grant applications under GAVI-HSS.

The BPHS donors are the second largest contributor to the baseline expenditure in 2013 by providing 27% of the total budget: World Bank (9%), USAID (10%) and European Union (8%). The respective shares have been estimated by using as number of provinces being covered under each support. This support primarily covers salaries of 2906 vaccinators working in primary and secondary health

facilities and the partial contribution in terms of monthly overheads of the health care facilities. It is pertinent to mention that this is an indirect contribution towards EPI because these expenses are not spent through the existing system of EPI nor these are accounted for in the overall expenditures on EPI. The previous cMYPs consider this contribution from the Central Government; however, it basically falls under the non-discretionary part of the development budget contribution from BPHS donors.

The Japan International Cooperation Agency (JICA), the third largest donor in terms of the total contribution and second largest donor if seen as an independent development, contributed 11% (USD4.1 million) of the total expenditure on EPI. This money was spent upon procurement of traditional vaccines through UNICEF.

The Government of Afghanistan contributed USD2.15 million (5%) towards the total expenditure. Out of this USD2.05 million was spent on procurement of the underused and new vaccine under Government's Co-financing for GAVI vaccines whereas the rest of USD108480 was mainly spent on payment of salaries and allowances to the government staff at regional and provincial levels.

The World Health Organization and UNICEF's contribution was 1% and 4% respectively. The WHO's funding was spent upon providing trainings and technical support in genera and surveillance in particular. In comparison, UNCEF's funding was spent upon provision of cold chain, refresher trainings and conducting National Immunization Coverage Survey. This situation clearly highlights that EPI in Afghanistan was highly dependent upon donor contribution in 2013. This is a significant limitation in the contest of a narrow fiscal space for the Ministry of Public Health in general and EPI in particular (Figure 10).

Figure 32 presents immunization program baseline indicators. Of the total immunization expenditure, 21.1% funds were spent on Supplementary immunization activities (SIAs) or campaigns: Polio Eradication Initiative (PEI) and Maternal and Neonatal Tetanus (MNT) Elimination.

Figure 32: Immunization program baseline indicators (2013)

Total Immunization Expenditures (USD)	**51,511,364**
Campaigns (USD)	**14,016,828**
Routine Immunization only (USD)	**37,494,536;**
Per Capita (Routine Only) (USD)	1.2
Per DTP3 child (Routine Only) (USD)	62.2
% Vaccines and supplies (Routine)	42%
% Government funding	0.3%
% Total health expenditures	2.2%
% Government health expenditures	39.6%
% GDP	0.2%
Total Shared Costs (USD)	**1,129,926**
% Shared health systems cost	2.1%
TOTAL (USD)	**52,641,291**

The total expenditure on PEI was 19.6% (USD13 million) and MNT was 1.5% (USD0.98 million). In comparison, the routine immunization activities consumed USD51.1 million (78.4%) of the total immunization expenditure excluding shared health system costs.

The analysis of indicators reveals that the expenditure on routine immunization in 2013 was spent at an average of USD1.2 per capita or USD62.2 per Penta-3 child (Figure 32).

The next section present details on future resource requirements.

4.2 Future resource requirements

4.2.1 Overview

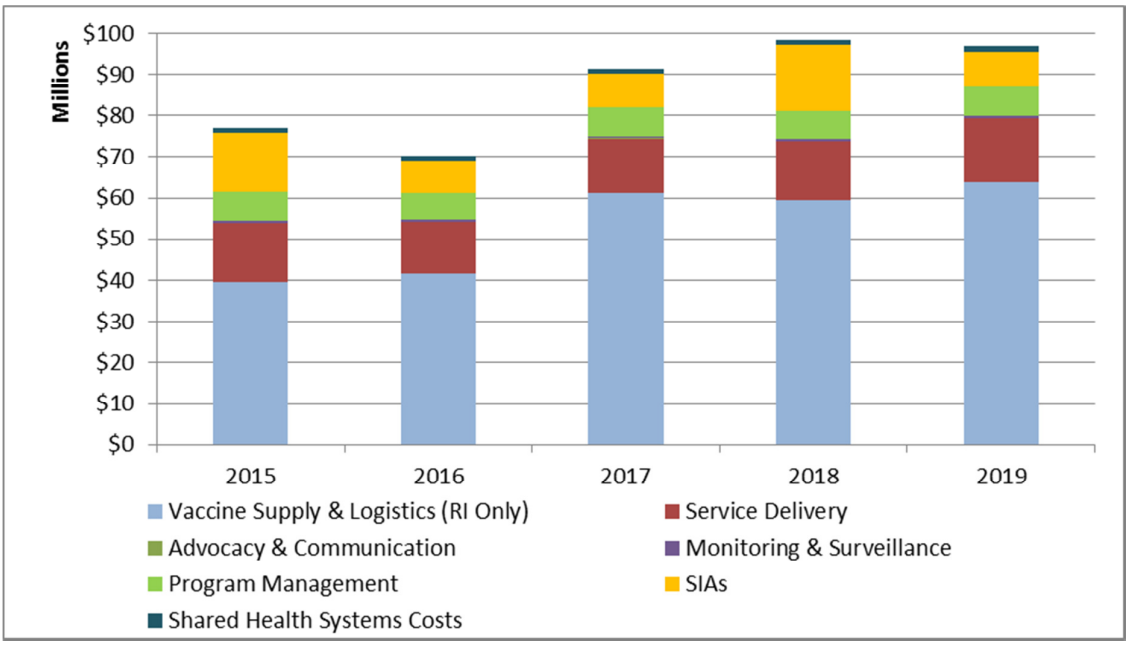
Total resource requirement for 2015-19 is estimated at USD434.2 million as shown in Figure 33: SIA is expected to absorb 13% of resources and the remaining to be allocated to routine immunization (including shared health system costs). The share of vaccines and logistics (for routine immunization) amounts to nearly USD266 million (61% of total resource requirements). The contribution of shared health system costs is estimated at 1.5%.

Figure 33: Total resource requirements (2015-2019) by immunization system components

Cost Category	USD	%
Vaccine Supply and Logistics (Routine Immunization Only)	265,965,362	61
Service Delivery	69,708,938	16
Advocacy and Communication	244,186	0.1
Monitoring and Disease Surveillance	2,311,896	0.5
Program Management	34,771,711	8
Supplemental Immunization Activities (SIAs) (includes vaccine and operation costs)	54,747,851	13
Shared Health Systems Costs	653,5461	1.5
Total	**434,285,404**	

Total resource requirements increase from USD77 million in 2013 up to USD97 million in 2019 as shown in Figure 34, 84% higher than the baseline cost estimates in 2013.

Figure 34: Year-wise resource requirements by immunization system components



4.2.2 Future resource requirement: detailed analysis

Figure 35 presents details of the estimated resource requirement from 2015 to 2019 (also presented in Afghanistan's local currency in Annex 4). The future resource requirement is separately presented under routine immunization costs, campaign cost and shared health system costs.

Figure 35: Future resource requirements by cost categories for 2015-2019

COST CATEGORY	2015	2016	2017	2018	2019
	USD	USD	USD	USD	USD
ROUTINE IMMUNIZATION COSTS					
Traditional Vaccines	4,779,550	5,226,859	7,519,780	7,553,242	8,165,315
Underused Vaccines	4,785,223	5,240,636	5,730,386	6,240,626	6,772,057
New Vaccines	14,834,976	16,634,315	32,695,460	32,514,761	35,226,082
Injection supplies	1,864,194	2,088,852	2,314,687	2,499,513	2,721,330
Personnel	10,676,774	11,607,380	12,587,824	13,637,295	14,760,242
Transportation	494,907	546,245	607,634	624,793	643,070
Vehicles	836,400	208,080	254,690	-	-
Cold chain equipment	5,130,418	3,436,672	2,665,436	296,413	302,341
Other capital equipment	3,394,560	85,729	63,672	64,946	66,245
Other routine recurrent costs	14,671,751	15,876,560	17,703,418	17,730,048	18,298,180
RI Costs (Sub-Total)	61,468,754	61,273,851	82,142,989	81,161,636	86,954,862
CAMPAIGN COSTS	14,454,848	7,769,752	8,010,537	15,995,720	8,516,995
SHARED HEALTH SYSTEM COSTS	1,185,191	1,243,194	1,304,072	1,367,969	1,435,034
GRAND TOTAL	**77,108,792**	**70,286,797**	**91,457,599**	**98,525,325**	**96,906,892**

ROUTINE IMMUNIZATION COSTS

The routine immunization costs are further divided in seven categories: Vaccines and Injection Supplies, Personnel, Transportation, Vehicles, Cold chain equipment, Other Capital equipment and Other routine recurrent costs.

1. Vaccines and Injection Supplies

In the next 5 years, the Afghanistan EPI plans to improve the coverage rate of different vaccines (0).[104]

[104] The financial projections for vaccines and injection supplies are based on the number of doses required per antigen including wastage rates and the price list provided by National EPI office and UNICEF.

The government also plans to introduce three new vaccines: IPV and Hepatitis-B vaccine (scaling up) in 2015 and Rotavirus vaccines in 2017. All these vaccines will be financed through GAVI. The introduction of new vaccines will have financial implications not only for the resource requirement for procurement of vaccines and injection supplies but also for cold chain equipment, overhead costs and training of personnel.

In order to achieve the immunization coverage targets, the additional resource requirement for procuring vaccines and injection supplies will increase by 3.4 times in 2019. In comparison to the expenditure of USD3.0 million in 2013, the resource requirement will increase to USD4.7 million by the year 2018. Antigen-specific details of vaccine requirement and cost forecasting is presented in Annex 10.

2. Personnel

The National EPI office plans to increase the availability of qualified human resources for the immunization program at national, provincial and district levels (ISC Objective 2:). Year-wise details are presented in Annex 11.

- At national level, new positions of national EPI training officer and cold chain technicians will be created. It will also include increasing the number of support staff especially drivers for transportation of vaccines and injection supplies in the National EPI office.
- At regional level, 7 new positions of Regional VPD surveillance officers will be created for strengthening data reporting and surveillance activities. In addition, one position of driver per region will also be created for transportation of vaccines and injection supplies.
- At provincial level, 27 new positions of Regional VPD surveillance officers will be created for strengthening data reporting and surveillance activities. In addition, new positions of support staff and security guards (one each per province) will be created.
- At district level, 600 new vaccinators will be recruited for manning 300 new EPI-fixed centers in the next 5 years (120 vaccinators per year).
- Further staff will be hired (or laid off) depending upon the recommendations of the review and restructuring of EPI management structures at all levels (see Strategy 1.3:).

The addition of new staff will require a substantial increase in resource allocation for immunization program. By 2019, the funds required for payment of salaries and allowances will be increased by 52.5% as of 2013. The EPI will require USD14.7 million in 2019 as compared to USD10.6 million in 2013.

3. Transportation

Expansion in the EPI program coverage will result in increase in demand for resources for transportation. In addition, the government plans to gradually reduce its dependence on private transport firms by procuring EPI-owned refrigerated vehicles for transportation. These expenses also include expected expenditures on transportation for mobile and outreach immunization services. In 2013, USD510309 were spent on transportation. By 2019, the immunization system is required to increase this expenditure by 26%. In absolute numbers, USD643070 is estimated to be required to meet the transportation needs. This requirement is closely linked with the increase in POL prices.

Despite the costing tool has accounted for inflation in POL prices, the National EPI office will revise these estimates on yearly basis in order to ensure realistic projections for resource requirement.

4. Vehicles

An amount of USD1.3 million is required for procuring vehicles required for the immunization staff and supply of vaccines and injection supplies. These projections are based on the price list provided by National EPI office and the total number of vehicles that are planned to be procured. The immunization program also plans to replace the existing vehicles that have completed their on-road life of 7 years.

Procurement of refrigerated transport includes one refrigerated truck and 7 refrigerated vans for transportation of vaccines and injection supplies from national to regional level and from regional to provincial level respectively. In addition, 26 four-wheel drive pickups will be procured for strengthening monitoring and supervisory activities at national, regional, provincial and district levels (Annex 7).

5. Cold chain equipment

The immunization program plans to enhance the capacity of the cold chain system in order to meet the needs when new vaccines are introduced in 2015 and 2017 by increasing the overall cold storage space and also by replacing the old chain equipment that has completed its average useful life of 7 years. It includes installation of new cold rooms at Airport, national EPI office and regional EPI offices. It will also include supply of new ILRs/Freezers to provincial EPI offices and Refrigerators (Model RCW50 EG) to the health care facilities. In addition, solar refrigerators will be supplied to 33 health care facilities as a pilot project with plans of scaling up for addressing the problems of maintaining cold chain in hard to reach areas. Supply of power generators and other cold chain equipment will also be ensured.

In order to strengthen monitoring and recording keeping of cold chain system, Remote Temperature Monitoring Device (RTMD) System and 30-day electronic temperature logger (TR06) will be installed at national and regional levels, and health care facilities respectively.

It is estimated that USD12.8 million will be required to meet the needs of cold chain equipment. The national EPI office has estimated these projections by using the information on number of items required and the price list provided primarily by UNICEF.

6. Other capital equipment/infrastructure

It is estimated that the immunization system requires USD474,902 for supplying capital equipment (laptops, computers, photocopiers, furniture etc.) for national, regional, provincial offices and Fixed-health centers at health care facilities. The capital equipment to be supplied at health care facility level will primarily comprise of office furniture for establishing new EPI-fixed centers (Annex 8).

The EPI plans to construct a new National EPI office and warehouses at national (01), regional (07) and provincial (27) levels. In addition, new provincial EPI offices are to be established in six conflict affected provinces.[105] The estimated resource requirement is detailed in Figure 38.

[105] Ghazni, Logar, Zabul, Nuristan, Takhar, and Baghlan

Figure 36: Future resource requirements for construction of new buidlings

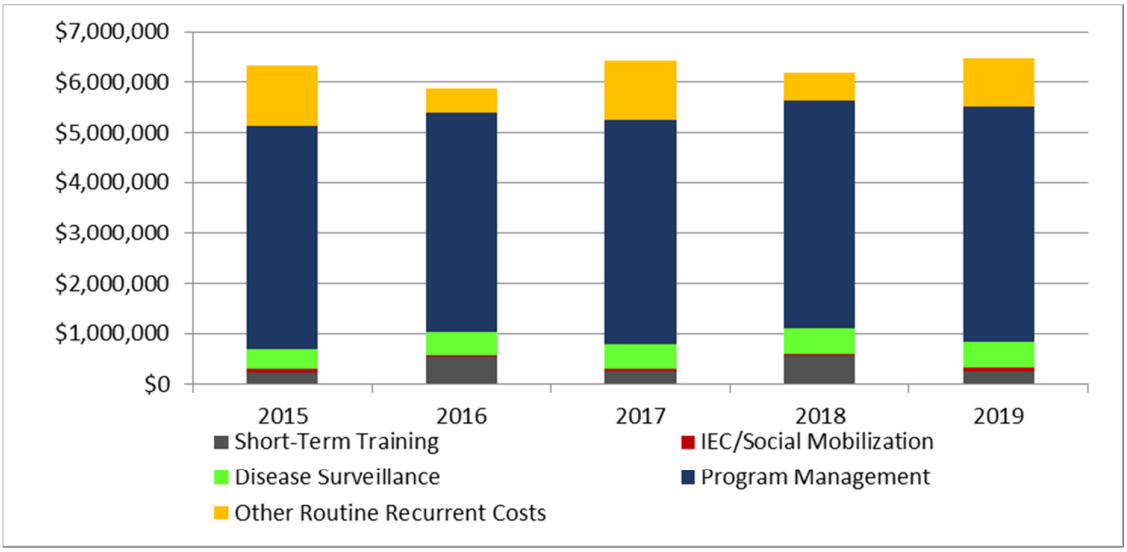
COST CATEGORY	2015	2016	2017	2018	2019
	USD	USD	USD	USD	USD
Construction of new buildings	3,200,250	322,524	-	-	-

7. Other routine recurrent costs

Other recurrent costs consists of funds required for cold chain maintenance and overheads, maintenance of other capital equipment, utility bills, short-term training, IEC/social mobilization, disease surveillance, programme management and other routine recurrent costs. The national EPI office has estimated the resource requirement under this category by breaking down each component into activities and determining the average cost per activity.

The financial projections indicate that an amount of USD84.2 million (USD16.8 million per year) is estimated to be required for meeting the expenditure planned under other routine recurrent costs which is nearly 23% of the total resource requirement under routine immunization (Figure 37).

Figure 37: Year-wise resource requirements by key componnets of routine recurrnet costs



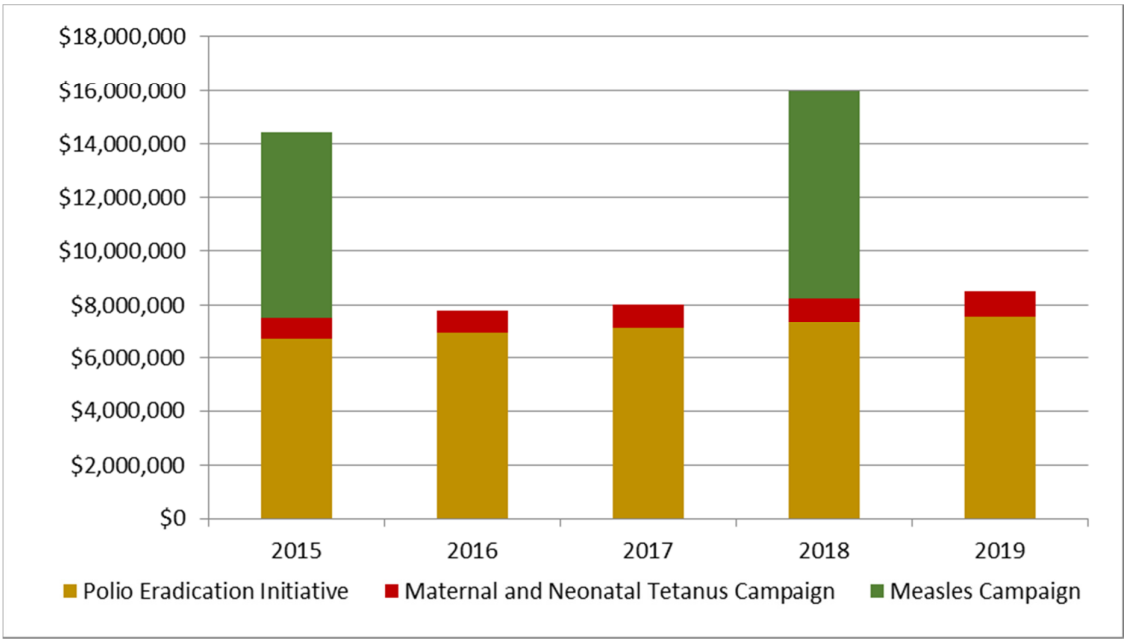
SUPPLEMENTARY IMMUNIZATION ACTIVITIES (SIAs)

The Afghanistan government plans to conduct special immunization campaigns (SIAs) in the next 5 years (see Strategy 5.4:). These include:

1. National and Sub-National Immunization Days (4 rounds each) under Polio Eradication Initiative every year with expected coverage of 95%
2. Measles campaign for children (9-59 months) in 2015 and 2018 with expected coverage of 95%
3. Maternal and Neonatal Tetanus (MNT) campaign for women of child bearing age (15-45 years) – three doses – with expected coverage of 15% per year for 5 years

Of the total resources requirement for immunization system, 13% of funds (USD54.7 million) are estimated to be spent on SIAs during 2015-19 (Figure 38).

Figure 38: Year-wise resource requirements for Special Immunization Campaigns



SHARED HEALTH SYSTEM COSTS

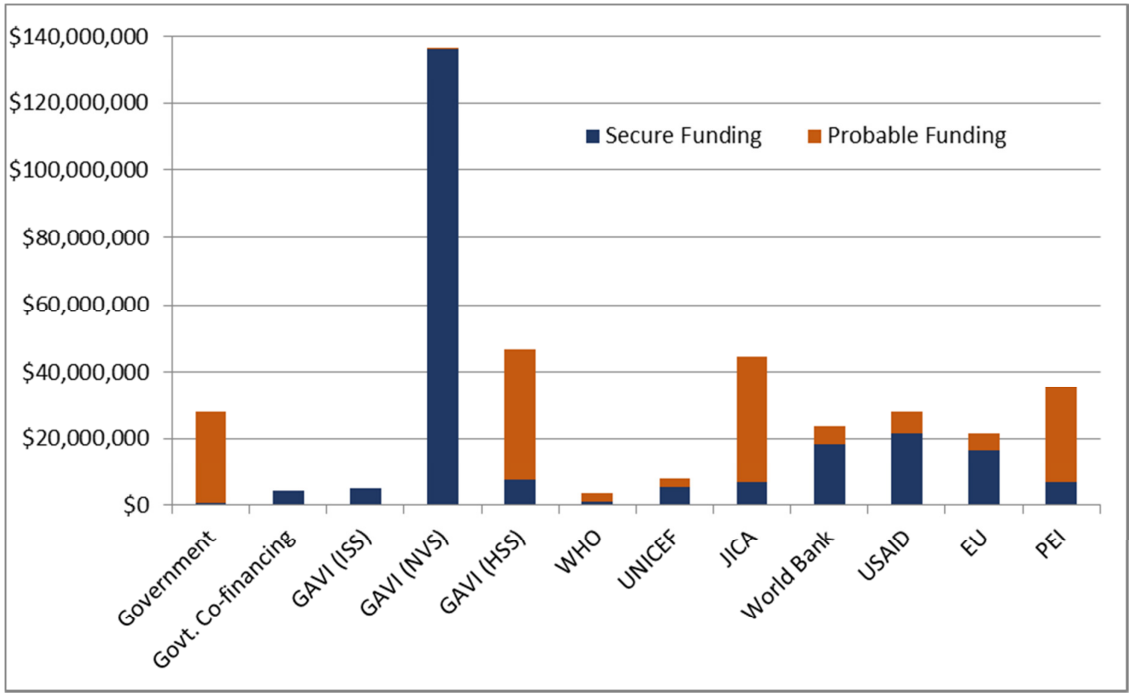
The contribution of Shared Health System costs is estimated at USD10 million, 2.3% of the total resource requirement. This contribution is required on account of shared personnel costs and shared transportation costs for immunization system.

The next section presents an analysis on future financing and funding gaps of the immunization program.

4.3 Future financing and funding gaps of the immunization program

The total financing of the immunization program is estimated at USD230 million if only secured financing is considered and at USD386 million with probable financing (Annex 6). The trends of secure and probable funding along with funding gap are presented in Annex 12 and 13.

Figure 39: Financing structure by sources and types of financing



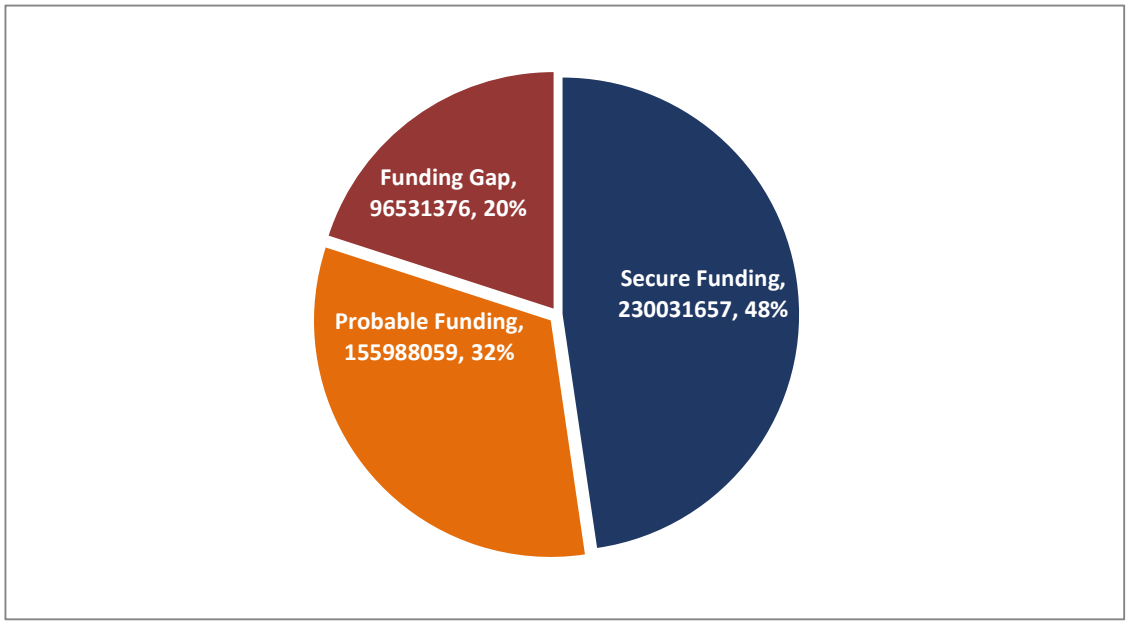
The projections on secure and probable funding presented in Figure 39 indicate that:

- GAVI (NVS) and BPHS donors (World Bank, USAID and European Union) are the main sources of secure financing for immunization program in the next five years, contributing 59% and 25% of the total secured funding respectively. Further, their contribution will gradually increase from USD37.7 million in 2015 to USD48 million in 2018. The source-specific details of future secured financing are available in Annex 5.
- Secure financing through unspent funds under GAVI-ISS is available till December 2015 only as are the funds for EPI-component under GAVI-HSS.
- The secured contribution from the government of Afghanistan amounts to nearly 2.1% of the total secured financing (USD5 million). This covers remunerations and allowances of the Government staff and co-financing share for the GAVI-supported vaccines (Pentavalent and PCV-13).
- The GAVI-NVS support is available for procurement of the underused and new vaccines, introduction of new vaccines and Measles SIA in 2015. An amount of USD136 million is estimated to be channeled through GAVI-NVS during 2015-19.

- The secure financial support from JICA will be available up to 2015. However, the recent commitments indicate that JICA is willing to support immunization activities in future.[106]
- UNICEF provides secure financing for conducting MNT campaigns every year during 2015-19. However, the secure financing for other components of the immunization system, for example, program reviews, social mobilization, refresher trainings of vaccinators and immunization coverage surveys, is largely available for 2015 only. The total volume pf secure financing from UNICEF is estimated at USD 5.2 million.
- The World Health Organization is estimated to provide USD one million under secure financing for surveillance and other program management activities during 2015.
- The financial analysis indicates that USD6.7 million is available from various sources for activities under PEI. In 2015, 4 rounds each of Polio National Immunization Days and Sub-National Immunization days are planned for Afghanistan. It is expected that zero incidence of Polio is achieved by the end of 2015 and sustained afterwards.

Considering only the secure funds, there is a substantial funding gap of USD204 million (52%) for the period of 5 years. However, the funding gap is reduced to 20% (USD96 million) when probable funding is also accounted for (Figure 40).

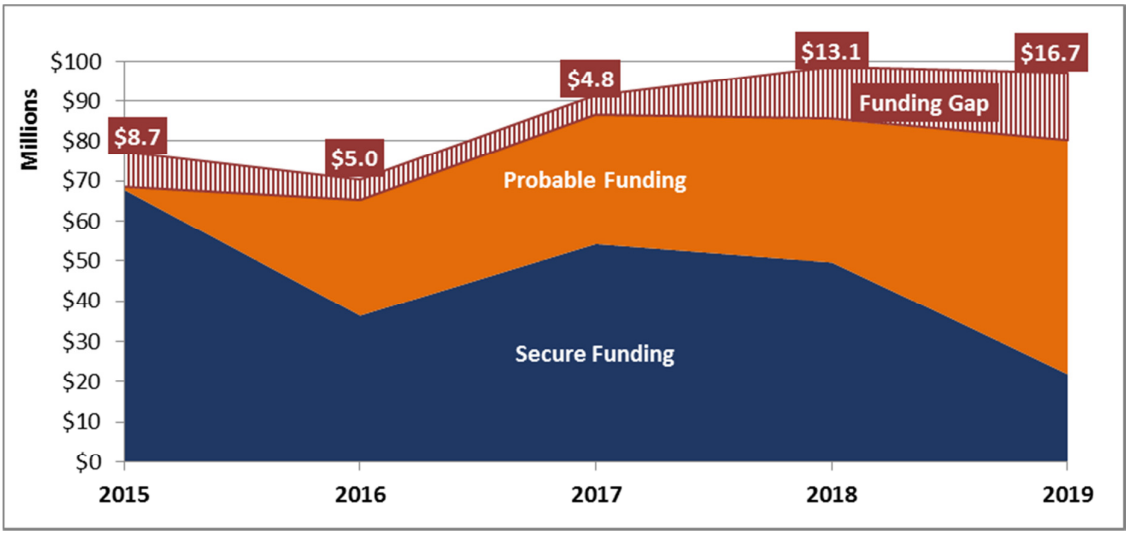
Figure 40: Total Financing and funding gap for 2015-19



[106] MoPH (2014) New: 'Government of Japan commits $12 million to help eradicate polio and prevent the spread of other vaccine preventable diseases in Afghanistan' http://moph.gov.af/en/news/government-of-japan-commits-12-million-to-help-eradicate-polio-and-prevent-the-spread-of-other-vaccine-preventable-diseases-in-afghanistan

As shown in Figure 41 financing projection reaches maximum in 2017 (USD86.6 million) and decreases gradually (due to uncertainty about external funding) while resource requirements keeps growing. This translates into widening funding gap from USD8.7 million (11.2%) in 2015 to USD16.7 million (17.2%) in 2019.

Figure 41: Financing and funding gap by Years (2015-2019)



4.4 Funding gap analysis

Funding gap amounts to USD201 million with only secured financing and USD47 million if probable financing is considered as shown in Figure 42:

Figure 42: Funding gap (without shared costs) by types of financing (2015-2019)

Composition of Funding Gap	Gap (secured)	Gap (secured + probable)
	USD	USD
Vaccines & Injection Supplies	65,293,162	0
Personnel	19,596,873	1,985,559
Transport	2,421,742	600,010
Activities & Other Recurrent Costs	69,320,996	35,930,846
Logistics (Vehicles, Cold Chain & Other Equipment)	8,417,503	959,296
SIAs (Campaigns)	36,738,205	7,736,203
Total Funding Gap	**201,788,481**	**47,211,914**

Figure 43 reveals that although the funding gap with only secure financing varies across different components, it comprises of shortfall of secure resources across all the immunization components: Vaccines & Injection Supplies (32%), Personnel (31%), Transport (83%), Activities & Other Recurrent Costs (82%), Logistics including Vehicles, Cold Chain and Other Equipment (62%) and SIAs (67%).

Figure 43: Structure of the funding gap with secure financing for 2015-2019 (without shared costs)

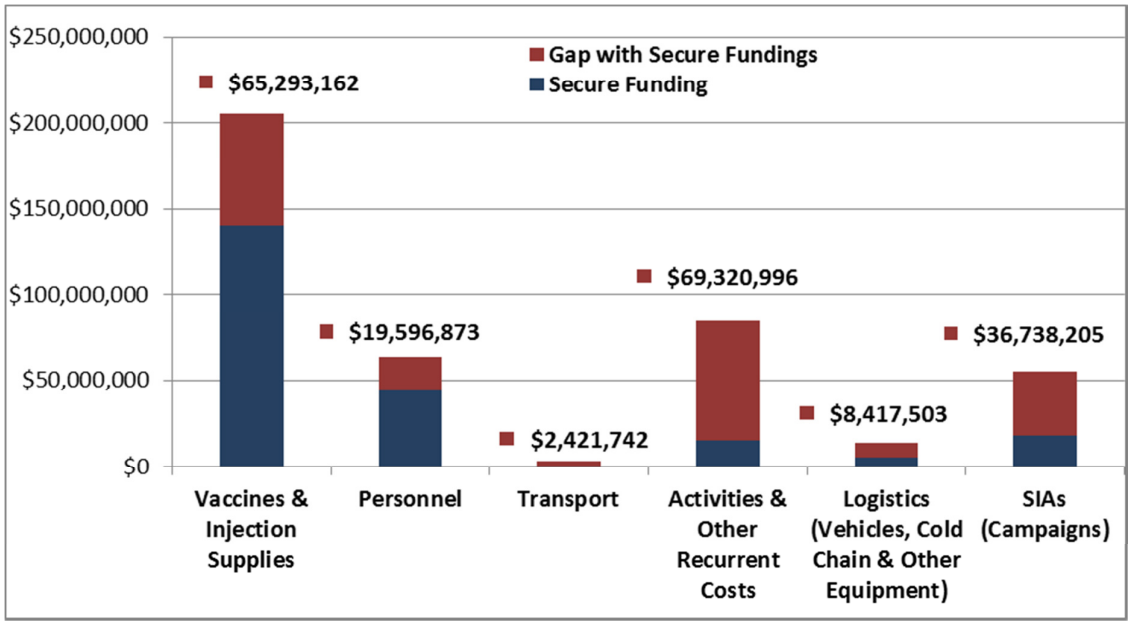
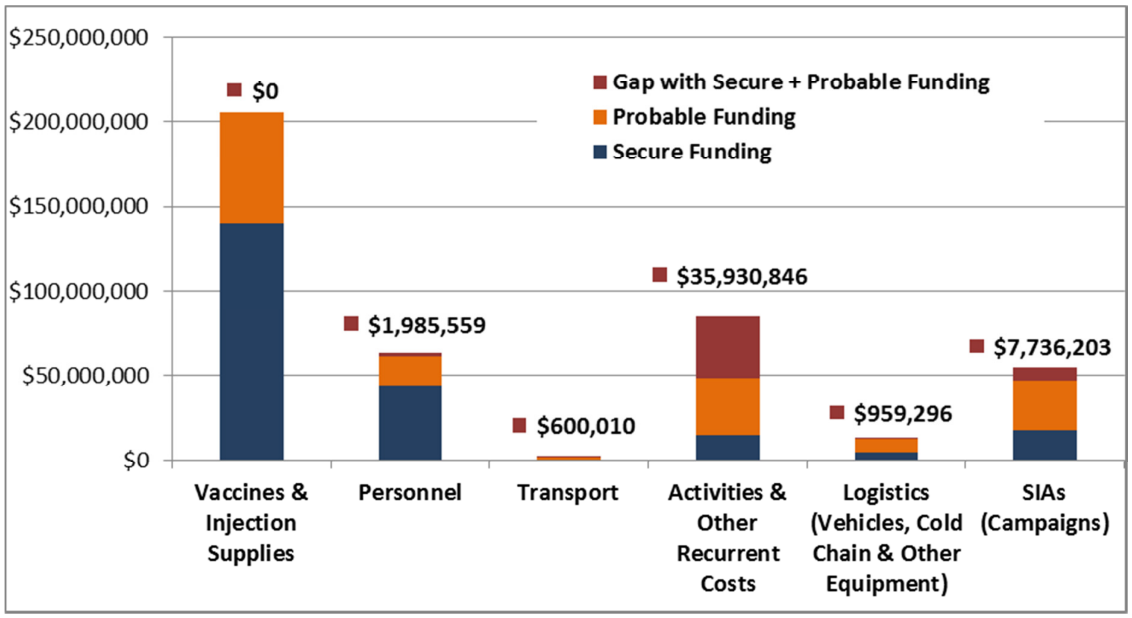


Figure 44 indicates that the probable financing allows filling the funding gap to a certain extent leaving the unfunded requirement of resources ranging from zero to 43% for different immunization system components: Vaccines & Injection Supplies (zero), Personnel (3%), Transport (21%), Activities & Other Recurrent Costs (43%), Logistics including Vehicles, Cold Chain and Other Equipment (7%) and SIAs (14%).

Figure 44: Structure of the funding gap with secure and probable financing for 2015-2019 (without shared costs)



This funding gap is further analyzed under 6 categories: Vaccines and Injection Supplies, Personnel, Transport, Activities and other recurrent costs, Logistics and SIAs.

1. Vaccines and Injection Supplies

The immunization program is dependent upon JICA (for traditional vaccines and injection supplies), GAVI-NVS (underused and new vaccines) and government of Afghanistan (co-financing share for the GAVI-supported vaccines). The probable funding facilitates filling the funding gap for the vaccine and injection supply component of the funding gap completely but it is related to successful approvals from GAVI, JICA and additional funding from the government of Afghanistan.

Although probable funding from JICA is available beyond 2015, any reduction in support will have serious implications for supply of traditional vaccines and injection supplies. As far as underused and new vaccines are concerned, the GAVI-NVS support for underused and new vaccines is expected to reduce after 2017 when GAVI will stop providing financial assistance for Pentavalent (2017 onwards) and PCV-13 (2018 onwards). In order to compensate for reduction is GAVI's support for underused and new vaccines, the Government of Afghanistan needs to increase allocation of additional resources from its own budget or mobilize other donors to fill the funding gap.

2. Personnel

The funding gap of USD 19.5 million is estimated to reduce down to nearly USD2 million through probable financing. Secure financing through unspent funds under GAVI-ISS is available till December 2015 only as are the funds for EPI-component under GAVI-HSS. This is a major concern

after December 2015 because salaries and operations of national, regional and provincial EPI staff and operational expenditures are mainly supported through these grants which constitute a substantial portion of the resource requirement (nearly USD12.7 million).

In addition, the present financing commitments indicate that the donor commitments for SEHAT Project are available till 2018 only.[23] It is pertinent to reiterate that the BPHS donors do not directly finance EPI rather their contribution is made through a nondiscretionary grant for BPHS under the MoPH's development budget. In case of personnel, all the immunization staff working at health facilities is paid salaries and allowances from the BPHS budget. The MoPH also requires identifying options for financing these salaries and allowances in case the BPHS donors opt to discontinue funding or reduce the funding amount.

A successful GAVI-HSS application is expected to provide the required support. Under its newly introduced Country Tailored Approach (CTA)[107] for Afghanistan, GAVI is expected to provide a window of opportunity under which the MoPH is encouraged to spend 5-years GAVI funding within a reduced duration of 3 years. In other words, more resources are expected to be available for utilization within a lesser duration. In order to benefit from this opportunity, the national EPI plans to reorganize and streamline its management structures and business processes to improve budget execution rate of development budget and remove the bottlenecks that result in delayed disbursement of budgetary funds.

3. Transport

The probable funding is estimated to reduce the funding gap for transportation from USD2.4 million to USD0.6 million. Primarily, it comprises of transportation costs to be spent on transportation of field staff for immunization services delivery and monitoring and supervision. Strengthening of supervisory mechanism through improving the business processes, reducing wastage of resources and a successful GAVI-HSS application for generating additional resources are the key strategies to bridge the existing gaps further.

4. Activities and other recurrent costs

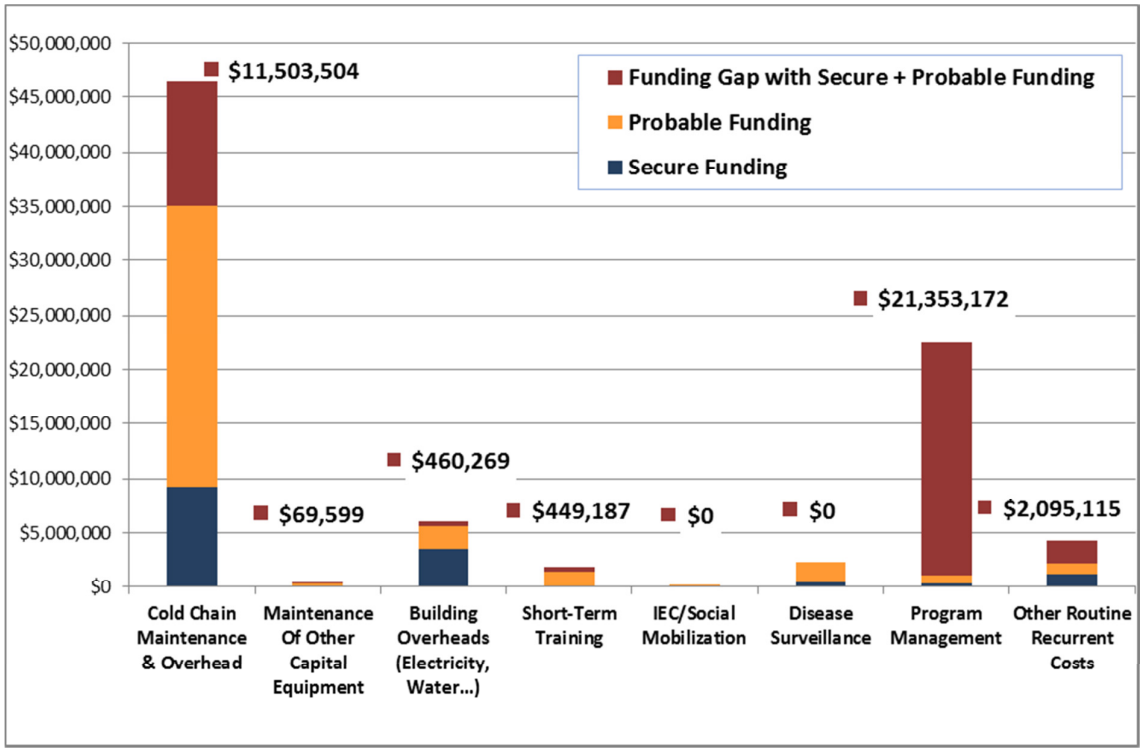
Probable financing allows filling almost half of the funding gap related activities and other routine recurrent costs. Figure 45 and Figure 46 provide details of this funding gap. Cold chain maintenance and overheads, and program management are the two main activities that contribute 91% of the funding gap under this category. Of the total funding gap of USD21.3 million under program management, USD20.8 million (98%) is estimated to be required to continue the CSOs Type B project for service delivery through CSOs. A successful GAVI-HSS is a potential avenue is this regards.

[107] GAVI (2014) Afghanistan-A Country-Tailored Approach (Draft Document, Dated: 8 October 2014)

Figure 45: Breakdown of "Activities and other reccurent costs" funding gap by cost categories and types of financing

Composition of Funding Gap	Secure Funding		Probable Funding		Funding Gap	
	USD	%	USD	%	USD	%
Cold Chain Maintenance & Overhead	9,264,404	62%	25,790,032	77%	11,503,504	32%
Maintenance Of Other Capital Equipment	148,329	1.0%	176,295	0.5%	69,599	0.2%
Building Overheads (Electricity, Water…)	3,528,534	24%	2,049,715	6.1%	460,269	1.3%
Short-Term Training	84,600	0.6%	1,366,121	4.1%	449,187	1.3%
IEC/Social Mobilization	0	0.0	244,186	0.7%	0	0.0
Disease Surveillance	399,840	2.7%	1,912,056	5.7%	0	0.0
Program Management	339,456	2.3%	791,200	2.4%	21,353,172	59%
Other Routine Recurrent Costs	1,193,798	8.0%	1,060,545	3.2%	2,095,115	5.8%
Total	**14,958,961**		**33,390,150**		**35,930,846**	

Figure 46: Structure of the funding gap with secure and probable financing under "Activities and other reccurent costs"



Besides other expenditures, this category requires resource allocation for technical assistance for developing performance management system, technical assistance for third party monitoring, e-monitoring, trainings, formative research and EPI Coverage Survey. These activities are essential for developing and strengthening EPI in Afghanistan. Without these important activities it will be impossible to improve the quality of immunization services through establishing performance-based practices and ensuring accountability in management practices.

5. Logistics (vehicles, cold chain and other equipment)

The EPI faces funding gap of nearly USD one million required for establishing 60 new EPI fixed centers in 2019. This amount is required for procuring cold chain equipment and other capital equipment. If this funding gap is not addressed, it will delay the expansion in immunization coverage.

6. Supplementary Immunization Activities (SIAs) /Campaigns

The probable funding allows filling in the entire funding gap for polio eradication activities. However, EPI still faces a shortfall of USD7.7 million for procurement of vaccines and injection supplies and operational costs required to conduct Measles campaign in 2018. If funding gap for Measles campaign remains, it increases likelihood of Measles epidemics.

4.5 Financial sustainability

Financial sustainability of immunization program is the primary responsibility of the MoPH. This aspect is critical for the attainment of immunization outcomes. However, the financial projections show that the cost per Penta-3 child (all costs included) is estimated to significantly increase from USD64.1 in 2013 to USD84.3 in 2019. The macroeconomic and sustainability indicators indicate that the immunization system is highly dependent upon external funding in Afghanistan (Annex 9). It includes both direct financing of EPI and also indirect financing of immunization services as part of BPHS. Moreover, it is likely that the changing geopolitical situation can potentially result in decline in fund flow through foreign assistance towards Afghanistan.

The MoPH is well aware of the complexities and difficulties associated with this situation. Therefore, the current cMYP not only focuses on availability of vaccines, injection supplies, cold chain, and other logistics but also to reform and strengthen the existing EPI management structures and business processes by employing the following strategies:

- Enhance efficient utilization of human resources by developing synergies with other health initiatives (Strategy 3.1:)
- Minimize wastage of resources under immunization program (Strategy 3.2:)
- Advocacy for ensuring financial sustainability of immunization program (Strategy 3.3:)
- Synchronization of EPI with PEI and non-polio efforts and more efficient sharing of the resources on the ground (including joint micro-planning at district and health facility level) can serve as an effective sustainability strategy in terms saving financial resources and achieving programmatic synergies (Activity 3.1.3:).
- Establishing accountability mechanism through third party monitoring, E-monitoring, regular immunization coverage surveys and objective performance reviews (Strategy 6.3:).

Considering only the secure funds, there is a substantial funding gap of USD204 million (52%) for the period of 5 years. However, the funding gap is reduced to 20% (USD96 million) when probable funding is also accounted for (Figure 40). The current financial projections indicate that the government estimates to increase its own invests in immunization system by almost 3 times during the next five years, from USD2.2 million in 2013 to USD6.4 million per year during 2015-19. If funds necessary to finance planned strategies and activities could not be mobilized then the financial sustainability will be restored by postponing the planned interventions pending availability of funds. However, it will affect programmatic effectiveness dramatically although financial sustainability (in terms of balancing resource requirements and funding) will be achieved. Therefore, the national EPI managers plan to develop their skills in planning and management in order to compete with other government departments for allocation of additional resources but also to persuade the donor's for bridging the gaps in resource availability.

The MoPH is well cognizant of the fact that the funding gap for the overall sustainability (programmatic and financial) is not limited to a single component of the immunization system. Therefore, an integrated and holistic approach has been adopted to ensure achieving best value for the money. However, keeping in view the rapidly expanding health sector coverage in Afghanistan, the funding gap structure and severity of shortage related to "Activities and other recurrent costs" (see

Figure 45) raises concerns on the quality and reliability of immunization services and overall performance.

5 Annexes

Annex 1: GVAP Checklist

GVAP Strategies	Key Activities	Activity included in cMYP			
		Yes	No	Not applicable	New activity needed
Strategic objective 1: All countries commit to immunization as a priority.					
Establish and sustain commitment to immunization.	Ensure legislation or legal framework in all countries, including provisions for a budget line for immunization, and for monitoring and reporting.	✓			
	Develop comprehensive national immunization plans that are part of overall national health plans through a bottom-up process including all stakeholders.			✓	
	Set ambitious but attainable country-specific targets within the context of morbidity and mortality reduction goals.	✓			
	Scrutinize, defend, and more closely follow immunization budgets, disbursements and immunization programme activities.	✓			
	Support local civil society organizations and professional associations to contribute to national discussions of immunizations and health.	✓			
Inform and engage opinion leaders on the value of immunization.	Explore models to promote collaboration between the stakeholders that generate evidence on immunization and those who use it to set priorities and formulate policies.	✓			
	Develop and disseminate the evidence base on the public health value of vaccines and immunization and the added value of achieving equity in access and use of immunization.	✓			
	Develop and disseminate the evidence base for the broad economic benefits of immunization for individuals, households, communities, and countries.	✓			
	Include immunization in the agendas of governing body meetings at all levels and in other social, health and economic forums.	✓			
Strengthen national capacity to formulate evidence-based policies.	Create or strengthen independent bodies that formulate national immunization policies (for example, NITAGs or regional technical advisory groups).			✓	
	Develop more effective ways for National Regulatory Agencies (NRAs), Health Sector Coordination Committees (HSCCs), and Interagency Coordination Committees (ICCs) to support immunization programmes as part of disease control programmes and preventive health care.	✓			
	Create regional forums and peer-to-peer exchange of information, best practices and tools.				✓
	Create expanded and more transparent mechanisms for aggregating, sharing, and using information to monitor commitments.				✓
Strategic objective 2: Individuals and communities understand the value of vaccines and demand immunization as both their right and responsibility.					
Engage individuals and communities on the benefits of immunization and hear their concerns.	Engage in a dialogue which both transmits information and responds to people's concerns and fears.	✓			
	Utilize social media tools and lessons from commercial and social marketing efforts.	✓			
	Leverage new mobile and Internet-based technologies.	✓			
	Include immunization in the basic education curriculum.	✓			
	Conduct communications research.	✓			
Create	Create incentives to households and health workers for	✓			

GVAP Strategies	Key Activities	Activity included in cMYP			
		Yes	No	Not applicable	New activity needed
incentives to stimulate demand.	immunization, where appropriate and while respecting the autonomy of beneficiaries (for example, cash or in-kind transfers, bundling of services, media recognition).				
	Conduct social research to improve the delivery of immunization services and the ability to meet the needs of diverse communities.	✓			
Build advocacy capacity.	Recruit new voices, including those of educators, religious leaders, traditional and social media personalities, family physicians, community health workers, and trained immunization champions (among others).	✓			
	Train healthcare workers on effective communication techniques, especially to address vaccine hesitancy and to respond to reports of serious adverse events following immunization in order to maintain trust and allay fears.	✓			
	Engage, enable and support in-country CSOs to advocate to local communities and policy-makers and in local and global media regarding the value of vaccines.	✓			
	Create national or regional advocacy plans that involve in-country CSOs.	✓			
	Link global, national and community advocacy efforts with professional and academic networks.	✓			
Strategic objective 3: The benefits of immunization are equitably extended to all people.					
Develop and implement new strategies to address inequities.	Recast "Reaching Every District" to "Reaching Every Community" to address inequities within districts.	✓			
	Engage underserved and marginalized groups to develop locally tailored, targeted strategies for reducing inequities.	✓			
	Introduce appropriate new vaccines in national immunization programmes (see also Objective 5).	✓			
	Establish a life course approach to immunization planning and implementation, including new strategies to ensure equity across the life span.			✓	
	Prevent and respond to vaccine-preventable diseases during disease outbreaks, humanitarian crises, and in conflict zones.	✓			
Build knowledge base and capacity to enable equitable delivery.	Track each individual's immunization status, leveraging immunization registries, electronic databases and national identification number systems.	✓			
	Take advantage of community structures to enhance communication and deliver services (for example, traditional birth attendants, birth registries).	✓			
	Involve CSOs in community outreach and planning.			✓	
	Develop new approaches to community engagement for urban and peri-urban areas.	✓			
	Train health workers and CSOs on how to engage communities, identify influential people who can assist in planning, organizing and monitoring health and immunization programmes, identify community needs and work with communities to meet those needs.	✓			
	Conduct operational and social science research to identify successful strategies to reduce inequities and improve the quality and delivery of immunization services.	✓			

GVAP Strategies	Key Activities	Activity included in cMYP			
		Yes	No	Not applicable	New activity needed
Strategic objective 4: Strong immunization systems that are an integral part of a well-functioning health system.					
Develop comprehensive and coordinated approaches.	Ensure that global vaccine programmes focusing on eradication and elimination goals are incorporated into national immunization programmes.	✓			
	Ensure that new vaccine deployment is accompanied by comprehensive disease control plans	✓			
	Ensure coordination between the public and private sectors for new vaccine introduction, reporting of vaccine-preventable diseases and administration of vaccines, and ensure quality of vaccination in the public and private sectors.	✓			
	Consider the inclusion of vaccines in health programmes across the life course.			✓	
Strengthen monitoring and surveillance systems.	Improve the quality of all immunization administrative data and promote its analysis and use at all administrative levels to improve programme performances.	✓			
	Develop and promote the use of new technologies for collection, transmission and analysis of immunization data.	✓			
	Further strengthen, improve quality and expand disease surveillance systems to generate information based on laboratory confirmed cases for decision-making, monitoring the impact of immunization on morbidity and mortality and changes in disease epidemiology.	✓			
	Ensure capacity for vaccine safety activities, including capacity to collect and interpret safety data, with enhanced capacity in countries that introduce newly developed vaccines.	✓			
Strengthen capacity of managers and frontline workers.	Ensure that immunization and other primary health care programmes have adequate human resources to schedule and deliver predictable services of acceptable quality.	✓			
	Increase levels of pre-service, in-service and post-service training for human resources, and develop new, relevant curricula that approach immunization as a component of comprehensive disease control.	✓			
	Promote coordinated training and supervision of community-based health workers.	✓			
Strengthen infrastructure and logistics.	Innovate to improve cold chain capacity and logistics, as well as waste management.	✓			
	Minimize the environmental impact of energy, materials and processes used in immunization supply systems, both within countries and globally.	✓			
	Staff supply systems with adequate numbers of competent, motivated and empowered personnel at all levels.	✓			
	Establish information systems that help staff accurately track the available supply.	✓			
Strategic objective 5: Immunization programmes have sustainable access to predictable funding, quality supply and innovative technologies.					
Increase total amount of funding.	Establish a commitment for governments to invest in immunization according to their ability to pay and the expected benefits.	✓			
	Engage new potential domestic and development partners and diversify sources of funding.	✓			

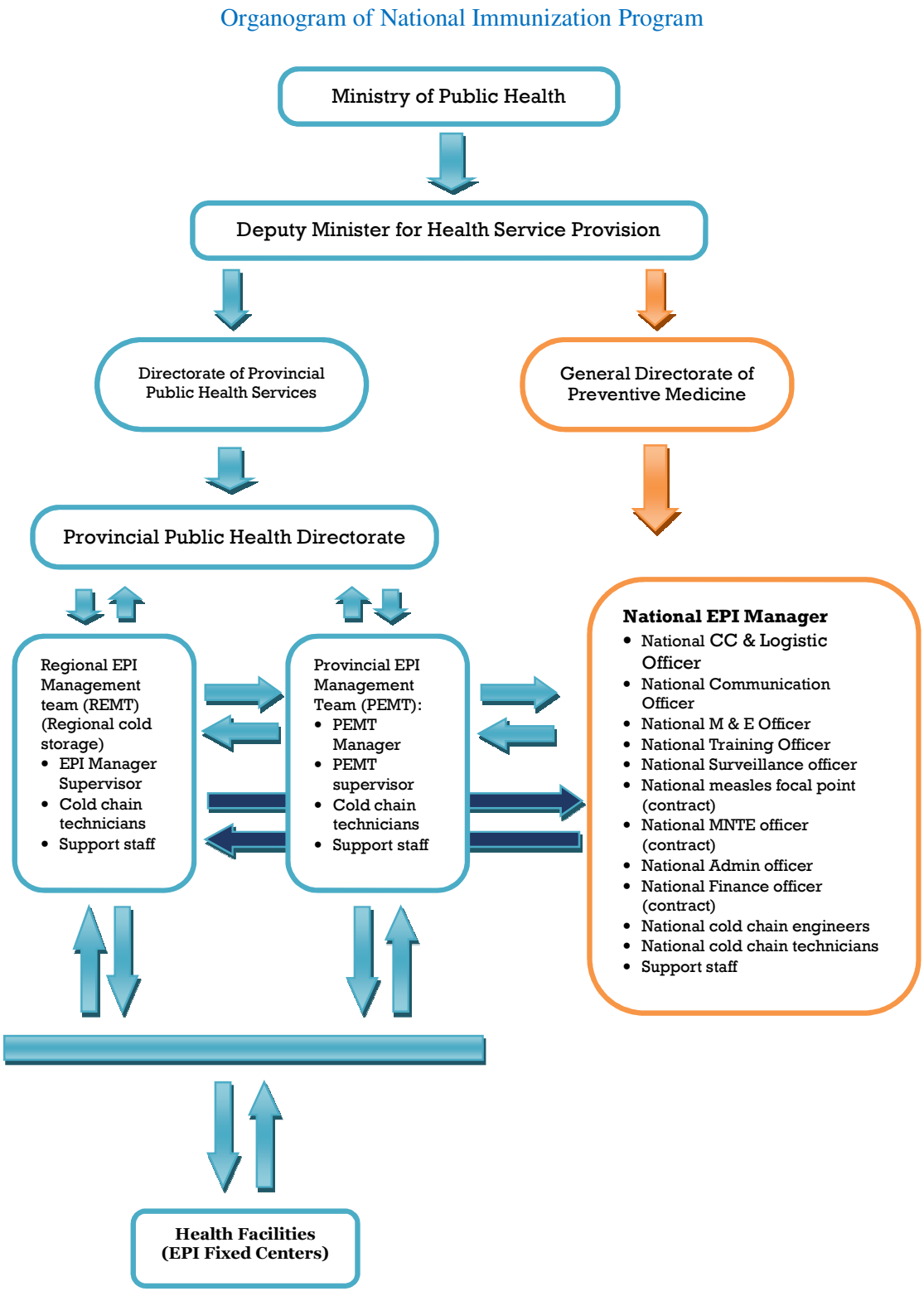
GVAP Strategies	Key Activities	Activity included in cMYP			
		Yes	No	Not applicable	New activity needed
	Develop the next generation of innovative financing mechanisms.			✓	
Increase affordability for middle-income countries.	Explore differential pricing approaches to define explicit criteria for price tiers and the current and future prices to be made available to lower middle-income and middle-income countries.			✓	
	Explore pooled negotiation or procurement mechanisms for lower-middle-income and middle income countries.			✓	
Improve allocation of funding in low- and middle-income countries.	Strengthen budgeting and financial management in-country to better integrate financial and health care planning and priority setting.	✓			
	Coordinate funding support from development partners and other external sources.	✓			
	Evaluate and improve funding support mechanisms on the basis of their effectiveness in reaching disease goals.	✓			
	Base funding on transparency and objectivity in order to ensure the sustainability of programmes.	✓			
	Promote the use of cost and cost-benefit arguments in fund raising, decision-making, and defense of immunization funding.	✓			
	Explore pay-for-performance funding systems.	✓			
Secure quality supply	Build and support networks of regulators and suppliers to share best practices and to improve quality assurance capabilities and quality control.			✓	
	Develop tools to strengthen global standardization of manufacturing and regulatory processes.			✓	
	Strengthen national regulatory systems and develop globally harmonized regulations.			✓	
	Ensure a forum where countries can communicate expected demand for vaccines and technologies and provide guidance to manufacturers on desired product profiles.			✓	
Strategic objective 6: Country, regional and global R&D innovations maximize the benefits of immunization.					
Expand capabilities and increase engagement with end-users.	Engage with end users to prioritize vaccines and innovations according to perceived demand and added value.			✓	
	Establish platforms for exchange of information on immunization research and consensus building.			✓	
	Build more capacity and human resources in low- and middle-income countries to conduct R&D and operational research.			✓	
	Increase networking among research centres for efficient building of partnerships among high-, middle- and low-income countries' institutions.			✓	
	Promote collaboration between traditional research disciplines and scientists from disciplines not previously engaged in vaccine research.			✓	
Enable the development of new vaccines	Research on the fundamentals of innate and adaptive immune responses, particularly in humans.			✓	
	Research on immunologic and molecular characteristics of microbes.			✓	
	Improve understanding of the extent and causes of variation in pathogen and human population responses to vaccines.			✓	
Accelerate development,	Promote greater access to technology, know-how and intellectual property for adjuvants and their formulation into vaccines.			✓	

GVAP Strategies	Key Activities	Activity included in cMYP			
		Yes	No	Not applicable	New activity needed
licensing and uptake of vaccines.	Develop non-syringe delivery mechanisms and vaccine packaging that best suit the needs and constraints of countries' programmes.			✓	
	Develop thermo-stable rotavirus and measles vaccines.			✓	
	Develop new bioprocessing and manufacturing technologies.			✓	
	Develop a global, regulatory science research agenda.			✓	
	Adopt best practices in portfolio and partnership management for R&D			✓	
Improve programme efficiencies and increase coverage and impact.	Research the use of more effective information through modern communication technologies.	✓			
	Conduct representative epidemiological, immunological, social and operational studies and investigations of vaccine impact to guide health economics analysis.	✓			
	Perform operational research on improved delivery approaches for life course immunization, and vaccination in humanitarian emergencies, fragile states and countries in and emerging from conflict.	✓			
	Perform research on interference effects and optimum delivery schedules.			✓	
	Perform research to develop improved diagnostic tools for conducting surveillance in low-income countries.			✓	

Annex 2: Immunization coverage targets for cMYP 2015-19

Type of Vaccine	Baseline	Coverage Targets				
	2013	2015	2016	2017	2018	2019
BCG	80%	82%	85%	87%	89%	91%
Measles	59%	70%	75%			
OPV	64%	70%	75%	80%	85%	90%
Pentavalent	60%	70%	75%	80%	85%	90%
TT	50%	60%	65%	70%	75%	80%
Pneumococcal (PCV13)	n/a	70%	75%	80%	85%	90%
Rota vaccine	n/a			80%	85%	90%
Hep-B (Birth Dose)	n/a	20%	25%	30%	35%	40%
IPV	n/a	30%	75%	80%	85%	90%
OPV0	55%	58%	61%	64%	67%	70%
Measles Rubella (MR)	n/a			80%	85%	90%

Annex 3: Organogram of National Immunization Program



Annex 4: Future resource requirements by cost categories for 2015-2019 (in local currency)

COST CATEGORY	2015	2016	2017	2018	2019
	Afs (Millions)	Afs (Millions)	Afs (Millions)	Afs (Millions)	Afs (Millions)
ROUTINE IMMUNIZATION COSTS					
Traditional Vaccines	277.2	303.2	436.1	438.1	473.6
Underused Vaccines	277.5	304.0	332.4	362.0	392.8
New Vaccines	860.4	964.8	1,896.3	1,885.9	2,043.1
Injection supplies	108.1	121.2	134.3	145.0	157.8
Personnel	619.3	673.2	730.1	791.0	856.1
Transportation	28.7	31.7	35.2	36.2	37.3
Vehicles	48.5	12.1	14.8	-	-
Cold chain equipment	297.6	199.3	154.6	17.2	17.5
Other capital equipment	196.9	23.7	3.7	3.8	3.8
Other routine recurrent costs	851	920.8	1,026.8	1,028.3	1,061.3
RI Costs (Sub-Total)	**3,565.2**	**3,553.9**	**4,764.3**	**4,707.4**	**5,043.4**
CAMPAIGN COSTS	838.4	450.6	464.6	927.8	494.0
SHARED HEALTH SYSTEM COSTS	68.7	72.0	75.6	79.3	83.2
GRAND TOTAL	**4,472.3**	**4,076.6**	**5,304.5**	**5,714.5**	**5,620.6**

Annex 5: Future secure financing and funding gaps (shared costs excluded)

Secured Financing	2015	2016	2017	2018	2019
	USD	USD	USD	USD	USD
Government	133,273	139,936	146,933	154,280	161,994
Gov. Co-Financing Of GAVI Vaccine	1,193,153	1,190,903	1,299,489	623,207	
GAVI (ISS)	5,041,092				
GAVI (NVS)	25,506,115	20,684,047	37,126,357	32,026,211	20,900,525
GAVI (HSS)	7,656,850				
WHO	1,007,148				
UNICEF	1,695,755	844,569	873,273	903,041	933,916
JICA	6,643,744				
World Bank	3,950,254	4,366,052	4,786,963	5,152,158	
USAID	4,668,482	5,159,880	5,657,320	6,088,914	
EU	3,591,140	3,969,138	4,351,784	4,683,780	
PEI	6,719,980				
Total Secure Funding	67,806,987	36,354,525	54,242,120	49,631,592	21,996,434
Total Resources Needed	77,108,792	70,286,797	91,457,599	98,525,325	96,906,892
Funding Gap	9,301,805	33,932,272	37,215,479	48,893,733	74,910,458

Annex 6: Future secure + probable financing and gaps (shared costs excluded)

Secured + Probable Financing	2015	2016	2017	2018	2019
	USD	USD	USD	USD	USD
Government	133,273	139,936	146,933	6,260,250	21,259,608
Gov. Co-Financing Of GAVI Vaccine	1,193,153	1,190,903	1,299,489	623,207	
GAVI (ISS)	5,041,092				
GAVI (NVS)	25,506,115	20,684,047	37,356,902	32,026,211	20,900,525
GAVI (HSS)	7,656,850	13,750,918	13,777,511	11,420,310	
WHO	1,007,148	609,048	619,409	700,464	680,414
UNICEF	2,296,888	1,183,852	1,682,472	1,107,295	1,755,330
JICA	6,643,744	7,315,710	9,834,467	10,052,755	10,886,645
World Bank	3,950,254	4,366,052	4,786,963	5,152,158	5,541,733
USAID	4,668,482	5,159,880	5,657,320	6,088,914	6,549,320
EU	3,591,140	3,969,138	4,351,784	4,683,780	5,037,939
PEI	6,719,980	6,925,183	7,137,264	7,356,475	7,583,079
Total Secure + Probable Funding	68,408,120	65,294,668	86,650,515	85,471,820	80,194,594
Total Resources Needed	77,108,792	70,286,797	91,457,599	98,525,325	96,906,892
Funding Gap	8,700,672	4,992,129	4,807,084	13,053,505	16,712,298

Annex 7: Year-wise requirement of additional vehicles at national, regional and provincial levels

Type of Vehicles Required	2015	2016	2017	2018	2019
National					
Toyota Hilux Pickup	3	0	1	0	0
Toyota Fork Lifter	1	0	0	0	0
ISUZU Refrigerated truck	1	0	0	0	0
Region					
Toyota Hilux Pickup	7	0	0	0	0
Refrigerated Van Toyota Hilux	7	0	0	0	0
Province					
Toyota Hilux Pickup	5	5	5	0	0

Annex 8: Year-wise requirement of office equipment and furniture

Type of Item	2015	2016	2017	2018	2019
Laptop computer	13	2	0	0	0
Desktop computer	33	2	0	0	0
Printer	42	2	0	0	0
Scanner	5	2	0	0	0
Photocopier	5	2	0	0	0
Furniture (No. of sets)	110	68	60	60	60

Annex 9: Macroeconomic and Sustainability Indicators

Macroeconomic and Sustainability Indicators	2013	2015	2016	2017	2018	2019
Per capita GDP (USD)	665	680	695	710	725	740
Total health expenditures per capita (THE per capita USD)	55	56	57	58	59	60
Population (in millions)	30.8	32.3	33.0	33.8	34.6	35.5
per DTP3 child (USD)	64.1	84.5	76.8	93.9	85.3	84.3
RESOURCE REQUIREMENTS FOR IMMUNIZATION AS % OF TOTAL HEALTH EXPENDITURES						
Routine and Campaigns (Includes Vaccines and Operational Costs)	3.1%	4.3%	3.7%	4.7%	4.8%	4.6%
Routine Only	2.3%	3.5%	3.3%	4.3%	4.0%	4.2%
Funding Gap						
With Secure Funds Only		0.52%	1.80%	1.90%	2.39%	3.52%
With Secure and Probable Funds		0.48%	0.27%	0.25%	0.64%	0.79%
RESOURCE REQUIREMENTS FOR IMMUNIZATION AS % OF GOVERNMENT HEALTH EXPENDITURES						
Routine and Campaigns (Includes Vaccines and Operational Costs)	55.6%	76.2%	66.7%	83.3%	86.1%	81.3%
Routine Only (Includes Vaccines and Operational Costs)	40.8%	61.9%	59.3%	76.0%	72.1%	74.2%
Funding Gap						
With Secure Funds Only		9.2%	32.2%	33.9%	42.7%	62.9%
With Secure and Probable Funds		8.6%	4.7%	4.4%	11.4%	14.0%
RESOURCE REQUIREMENTS FOR IMMUNIZATION AS % OF GDP						
Routine and Campaigns (Includes Vaccines and Operational Costs)	0.26%	0.35%	0.31%	0.38%	0.39%	0.37%
Routine Only (Includes Vaccines and Operational Costs)	0.19%	0.29%	0.27%	0.35%	0.33%	0.34%
RESOURCE REQUIREMENTS FOR IMMUNIZATION PER CAPITA						
Routine and Campaigns (Includes Vaccines and Operational Costs)	1.71	2.39	2.13	2.70	2.85	2.73
Routine Only (Includes Vaccines and Operational Costs)	1.26	1.94	1.89	2.47	2.38	2.49

Annex 10: Year-wise cost requirement for vaccines and injection equipment

Name of Vaccine	2015	2016	2017	2018	2019	Total 2015-19
BCG Vaccine						
Doses Needed	4,777,956	5,068,979	5,297,033	5,548,164	5,808,297	**26,500,429**
Cost of Vaccines (USD)	850,954	902,785	943,402	988,128	1,034,458	**4,719,726**
Cost of Injection Equipment (USD)	74,049	78,564	82,120	86,014	90,048	**410,795**
Total Cost (USD)	**925,003**	**981,349**	**1,025,522**	**1,074,142**	**1,124,506**	**5,130,522**
						-
Measles Vaccine						-
Doses Needed	3,037,590	3,327,523	-	-	-	**6,365,114**
Cost of Vaccines (USD)	995,115	1,090,097	-	-	-	**2,085,211**
Cost of Injection Equipment (USD)	115,109	126,115	-	-	-	**241,224**
Total Cost (USD)	**1,110,224**	**1,216,211**	**-**	**-**	**-**	**2,326,435**
						-
OPV Vaccine						-
Doses Needed	4,050,120	4,436,698	4,841,234	5,262,633	5,701,470	**24,292,155**
Cost of Vaccines (USD)	737,122	807,479	881,105	957,799	1,037,668	**4,421,172**
Cost of Injection Equipment (USD)	-	-	-	-	-	-
Total Cost (USD)	**737,122**	**807,479**	**881,105**	**957,799**	**1,037,668**	**4,421,172**
						-
Pentavalent Vaccine						-
Doses Needed	3,037,590	3,327,523	3,630,926	3,946,975	4,276,103	**18,219,116**
Cost of Vaccines (USD)	4,699,152	5,147,679	5,617,042	6,105,970	6,615,131	**28,184,973**
Cost of Injection Equipment (USD)	152,099	166,645	181,858	197,706	214,209	**912,517**
Total Cost (USD)	**4,851,252**	**5,314,324**	**5,798,900**	**6,303,675**	**6,829,339**	**29,097,490**

Name of Vaccine	2015	2016	2017	2018	2019	Total 2015-19
TT Vaccine						-
Doses Needed	26,489,284	29,326,678	32,298,219	35,395,501	38,622,850	**162,132,533**
Cost of Vaccines (USD)	2,031,728	2,249,356	2,477,273	2,714,835	2,962,373	**12,435,565**
Cost of Injection Equipment (USD)	1,325,991	1,468,341	1,617,336	1,772,637	1,934,461	**8,118,767**
Total Cost (USD)	**3,357,719**	**3,717,698**	**4,094,610**	**4,487,472**	**4,896,834**	**20,554,333**
						-
Pneumococcal (PCV13) Vaccine						-
Doses Needed	2,928,176	2,626,992	2,866,520	3,116,033	3,375,870	**14,913,591**
Cost of Vaccines (USD)	12,561,875	11,269,796	12,297,372	13,367,780	14,482,484	**63,979,306**
Cost of Injection Equipment (USD)	152,099	166,645	181,858	197,706	214,209	**912,517**
Total Cost (USD)	**12,713,974**	**11,436,441**	**12,479,230**	**13,565,485**	**14,696,693**	**64,891,824**
						-
Rotavirus Vaccine						-
Doses Needed	-	-	2,339,364	2,077,355	2,250,580	**6,667,299**
Cost of Vaccines (USD)	-	-	15,205,865	13,502,808	14,628,772	**43,337,444**
Cost of Injection Equipment (USD)	-	-	-	-	-	-
Total Cost (USD)	**-**	**-**	**15,205,865**	**13,502,808**	**14,628,772**	**43,337,444**
						-
HepB (Birth Dose) Vaccine						-
Doses Needed	382,709	413,326	503,976	598,739	697,760	**2,596,508**
Cost of Vaccines (USD)	86,071	92,957	113,344	134,656	156,926	**583,955**
Cost of Injection Equipment (USD)	16,309	20,635	25,180	29,931	34,896	**126,950**
Total Cost (USD)	**102,380**	**113,592**	**138,524**	**164,587**	**191,822**	**710,905**
						-

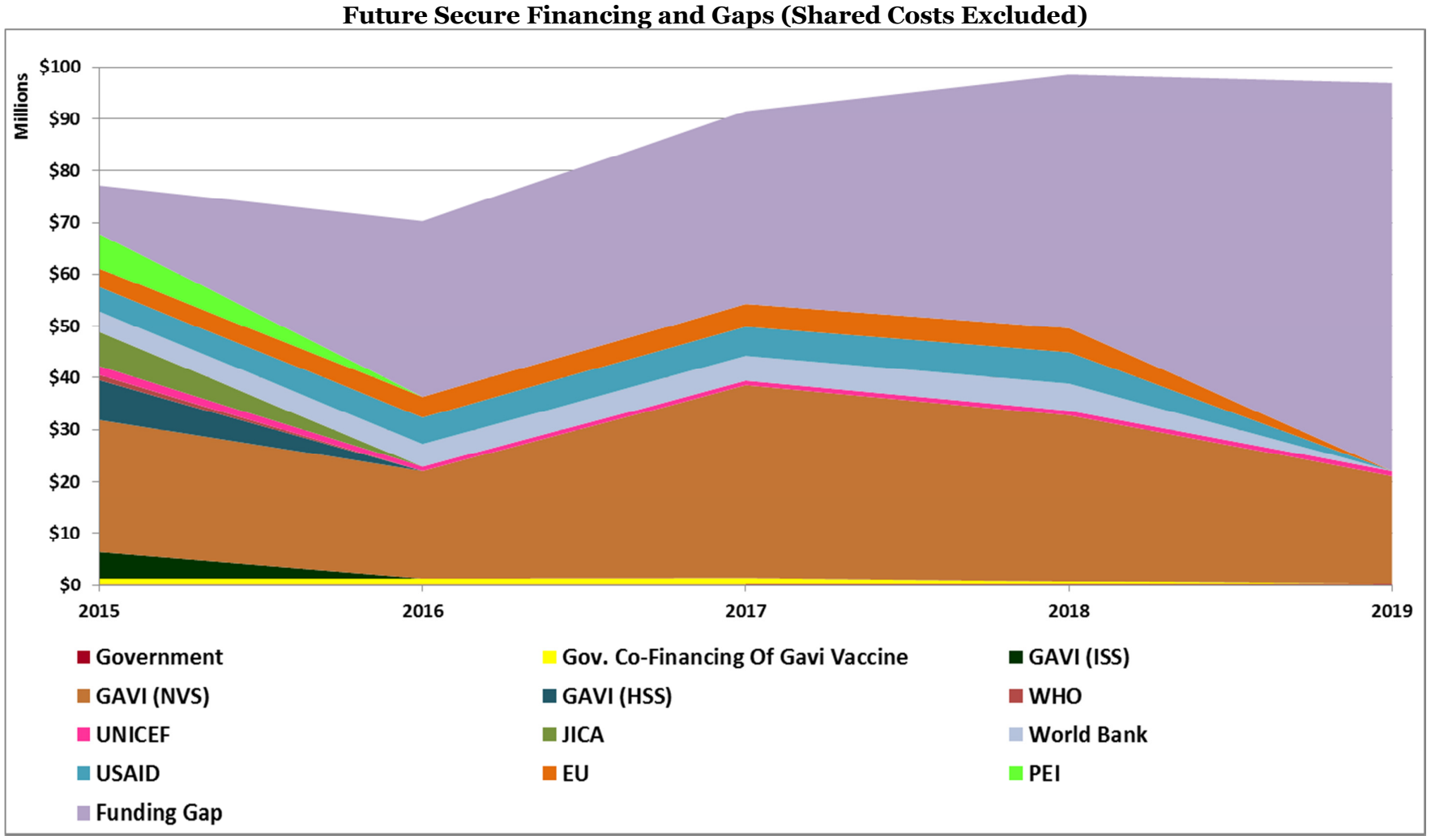
Name of Vaccine	2015	2016	2017	2018	2019	Total 2015-19
IPV Vaccine						-
Doses Needed	529,860	1,250,471	1,210,309	1,315,658	1,425,368	**5,731,665**
Cost of Vaccines (USD)	2,273,101	5,364,519	5,192,224	5,644,174	6,114,827	**24,588,844**
Cost of Injection Equipment (USD)	28,537	61,907	60,619	65,902	71,403	**288,368**
Total Cost (USD)	**2,301,638**	**5,426,425**	**5,252,843**	**5,710,076**	**6,186,229**	**24,877,212**
						-
OPVo Vaccine						-
Doses Needed	904,568	973,305	1,045,103	1,119,786	1,197,451	**5,240,213**
Cost of Vaccines (USD)	164,631	177,142	190,209	203,801	217,936	**953,719**
Cost of Injection Equipment (USD)	-	-	-	-	-	-
Total Cost (USD)	**164,631**	**177,142**	**190,209**	**203,801**	**217,936**	**953,719**
						-
Measles Rubella (MR) Vaccine						-
Doses Needed	-	-	4,444,791	3,946,975	4,276,103	**12,667,868**
Cost of Vaccines (USD)	-	-	3,027,792	2,688,679	2,912,881	**8,629,352**
Cost of Injection Equipment (USD)	-	-	165,715	149,617	162,105	**477,437**
Total Cost (USD)	**-**	**-**	**3,193,507**	**2,838,296**	**3,074,986**	**9,106,789**

Annex 11: Year-wise details existing staff strength and additional staff requirement at national, regional, provincial and district levels

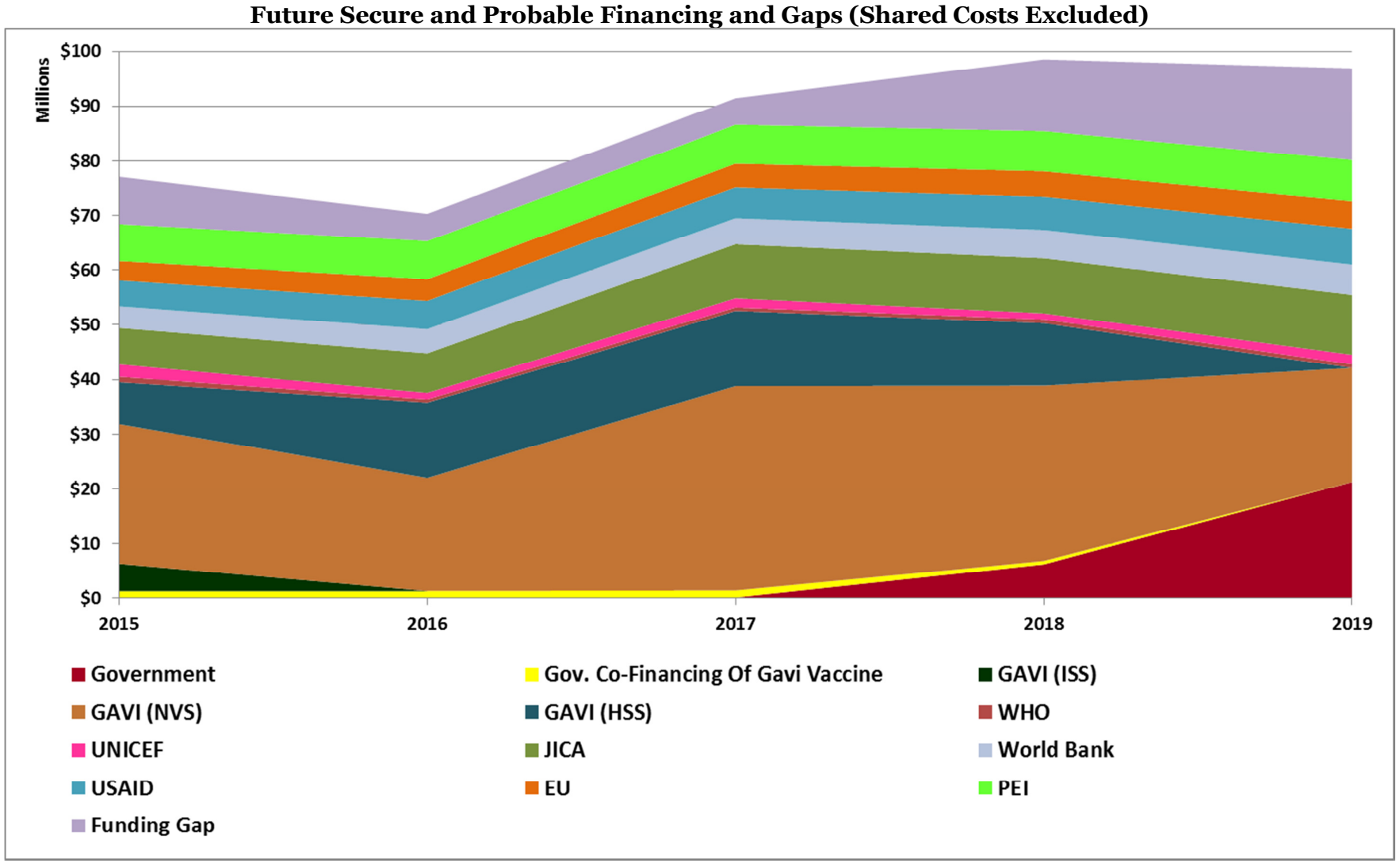
Level and Type of staff	Existing	Future Requirement				
	2014	2015	2016	2017	2018	2019
National						
Director General of Preventive Medicine and PHC	1					
National EPI Manager	1					
National EPI Communication Officer	2					
National EPI Data Manager	1					
National EPI M & E Officer	3					
National EPI Training Officer	1	2				
National EPI VPD Surveillance Officer	1					
National EPI Measles surveillance Officer	1					
National EPI Cold Chain & Logistics Manager	1					
National EPI Cold Chain Engineers	2					
National EPI Cold Chain Technician	4	2				
National EPI Administrative Officer	1					
National EPI finance Officer	1					
Support staff to Admin in MoPH	2					
National EPI Drivers	4	2				
National support staff	11	11				
Communication Assistants	2					
EPI Store keeper	0	2				
Region						
Regional EPI Manager (G)	7					
Regional EPI supervisor	14					

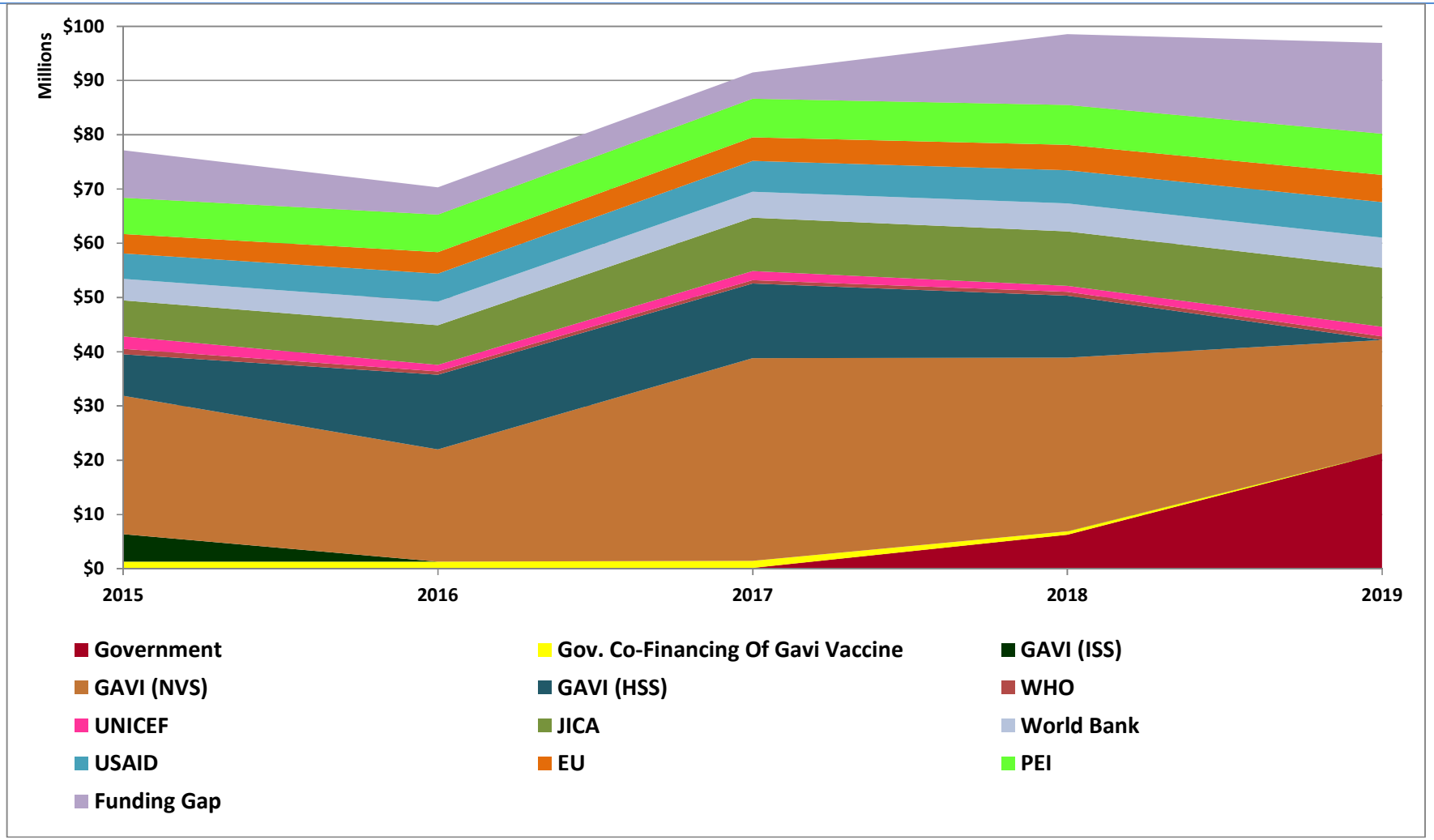
Level and Type of staff	Existing	Future Requirement				
	2014	2015	2016	2017	2018	2019
Regional Cold chain & logistics Manager	7					
Regional Cold Chain Officer	7					
Regional Cold Chain Technician	14					
Regional EPI trainer	16					
Regional VPD surveillance officer		7				
Regional EPI driver	7	7				
Regional EPI support staff	14					
Office guard	14					
Province						
Provincial Health Director (G)	34					
Provincial EPI Manager (G)	27					
Provincial EPI supervisor	27					
Provincial Cold chain & logistics Officer	27					
Provincial cold chain technician	54					
Provincial VPD surveillance Officer		27				
Driver	27					
Support staff	27	20	7			
Guard	0	20	7			
District						
Generalist (Medical Doctor)	1,153					
Nurse (Female)	751					
Midwife	2,149					
Vaccinator	2,906	120	120	120	120	120

Annex 12: Future Secure Financing and Gaps (Shared Costs Excluded)



Annex 13: Future Secure and Probable Financing and Gaps (Shared Costs Excluded)




Millions
$100
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
2015
2016
2017
2018
2019
Government
Gov. Co-Financing Of Gavi Vaccine
GAVI (ISS)
GAVI (NVS)
GAVI (HSS)
WHO
UNICEF
JICA
World Bank
USAID
EU
PEI
Funding Gap

Annex 14: Annual Work Plan 2014-15: World Health Organization

World Health Organization Regional Office for the Eastern Mediterranean	**AFGHANISTAN (2014-2015)**	
Project short Name: Vaccine preventable Diseases & Immunization		
Project Long Name: Reduce health, social and economic burden of vaccine preventable diseases		
Output: 1.5.1	**Implementation and monitoring of the global vaccine action plan as part of the Decade of Vaccines Collaboration strengthened with emphasis on reaching the unvaccinated and under-vaccinated populations**	**Planned cost $**
Deliverable	**151C1 Support countries to develop and implement national multi-year plans and annual implementation plans (including micro-planning for immunizations) with a focus on under-vaccinated and unvaccinated populations**	**3,478,840**
	Increased vaccination coverage	
Objective	**By the end of 2015, routine vaccination coverage of pentavalent vaccine will have reached at least 90% nationally and at least 80% in all districts with emphasize on reaching the hard to reach populations.**	
	Develop micro-plans	**173,450**
	Develop/update district/ health facility micro-plans to identify and reach hard-to-reach populations	
	Annual PoA	**500**
	Develop National Immunization Plan of Actions based on district/provincial plans and in order to identify and reach the unreached target populations.	
	Update cMYP	**1,200**
	Support National EPI/MOPH in updating national immunization multi-year (cMYP 2011-2015) and develop cMYP (2016-2020) in line with GVAP and new national health policy (2013-2020)	
	Implement RED approach	**345,000**

	Support NIP/MOPH to sustain high immunization coverage where it has been achieved and develop/implement appropriate strategies to reach the un-reached children with immunization services.	
	Expand EPI services	**609,190**
	Provide technical support for training of new vaccinators to meet the need of program in human resources for increase access to vaccination services and reaching the unreached populations.	
	Capacity building	**75,000**
	Develop/adopt/revise/update policy, guidelines, protocols, tools, standards, staff job descriptions and organize training courses and workshops for 200 EPI managers/supervisors at different levels to strengthen technical and managerial capacity of MOPH and NGOs' staff.	
	Integration with RMCNH	**32,500**
	Provide technical support in integrating of immunization services with RMCNH	
	Provide RCW50EG	**625,000**
	Support NEPI/MOPH in procurement of 150 RCW50GE refrigerators	
	EVM Assessment & CCI plan	**30,000**
	Provide technical and financial support to MOPH in conducting of EVMA and development of cold chain improvement (CCI) plan	
	Provide vehicles	**640,000**
	Support MOPH in procurement of 20 Pick-ups for immunization program activities	
	Data management	**252,000**
	Support NIP in improving immunization data management by recruitment of an access programmer for developing access base software, installation, training of staff at different levels and immunization data management.	
	Management and accountability	**360,000**
	Strengthen management and accountability of EPI program by a local expert working exclusively on EPI to plan and manage supervision, develop curriculum, guidelines, standards, tools for supervision and conducting training workshops in each region, conduct quarterly review in each province focusing on districts, equip each province and develop and use dashboard.	

	Emergency plan	**335,000**
	Enhance implementation of emergency EPI plan in 4 provinces by assessing baseline, conducting workshops to assess the needs, and support in implementation of micro-plans	
Output: 1.5.2	**Intensified implementation and monitoring of measles and rubella elimination, and hepatitis B control strategies facilitated**	**Planned cost $**
Deliverable	**152C1 Support countries in developing and implementing national strategies for measles, rubella/congenital rubella syndrome, neonatal tetanus and hepatitis B elimination/control**	**4,155,200**
	MCV coverage	
Objectives	**By the end of 2015, MCV1 will be increased to 95% at national level and in all districts to reach elimination indicators**	
	Routine MCV coverage	**74,500**
	Support MOPH in expanding immunization services including technical support and optimizing the utilization of existing health facilities, establishing of new vaccination centers strengthen routine outreach and mobile activities based on RED strategy to increase MCV, TT, Hepatitis B and other vaccination coverage.	
	Measles SIAs	**700**
	Conduct measles susceptibility analysis to determine susceptible population groups for selective measles mop-up campaign and nation-wide measles SIAs.	
	VPD surveillance	**90,000**
	Provide technical support for measles/NNT case based surveillance with lab support (measles) to monitor program performance for achieving and sustaining measles elimination indicators.	
	Measles SIAs	**3,900,000**
	Advocate for mobilization of resources from national and international sources and provide technical support for conducting high quality phase-wise, national-wide measles SIAs in 2015	
	Research	**90,000**
	WHO to provide technical support in conducting epidemiological study on burden of Hepatitis B in community	
	WHO to provide technical support in conducting epidemiological study on burden of Rubella in the community	

Output: 1.5.3	**1.5.3. Target product profiles for new vaccines and other immunization-related technologies defined and research priorities to develop vaccines of public health importance and overcome barriers to immunization agreed**	**Planned cost $**
Deliverable:	**153C1 Work with country stakeholders to define country needs for new vaccine products, related implementation research and data to inform decisions**	**93,750**
	Introduce rotavirus vaccine	
Objective	**NITAG to review Rotavirus hospital based surveillance data, vaccine quality and safety, technical and programmatic feasibility for making evidence based recommendation for introduction of rotavirus vaccine into national immunization program in 2015.**	
	Application for new vaccine	**700**
	WHO to provide technical support in developing application to GAVI for supporting introduction of Rotavirus vaccine into national immunization program	
	Rotavirus surveillance	**57,050**
	WHO to continue its technical and financial support for strengthening and expansion of rotavirus hospital based surveillance	
	Meningitis/pneumonia surveillance	**36,000**
	WHO to continue its technical and financial support strengthening and expansion of meningitis/pneumococcal pneumonia hospital based surveillance for documenting burden of diseases.	

Annex 15: GPEI-PEI WHO-UNICEF Joint Project Proposal: Afghanistan PEI Support to EPI

Activities and Budget Plan for Afghanistan PEI Networks Support to EPI through use of PEI Assets

No	Task/Activity	Unit cost	Quantity	USD	Recipient
	Capacity building of the MoPH, WHO & UNICEF staff on RI				
1.	Training workshops for WHO, UNICEF and MOPH PEI/EPI provincial and district level staff	584/ person trained	123 persons	71,920	WHO
2.	Training workshops for HF level staff	286/ person trained	240 persons	68,640	WHO
	Support micro planning for RI				
3.	Conduct micro planning exercise in 30 pilot districts	700	30 districts	21,000	WHO
	Support supervision and monitoring of RI				
4.	Conduct monthly monitoring and supportive supervision	1200	30 districts	36,000	WHO
5.	Conduct evaluation of PEI support to RI in 30 districts	1500	30 districts	45,000	WHO
6.	Conduct joint national progress review and report	N/A	N/A	14,450	WHO
	Communication and social mobilization				
7.	Training of social mobilizers and cluster supervisors on Routine Immunization	USD 170/ person trained	805 persons	136,480	UNICEF
8.	IPC training of all immunization service providers and supervisors / front line workers	USD 30/ person trained	50 persons	1500	UNICEF
9.	IEC material revised with RI messages for use at community / HH level	N/A*	-	_	UNICEF
10.	House to house visits by social mobilizers to communicate key messages on RI, screen children for RI, refer to nearest health facility or outreach session (support defaulter tracing to reduce dropouts)	N/A*	6 districts	-	UNICEF
11.	Awareness raising on routine immunization activities through local media	N/A*	4 provinces including 6 LPDS	-	UNICEF

12.	CCSs to attend at least 50% outreach sessions in their catchment area to provide health education to caregivers	N/A*	6 persons	-	UNICEF
	ICN support to micro planning and coverage improvement				
13.	Household listing of all eligible children to support micro planning and address denominator issues	Approx 23,000 per district	3 districts	69,000	UNICEF
14.	Printing of household registers	USD 5/ register	700 registers	3,500	UNICEF
15.	Regular coordination meetings with BPHS NGOs at heath facility (twice a month CCS/ DCO with HF in charge) & district level (monthly)	N/A*	-	-	UNICEF
	Sub-total-WHO			257,010	
	Program Recovery Cost (7%)			17,991	
	Total-WHO			275,001	
	Sub-total-UNICEF			210,480	
	Program Recovery Cost (7%)			14,734	
	Total-UNICEF			225,214	
	GRAND TOTAL			**500,214**	