Comprehensive Multi Year Plan

Immunization Program of Balochistan Province

List of figures

Acronyms

AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
BCG	Bacillus Calmette-Guerin
BHU	Basic Health Unit
cMYP	Comprehensive Multi Year Plan
DGHS	Director General Health Services
DHO	District Health Officer
DHQH	District Head Quarters Hospital
DPT	Diphtheria Tetanus Pertussis
DQA	Data Quality Audit
DQS	Data Quality Self-Assessment
DSV	District Superintendent Vaccination
EPI	Expanded Program on Immunization
EVM	Effective Vaccine Management
FMT	Female Medical Technician
FTE	Full Time Equivalent
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GHE	Government Health Expenditure
GoB	Government of Balochistan
GoC	Government of China
GoP	Government of Pakistan
HMIS	Health Management Information System
HR	Human Resources
ICC	Inter-Agency Coordinating Committee
ILR	Ice Lined Refrigerator
IPV	Inactivated Polio Vaccine
KAP	Knowledge, Attitude and Practice
KM	Kilometer
LHS	Lady Health Supervisor
LHV	Lady Health Visitor
LHW	Lady Health Worker
M&E	Monitoring and Evaluation

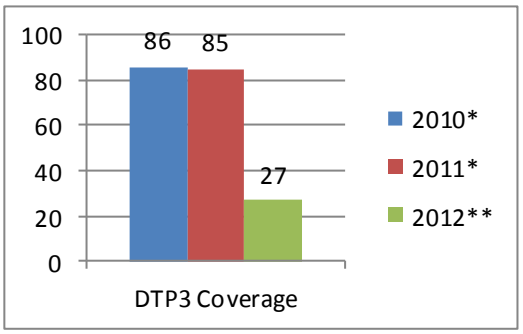
MDG	Millennium Development Goal
MIS	Management Information System
MLM	Mid Line Managers
MNCH	Maternal Newborn and Child Health
MT	Medical Technician
NIPS	National Institute of Population Studies
NITAG	National Immunization Technical Advisory Group
OPV	Oral Polio Vaccine
P&D	Planning and Development
PC-1	Planning Commission Performa No.1
PCV-10	Pneumococcal Conjugate Vaccine - 10
PDHS	Pakistan Demographic and Health Survey
PEI	Polio Eradication Initiative
PKR	Pakistani Rupee
POL	Petrol Oil Lubricants
RED	Reaching Every District
RHC	Rural Health Center
SIA	Supplemental Immunization Activity
SIS	Skilled Immunization Staff
SOPs	Standard Operating Procedures
SWOT	Strengths, Weaknesses, Opportunities and Threats
THE	Total Health Expenditure
THQH	Tehsil Headquarters Hospital
TSV	Tehsil Superintendent Vaccination
TT	Tetanus Toxoid
UC	Union Council
UNICEF	United Nations Children Fund
USD	United States Dollar
VPD	Vaccine Preventable Disease
WHO	World Health Organization

Comprehensive Multi Year Plan Summary

Immunization Achievements

- No polio case
- More than 96% coverage in polio NIDs
- <1% turnover rate of vaccinators

DTP3 Coverage



*Administrative data
**PDHS 2013 data

Immunization System Analysis

- No provincial immunization policy
- Target setting primarily limited to passing on immunization targets set by Federal EPI Cell
- Limited qualified technical staff for surveillance, monitoring and evaluation and cold chain management
- Ageing and insufficient cold chain equipment
- No purpose built warehouses

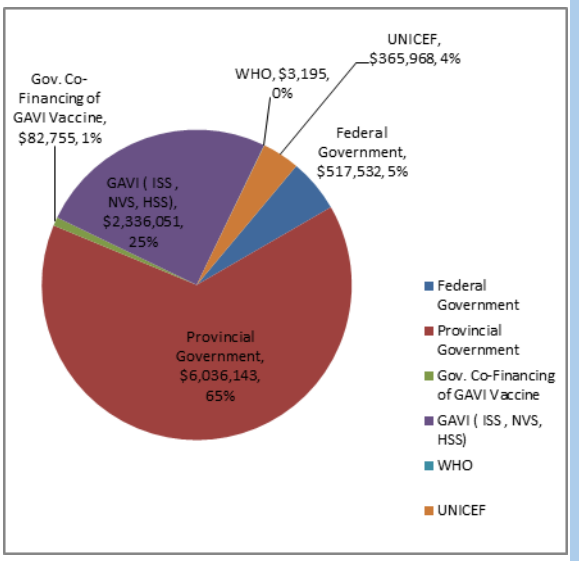
Health System Constraints

- Health strategy developed but not approved
- No policy for human resource management
- Limited practice of developing annual health plans
- Fragmented health information system
- Lack of coordination among vertical health programs

Baseline Costing Profile

Baseline Indicators	2012
Total Immunization Expenditures ($)	17,325,769
Campaigns ($)	7,984,126
Routine Immunization only	9,341,644
per capita ($)	$ 1.13
per DTP3 child ($)	$ 129.10
Total Shared Costs ($)	4,666,101
% Shared health systems cost	21%
TOTAL ($)	21,991,870

Baseline Financing Profile



Immunization Priorities

- Polio eradication
- Increasing immunization coverage and reducing vaccine preventable diseases
- Increasing the share of immunization through fixed EPI centers
- Extending the reach of immunization services to remote area populations
- Improving the quality of immunization through improved cold chain and logistics
- Introducing new vaccines (PCV, IPV and Rotavirus)

Immunization Goals & Objectives

- Measles incidence reduced to less than 10 cases per million population by 2018 with optimally functioning surveillance system
- Sustaining zero polio case status in the province
- Neonatal death caused by neonatal tetanus reduced to less than 1 case per 1000 live birth by 2018
- Increase DPT3 coverage to 70% by 2018
- Increase the proportion of children fully immunized to 65% by 2018

Performance Monitoring

Indicator	2012	2018
DTP3 coverage	27%	70%
Measles 1 coverage	37%	65%
PCV(10)3 coverage	0	70%
% of children fully immunized	16%	65%
% of districts that have at or above 80% DTP3 coverage	0%	60%
Dropout rate - % point difference between DTP1 and DTP3 coverage	11%	<10%

Priority Immunization Program Strategies

- Develop and institutionalize performance management system
- Introduce mechanisms of accountability through third party monitoring
- Increase the number of skilled immunization staff
- Upgrade/maintain adequate cold chain equipment
- Develop and implement evidence based communication strategies

Partnerships & Sustainability Strategy

- Enhance efficient utilization of human resources by developing synergies with other health initiatives
- Minimize wastage of resources under immunization program
- Advocacy for ensuring financial sustainability of immunization program
- Introduce mechanisms of accountability through third party monitoring

Health and Development Impacts

- Improve child survival
- Reduced disability in the community associated with vaccine preventable disease (Polio)
- Contribute to poverty reduction goals through reduction of preventable hospitalization for childhood illnesses

Cost and financing projections

Indicator	2014 ($)	2015 ($)	2016 ($)	2017 ($)	2018 ($)
Total Resources Required	28,922,347	31,858,486	35,587,169	36,670,570	38,318,848
Per capita	2	3	3	3	3
Total secure financing	22,501,677	26,140,186	18,755,545	19,149,808	20,207,181
Funding gap (with secure financing only)	6,420,670	5,718,300	16,831,625	17,520,762	18,111,667
Total probable financing	6,420,670	5,718,300	14,884,997	14,842,191	16,126,312
Funding gap (with secure and probable financing)	0	0	1,946,628	2,678,571	1,985,355

1 Situational Analysis

1.1 Background information

1.1.1 Administrative and political structure

Balochistan, the largest of the four provinces of Pakistan, spreads over an area of 347,190 Sq. Kms, forming 43.6 percent of the total area of Pakistan. It has scattered population and is smallest in proportion as compared to that of other provinces. Due to highly scattered population and rough terrain, many areas are difficult to reach.

The highest administrative unit is the province followed by district, tehsil and union council.

Map of Balochistan

The number of districts, tehsils and union councils is given below:

Figure 1: Number and average population size of Districts, Tehsils and UCs

Unit	Number	Average size of population
Districts	32	259,240
Tehsils	87	95,000
Union Councils	607	13,500

1.1.2 Landscape and climate

The landscape of Balochistan is composed of barren, rugged mountains and fertile, but dry land. Most of the land is barren, particularly on the Iranian and Afghan side of the region, and it is generally sparsely populated. The total cultivated land of the province is around 20% of the total land.[1] Almost all district headquarters are connected with not very good but reasonable metallic roads. However, below district level road communication system is very poor, especially at the UC level.

The climate of the upper highlands is characterized by very cold winters and warm summers. Winters of the lower highlands vary from extremely cold in the northern districts to mild conditions closer to the Makran coast. Summers are hot and dry. Sibi, Chaghi and Kharan districts are extremely hot in summer. The plain areas are also very hot in summer with temperatures rising as high as 120 degrees F (50 degrees C). Winters are mild on the plains and extremely cold (below the freezing point) in some of the districts like Ziarat, Kalat, Mastung, Pishin, Killa Abdullah and Quetta. The desert climate is characterized by hot and very arid conditions. Occasionally strong windstorms make these areas very inhospitable.

Average annual rainfall in Balochistan varies from 2 to 20 inches (50 to 500 mm). Maximum precipitation falls in the north eastern areas with annual average rainfall ranging from 8 to 20 inches (200 to 500 mm). It decreases in the south and the eastern parts and is minimum in Naukundi. In Kharan and Dalbandin areas, rainfall ranges between 1 to 2 inches (25 to 50mm). Evaporation rates are higher than the precipitation and generally vary from 72 to 76 inches (1830 1930 mm) per annum.

Above mentioned factors (difficult terrain, poor roads and extremely hot and cold climate) are also responsible for poor performance of health services delivery including immunization. This needs

[1] http://www.pbs.gov.pk/content/land-utilization-statistics-0

attention, extra resources and special measures for the immunization services in order to improve the coverage rates.

1.1.3 Demographic

Figure 2: Population Demographics 2012 (Baseline)

Balochistan	Rural (76%)	Urban (24%)	Total Population
Total Population	6,304,677	1,990,951	8,295,628
Births	220,664	69,683	290,347
Surviving Infants	203,672	64,318	267,990
Pregnant Women	225,077	71,077	296,154
Child Bearing Age Women	1,387,029	438,009	1,825,038

The baseline numbers of various target groups given in the figure 2 have been calculated on the 1998 census data, applying National Institute of Population Studies (NIPS) growth rate. The urban and rural distribution is also calculated on the basis of 1998 census data. Most of the population resides in the rural areas and hard to reach areas.

Birth registration practices are very poor in Balochistan province. Mostly, people register births on need basis, although the system for birth registration is decentralized up to the Union Council (UC) level. As per the survey report published by UNICEF in 2010, the birth registration pattern was 22.9% in Balochistan. [2]

Internal and external population migration is also common in the province. Internal migration is mostly seasonal, in winter people from district Ziarat migrate to Harnai and in summer people from Sindh bordering districts (Jhal Magsi, Naseerabad and Sibi) migrate to Quetta. External migration occurs from and to Afghanistan and Iran and inter-provincial from and to Sindh and Punjab.

All of the above mentioned factors like more population residing in rural and hard to reach areas, poor birth registration practices and internal and external migration can badly affect immunization services delivery and need special attention.

1.1.4 Social and political context

(1) Poverty

The value for poverty headcount ratio at $2 a day (Purchasing Power Parity) in Pakistan was 60% as of 2008. Whereas, the value for poverty headcount ratio at poverty line of $1.25 a day in Pakistan was 21% as of 2008.[3]

In 2007, the incidence of poverty in Balochistan was 58.5%, whereas 33.5% population was in severe poverty. Furthermore, 19.1% population was also vulnerable to poverty.[4]

Immunization program can impact economic growth through its broader impact on health. Healthy workers are more economically productive and more likely to save and invest, healthy children are more likely to attain higher levels of education and healthy parents are better able to invest in the health and education of their children.[5]

[2] http://www.unicef.org/pakistan/Approved_MICS_Balochistan_Final_Report_23_November_2011(2).pdf
[3] http://iresearch.worldbank.org/PovcalNet/index.htm
[4] http://www.ophi.org.uk/wp-content/uploads/Pakistan-2013.pdf?3f40f1
[5] Bloom, David E., David Canning & Mark Weston. The Value of Vaccination. World Economics 6(3): 15-39.

(2) Education

The literacy ratio of Balochistan is 25%. The literacy ratio is higher in males (34%) as compared to (14%) in females.[6] Net intake rate in primary education was 20 percent while net primary school attendance adjusted ratio was 44 percent. Net secondary school attendance ratio was 28 percent.[7]

This low literacy ratio especially among females can affect the performance of immunization program due to lack of knowledge and understanding regarding the importance and benefits of vaccination among the community. This needs special attention and appropriate communication and social mobilization strategies.

(3) Culture and traditions

There are three major tribes in the province Baloch, Brahvi and Pashtoon. Apart from these major tribes, Hazara, Punjabi and Sindhi are also settled in the province.

Balochistan, despite its scarce population, has an uncommon racial and tribal diversity. Most of the people in the cities and towns understand and speak more than two languages. In addition to Balochi, Pashto and Brahvi, the majority of the population understand and speak Urdu, the national language. In Jaffarabad, Naseerabad and Jhal Magsi , most of people speak Sindhi. Quetta city, the confluence point of all linguistic groups accommodates not only Urdu, Balochi, Pashtoo, Brahvi and Sindhi speaking people but Punjabi, Darri and Persian speaking ones as well.

It is a male dominant society; hence most of the women are housewives and have minimal role in the decision making. Male members of the family are responsible for earnings and doing various jobs including employment (public and private), farming, labor and business.

Above mentioned cultural and traditional factors can affect the performance of immunization program. For example, you may find resistance and refusals for immunization. The main reason in Pashto community is due to religious factors and in Baloch and Brahvi communities, it is mainly due to illiteracy and other socio-cultural factors.

1.1.5 Public expenditure management

The department of Finance and Planning & Development (P&D) have key role in the development of allocation of provincial budgets. However, the provincial budget preparation involves the line departments for expenditure estimates within the ceilings provided by the GoB. Each year, the budget process involves the rolling forward of the previous budget estimates.

Recurring budget duly approved by the provincial assembly, is assigned to the relevant departments for the recurring expenditure (non-development), whereas the development expenditures are handled by P&D department. All departments are required to develop and submit their PC-1s, for the approval and release of budgets. The brief overview of overall development and non-development expenditure of Balochistan for the year 2013-14 is given in figure 3.

Figure 3: Governemnt of Balochistan - Expenditures for Year 2013-14

Current Expenditure (Rs)	Development Expenditure (Rs)	Total Expenditure (Rs)
118 billion	47 billion	165 billion

[6] Census 1998, Government of Pakistan.
[7] Multiple Indicator Cluster Survey (MICS) 2010, Government of Balochistan and UNICEF, Pakistan.

Share of Federal grants is PKR 13 billion, whereas the share of foreign direct grants is PKR 1.6 billion.[8] The overall GDP of Pakistan for year 2012 is US $ 225 billion and per capita GDP is US $ 1,257 as per World Bank database.[9]

1.2 Health Sector Analysis

1.2.1 Governance

The overall political governance of the province is managed by the provincial cabinet headed by the Chief Minister of Balochistan. The Chief Secretary of the province is the administrative head of all departments in the province. The Additional Chief Secretary provides assistance to him/her in the overall management and administration. Every department, including the department of health, is headed by the Secretary and Director General for all technical matters.

Secretary Health is head of the department while Director General Health Services is the technical lead. The Secretariat of Health is the apex management unit for the entire health department. Department of Health also works with many civil society organizations and foreign donors under the umbrella of MoUs normally signed between the organizations and the DoH.

Each and every vertical program including EPI is headed by the Provincial Program Manager under the administrative control of Secretary and Director General Health Services.

Every district is headed by the Deputy Commissioner and Executive District Officer (EDO) is responsible for his/her respective portfolio like health, education, etc. At the district level, even vertical programs are looked after by the EDOs and there is a lack of effective coordination and working relationship among the DHOs and Provincial Managers.

As a public private partnership initiative, DoH Balochistan has contracted out BHUs and some RHCs to the Peoples Primary Health Care Initiative in 2006. The main objective of this contracting was to make the non-functional health facilities functional to an optimum level of performance.

1.2.2 Health workforce

Health workforce is an important component of the health systems worldwide as it consumes the biggest share of the health budget, manages other resources and runs the health services system.

World Health Report 2006 identified that 57 countries including Pakistan are facing a health workforce crisis. Each of these countries have less than 23 health workers (doctors, nurses, midwives) per 10,000 people; the minimum required to achieve an 80% coverage rate for deliveries by skilled birth attendants or for measles immunization.[10]

The main issues related to health workforce include: no provincial HR policy, no HR audit/accountability system, political interference in recruitment, no or improper job descriptions, many health facilities without required minimum staff, poor performance appraisal system and lack of capacity building opportunities.

According to the DoH data, availability of various categories of health workforce (public sector only) per 10,000 population is given below:

[8] http://balochistan.gov.pk/index.php?option=com_docman&task=cat_view&gid=1271&Itemid=754
[9] http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries
[10] The World Health Report, 2006

Figure 4: Health workforce (public sector only) per 10,000 population

S. No.	Type of health workforce	Availability per 10,000 population
1.	Doctor	3.2
2.	Nurse	1.6
3.	LHV	0.9

It is evident from the figure 4 that there is an extreme shortage of health workforce in the province and is not sufficient for the provision of healthcare delivery services.

No exact data is available on urban rural distribution and inflow/outflow of health staff but it was expressed by the participants of the provincial workshop on cMYP that the urban ratio is higher than rural. The majority of the health professionals do not want to leave the job and stay with the DoH till their retirement.

1.2.3 Finance

Balochistan provincial government's total health expenditure (THE) in 2013 -14 is planned to be PKR 11 billion on health services which is 7% of Total General Government Expenditure (TGGE). The past trend of Balochistan government's expenditure on overall health services is given in figure 5.[11]

Figure 5: Balochistan government's expenditure on overall health

Balochistan Government's Total Health Expenditure *	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13
PKR in billions	1.605	6.845	7.352	9.851

However, as per World Bank data given in figure 6, Pakistan government's total health expenditure per capita in 2011 was US $ 30. In this expenditure, government's share is US S 3.20 only.[12]

Figure 6: Development vs Non-Development Budget for EPI

Years	Provincial EPI Development Budget	Provincial EPI Regular Budget	Total EPI Govt. Budget
2010	9,823,000	25,438,289	35,261,289
2011	10,000,000	35,403,000	45,403,000
2012	4,975,000	45,880,000	50,855,000

1.2.4 Medical products and Technology

The DoH is maintaining centralized purchase system in the province through the medical store depot (MSD). Additional Secretary Health is in-charge of the MSD, while the Principal Purchase Officer is the Secretary Health. EDO Health has the powers to purchase drugs/medicines for district hospitals, according to the approved list, issued by MSD. Currently, the province cannot directly import commodities.

1.2.5 Service delivery

Health care delivery system of DoH Balochistan is a three-tiered health care delivery system (primary, secondary and tertiary care). As shown in figure 7, starting at grass root level, health houses (6720) provide community health care services through lady health workers and are connected to basic health units (553) with an upward referral pathway to rural health centers (85) and district hospitals (26). Only one tehsil headquarter hospital is available in the province. There are also four tertiary

[11] http://balochistan.gov.pk
[12] *http://data.worldbank.org/indicator/SH.XPD.PCAP/countries Planning & Development Department*

level teaching hospitals. In addition to these facilities, other centers like dispensaries and MCH centers (668) are also providing healthcare delivery services. However, this extensive healthcare infrastructure has not been translated into optimal healthcare delivery due to a number of issues related to the health system. This includes health workforce related issues (already discussed above under the health workforce section), no provincial health strategy or provincial health policy, mal-distribution of resources, etc.

As per national EPI policy, all these health facilities should have static EPI centers but unfortunately there are only 467 functional EPI centers. More than one third of total union councils are without EPI centers.

Figure 7: Service delivery capacity by type of public and private healthcare providers - static

Type of service	Number of facilities		
	Required	Available/Functional	Delivering EPI
1. **DHQ**	32	26	26
2. **THQ**	87	01	01
3. **RHC**	174	85	85
4. **BHU**	607	553	330
5. **Dispensaries and MCH Centers**	---	668	25
6. **Health Houses**	11,000	6,720	--

Figure 8: Service delivery capacity per type of healthcare professional – community level

Type of service	Number of Positions		
	Required	Available	Delivering EPI
1. **LHW**	11,000	6,720	0
2. **CMW**	--	167	0
3. **Vaccinator**	1,435	1,214	1,214
4. **CDC**	--	--	0
5. **Sanitary patrol**	0	0	0

1.2.6 Health Information management

The DoH is using the same information systems that are used in other parts of the country like district health information system (DHIS), vaccine preventable diseases surveillance system (VPD) and other program specific information systems mostly used by the vertical programs including EPI.

All these information systems are collecting data from BHUs, RHCs, THQs, DHQs and other health facilities. Incharge or designated persons at these facilities compile data, prepare report and submit to the EDO Health. After compilation at the district level, EDO Health submits reports to the respective officials at the provincial level, for example DHIS reports to the Provincial DHIS Coordinator and VPD and EPI reports to the Provincial EPI Manager. There are several issues in these reporting systems including low reporting rate, no feedback and error rectification mechanism in practice and lack of coordination among various systems. The information generated by these systems is not used for decision making by the management. In addition to these, the quality and reliability of data is always questionable. The validity of administrative reports on routine EPI is doubtful. As per EPI administrative reports, the DTP3 coverage of Balochistan for year 2012 is 65%, while it is 27% as reported by the recent PDHS 2013. This shows flaw and huge discrepancy between two sources. Hence, there is an urgent need to strengthen the information systems.

1.3 Immunization system

Expanded Program on Immunization (EPI) is one of the most important vertical programs in the province. The Federal EPI Cell, Ministry of Health (MoH) was performing most of the immunization functions until July 2011. After 18th amendment to the constitution in 2011, most of the health functions and responsibilities were assigned to the provinces. As a result, Government of Balochistan (GoB) is now responsible to strengthen and develop the provincial capacity to deliver EPI services in the province. However, it was agreed and decided that the vaccine procurement till 2015 will be managed by the Federal EPI Cell.

1.3.1 Routine Immunization

Figure 9: Situational Analysis – routine immunization

Indicators	2010	2011	2012
Official Coverage Estimates			
DTP1	97%	98%	38%
DTP3	86%	85%	27%
Measles 1	74%	73%	37%
Measles 2	21%	27%	No data
OPV0	26%	28%	35%
OPV3	86%	85%	61%
TT2+	46%	41%	23%
Most Recent Survey Coverage % DTP3			27%
% Fully Immunized Child			16%
Access and demand			
% Drop Out DTP1 - DTP3	11%	13%	11%
% Drop Out DTP1 - Measles (1st dose)	23%	25%	1%
% Drop out Measles 1st and 2nd dose	76%	70%	No data
Immunization Equity			
% gap in DTP3 between highest and lowest socio economic quintiles	No data	No data	No data
Number and proportion of districts with DTP3 coverage > 80%	30 (60%)	30 (70%)	30 (0%)

There is a huge discrepancy in immunization coverage rates reported by EPI reporting system and third party coverage surveys. As per EPI administrative reports, the DTP3 coverage of Balochistan for year 2012 is 65%, while it is 27% as reported by the recent PDHS 2013. After consultations with all the relevant stakeholders (DoH, WHO, UNICEF, TRF, PPHI and others) during the provincial workshop for cMYP development, DoH Balochistan has decided to use baseline coverage figures of PDHS for the year 2012.

According to PDHS 2013, the coverage of various antigens and % of fully immunized children in Balochistan is the lowest in country. This shows that immunization program in the province is not performing well and needs government's special attention for its strengthening in order to improve the performance of program.

1.3.2 Accelerated Disease Control Initiatives

Figure 10: Situational Analysis - by accelerated disease control initiatives

Indicators	2010	2011	2012

Polio			
OPV3 coverage	86%	85%	61%
Number of rounds and sub-national rounds per year	10	11	11
Coverage Range	99%	98%	96%
MNT			
TT2+ coverage	N/A	N/A	N/A
Number and proportion of districts reporting >1 case of neonatal tetanus per 1000 live birth	No data	No data	30 (3%)
Was there an SIA? (Y/N)	No	No	No
Neonatal deaths reported and investigated	No data	No data	17
Delivery at Facility Rate			
Measles & Rubella			
Measles / MR vaccination coverage (1st dose)	93%	105%	106%
Measles / MR vaccination coverage (2nd dose)	No data	No data	No data
Number of lab confirmed measles/rubella outbreaks	18	134	200
Geographic extent National Immunization Day	Selected Districts	Selected Districts	Selected Districts
Age Group (in months)	9-156	9-156	9-119
Coverage	93%	105%	106%
Total Measles Cases (Lab/Clinical/epidemiological)	No data	No data	1853
Total Rubella Cases (Lab confirmed)	0	12	1

Figure 10 provides achievements and baseline values for ADCI. The OPV administrative coverage of NIDs was 99%, 98% and 96% during the years 2010, 2011 and 2012 respectively. The administrative coverage of measles was 93%, 105% and 106% during the years 2010, 2011 and 2012 respectively.

1.3.3 Analysis of Immunization system performance

(1) Summary of immunization system performance

Figure 11: Situational analysis of routine EPI by immunization system components

Indicators	2010	2011	2012
Program management			
1. Law & Regulation			
1.1 Is there legislation or other administrative order establishing a line item for vaccines?	No	No	No
1.2 Is the line item for vaccines in regular / recurrent Budget	No	No	No
1.3 Are regulations revised in the province to implement national or provincial policies?	No	No	No
2. Planning			
2.1 Does the Province have an annual work plan for immunization funded through Health Authorities budgeting processes?	Yes	Yes	Yes
2.2 What is the number of UC with an annual micro-plan for immunization? (Please indicate denominator – Number of UC per province/area)	No	No	No
2.3 Number of planned supervision visits conducted vs. the number of planed visits	No data	No data	No data
3. Coordination and advocacy			
3.1 What were the Number of ICC (or equivalent) meetings held last year at which routine immunization was discussed?	--	--	2
3.2 What were the Number of NITAG (or equivalent) meetings held last year	--	--	Not established
3.3 How many presentations on immunization performance, expenditures,	--	--	No

Indicators	2010	2011	2012
were made to Parliament?			
Human Resource Management			
4. Availability of qualified workforce:			
4.1 Number of healthcare skilled immunization staff per 10,000 population	0.85	0.85	0.95
4.2 % of vaccinator posts currently vacant	--	--	0
4.3 Turnover rate of SIS (or vaccinators specifically)	--	--	Negligible
5. Capacity building			
5.1 Number (and proportion) of immunization program staff trained in immunization services through MLM, IIP or other training modalities per year:			
a) Mid-wives andLHWs/LHS	1919	0	0
b) Nurses	0	0	0
c) Other Skilled immunization staff (vaccinators)	75	65	189
d) Managers	0	0	0
e) Technicians	0	0	51
f) Other	0	0	31
5.2 % of immunization health workers Refreshing trained in immunization in the last two years (data from PIE and EPI reviews)	75	65	271
5.3 Curriculum review for pre-service medical and nursing immunization education conducted	No	No	No
Costing and financing			
6. Financial sustainability			
6.1 What percentage of total routine vaccine spending was financed using government funds? (including loans and excluding external public financing)	No data	No data	No data
6.2 What proportion of the line item in the provincial budget for immunization was actually funded (actually allocated / planned)?	100%	100%	100%
	But not on time		
6.3 What % of immunization resources are being met by the domestic health budget (as identified in the annual budget plan)	75%	50%	43%
6.4 Government expenditures on routine immunization per surviving infant			
6.5 Are provincial immunization budgets and expenditures monitored and reported at national level?	No	No	No
Vaccine supply, quality and logistics			
7. Transport / Mobility			
7.1 Percentage of districts with a sufficient number of supervisory/EPI field activity vehicles /motorbikes/bicycles (based on their need) in working condition	0	0	0
7.2 Number of UC with vaccinators using transportation means for outreach	--	--	--
8. Vaccine supply			
8.1 Was there a stock-out of any antigen at provincial level during 2012?			Yes
8.2 If yes, specify duration in months	--	--	1
8.3 If yes, specify which antigen(s)	--	--	OPV
9. Cold chain / logistics			
9.1 Number of UC with adequate numbers of appropriate and functional cold chain equipment vs. Number of UC with functioning health facilities			
a) With ILR	--	--	380
b) With any kind of refrigerators	--	--	40
9.2 Availability of a cold chain replacement plan	No	No	No
10. Waste disposal			
10.1 Availability of a waste management policy (guidelines/SOP)	Yes	Yes	Yes
10.2 Number of districts implementing waste management policy	100%	100%	100%
Immunization services			

Indicators	2010	2011	2012
11. Geographical access:			
11.1 Number of population per each EPI fixed sites	17500	17500	17500
11.2 Proportion of area covered by immunization service to the total populated area	--	--	55%
11.3 Proportion of UC not having EPI centers	--	--	227 out of 607
11.4 Proportion of UC not having Skilled Immunization Staff (SIS)	--	--	185 out of 607
12. Efficiency of service delivery			
12.1 Share of immunization services delivered by EPI centers	--	--	25%
12.2 Average time EPI Centers provide immunization service per day	6 hrs	6 hrs	6 hrs
Surveillance and Reporting			
13. Routine Surveillance			
13.1 Percentage of integrated VPD surveillance reports received at provincial level from districts compared to number of reports expected:			
a) Timeliness	N/A	N/A	30%
b) Completeness	N/A	N/A	31%
13.2 AFP detection rate/100,000 population under 15 year of age	7.2	7.4	5.1
13.3 % suspected measles cases for which a laboratory test was conducted	--	--	11%
13.4 Number of neonatal deaths for which a follow up investigation conducted	N/A	N/A	7
13.5 Sentinel Surveillance for Rotavirus established	No	No	No
13.6 Sentinel Surveillance for meningitis (Hib/PCV) established	No	No	No
13.7 % of suspected meningitis cases tested for Hib/pneumococcal disease according to standard protocol	No	No	No
14. Coverage monitoring			
14.1 % gap in match between DTP3 survey coverage and officially reported figures	--	--	38%
15. Immunization safety			
15.1 % of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations	100%	100%	100%
16. Adverse Events			
16.1 National AEFI System is Active with a designated national/provincial committee	No	No	No
16.2 Number of serious AEFI cases reported and investigated	No	No	No
Demand Generation and Communization			
17. Communization strategy			
17.1 Availability of a routine immunization communication plan	No	No	No
17.2 KAP Study conducted in relation to immunization	No	No	No
18. Evidence based communication	No	No	No
18.1 % of government funds on demand generation / communication: EPI and PEI			
a) EPI (without PEI)	0	0	0
b) PEI	0	0	0

(2) Program Management

The provincial EPI policy does not exist in the province. As the Federal EPI Cell, Ministry of Health (MoH) was taking care of the immunization program till July 2011, hence the national EPI policy was used by the provincial program before the devolution and even afterwards it is used by the province. However, the national EPI policy is not applicable in most of the cases in the local context like most scattered population (population density is 24 per sq. km), rough and difficult terrain, etc. After the devolution, GoB is now responsible to strengthen and develop the provincial capacity to deliver EPI services in the province except the vaccine procurement, which will be managed by the Federal EPI

Cell till 2015, as there is no budget line item for vaccine procurement in the provincial budget and lack capacity for the vaccine procurement. The provincial (regular and development) budget mainly covers salaries and overhead expenses. Strengthening EPI program at the provincial level requires lot of advocacy efforts and capacity building activities of at the highest management level, which lacks at the moment. The provincial EPI program prepares annual plans but these plans are not comprehensive enough for an effective and efficient implementation. The micro-plans at UC level are prepared for PEI but not for routine EPI.

There is lack of ownership, accountability, monitoring and supervision for EPI especially at the district level which needs urgent action. Peoples Primary Healthcare Initiative (PPHI) is providing support to the DoH for immunization services delivery and monitoring in all districts with particular focus on six selected districts. However, coordination issue among PPHI and the Department of Health (DoH) is also one of the important factors responsible for not delivering effective immunization services. The management of all BHUs and some RHCs is lying with PPHI. However, the EPI services are looked after by the DoH. The lack of coordination exists especially at the UC/BHU level, as there is limited coordination among the BHU incharge/doctor and vaccinator.

There is inadequate and improper storage capacity for vaccine and other related logistics as no purpose built warehouses including cold storage spaces available.

(3) Human Resource Management

Figure 12: Availability and workload of skilled immunization staff (2012)

Accredited EPI Service Providers	Posts occupied (in FTE)	Share of Total Operation Time allocated to Immunization	Share of immunization time spent on PEI	FTE spent on PEI	Available (FTE) for EPI	**Total FTE spent on immunization**
Vaccinators	1,214	100%	40%	486	**728**	**1,214**
Nurses	1,347	0%	0%	0	**0**	**0**
Dispensers	1,561	2%	60%	19	**12**	**31**
Lady Health Visitors (LHVs)	721	2%	0%	0	**14**	**14**
Medical Technicians (MT)	570	2%	80%	9	**2**	**11**
Female Medical Technicians (FMT)	60	2%	60%	1	**0**	**1**
Mid-wives	152	0%	0%	0	**0**	**0**
Lady Health Workers (LHWs)	6,720	10%	95%	638	**34**	**672**
				1,153 (59%)	**790 (41%)**	**1,943 (100%)**
Total FTE available for EPI (except PEI)						**790**
Total FTE Needed for EPI (except PEI)						**1,461**
Deficit						**671 (46%)**

Keeping in view the scattered population and difficult terrain, the number of existing vaccinators is not sufficient for providing adequate and quality immunization services. As shown in figure 12, fifty nine percent FTE is being taken by PEI resulting in shortage of vaccinators. The existing vaccinators are also having capacity issues that need to be resolved. The involvement of other existing qualified health staff is also minimal and they are not properly trained in immunization. The managerial staff has capacity related issues due to lack of their management training which lead to poor planning,

monitoring and supervision related to the immunization services. The existing vaccinators are not performing well due to motivational issues, careless attitude and lack of their proper appraisal and job descriptions.

High turnover of key EPI managerial staff is also an issue at the provincial level and district level which needs an attention.

(4) Costing and Financing

The immunization program mainly depends upon external resources from donors (WHO, UNICEF, GAVI, etc.) and domestic development funds. Hence, the main issue is financial sustainability. The provincial government mainly covers salaries and overheads for immunization through regular/non-development funds. For securing development funds, the EPI program prepares and submits the PC-1 document to the provincial government and after its approval, EPI program gets funds. Due to government procedures and formalities, this process always takes longer. Once the PC-1 is approved, the timely release of funds remains a challenge. The preparation of good quality PC-1 is also an issue due to lack of managers' training in PC-1 development and absence of provincial cMYP. Recently, EPI program has developed a PC-1 but the government has observations including its huge cost (Rs. 39 billion).

(5) Vaccine, Cold Chain and Logistics

EPI program does not forecast the requirement of vaccine and injections but Federal EPI Cell calculates and provides vaccine to the provinces. Provincial EPI program receives adequate quantity of vaccine and injection supplies. However, there was a stock-out of OPV for a month in January 2012 due to the shortage of vaccine at the Federal EPI Cell. EPI program does not regularly develop supply cycle and distribution plan for vaccine and injections. For distribution of vaccines and injections to the districts, provincial immunization program has vehicles both refrigerated and non-refrigerated but these vehicles are not sufficient for timely distribution. EPI program also faces lot of issues related to the vaccine management and cold chain including lack of EVM assessment, lack of updated cold chain equipment inventory, shortage and standardization of cold chain equipment and lack of cold chain equipment maintenance & repair plan. The provincial and divisional cold chain maintenance workshops need strengthening and improvement. Stable power supply is also a major problem especially in rural areas. The existing number of vehicles at the provincial and district level and motorcycles at the UC level are not sufficient to carry out effective immunization services. It was also identified that notables influence to install Solars, ILRs and Cold Chain equipment at their homes.

With regard to new vaccines, Pakistan is committed to introduce pneumococcal vaccine (PCV) during the year 2014 nationwide. However, this would be a challenge to introduce new vaccine in Balochistan with the existing coverage of DTP3. This needs special attention to boost immunization system performance to handle with new vaccine during the cMYP period.

(6) Immunization Services Delivery

Regardless of efforts made by the immunization program, the immunization services delivery is not doing well. According to recent PDHS 2013, only 16 percent of children are fully immunized[13]. Challenges in the provision of immunization services lie mainly at the implementation level. The existing static EPI centers are inadequate in number and deliver immunization services to only 20 – 25% of the target children. More than one third of union councils are without static EPI centers.

[13] Pakistan Demographic and Health Survey, 2013.

Therefore, the outreach services delivery is the key mode to reach the remaining target children. However, it is evident from the recent PDHS figures of fully immunized children that the immunization services are very poor. Almost all of the districts either do not have UC outreach micro-plans or even if few of them have, those are not updated or not implemented. The limited number of outreach and mobile activities/sessions takes place, are not properly supervised and monitored. These sessions are usually held in the vicinity of the static centers instead of really far flung/deserving areas. Therefore, those areas far away from fixed centers are not covered or partially covered. There are also security issues in many areas of the province including Quetta but there is no trend of developing special micro-plans for these areas. There is a huge force of LHWs at the community level but its involvement especially in routine immunization is almost negligible. In the prevailing situation of immunization services in the province, public private partnership initiatives could play a vital role but at present it is not practiced. The existing EPI staff especially vaccinators are not sufficient to provide routine immunization, however EPI staff's involvement in PEI is increasing.

(7) Monitoring, Surveillance and Reporting

Monitoring: Monitoring and supervision could play a vital role in the success of immunization system if planned and conducted in a well-organized and effective manner. However, at present the monitoring and supervision system is very weak at all levels especially at the district level. Monitoring and supervision plans are not prepared regularly, and even if few plans are prepared, these plans are not implemented. Monitoring and supervision visits are being carried out at supervisors' own will and discretion. There is no established mechanism of reporting, feedback and action on these visits.

Surveillance and reporting: The main purpose of EPI surveillance is a well-functioning and sustained EPI and vaccine preventable diseases (VPD) reporting system that could be used for decision making at the managerial level in order to improve the EPI services. However, in reality it is not doing as it was envisioned. There are several issues that lead towards not performing well of the surveillance system. These include: lack of ownership and accountability, lack of proper training for immunization and management staff on VPD surveillance, no feedback and error rectification mechanism in practice, lack of monitoring and supervisory visits and no use of data for decision making by the management.

(8) Demand Generation, Communication and Advocacy

In addition to the programmatic issues, other factors that are further contributing towards the low immunization coverage are lack of awareness among community regarding the importance and benefits of immunization, little involvement of community and political leadership, lack of capacity of immunization staff in social mobilization and evidence based communication strategies are not developed and implemented.

1.4 Summary – SWOT

Program management	
Strength	**Weaknesses**
• System is present	• No Provincial EPI Policy • National EPI policy is not applicable in most of the cases in local context • Lack of ownership and accountability especially at the district level • Lack of monitoring and supervision • Lack of coordination among PPHI and DoH • Annual plans developed for EPI are not comprehensive • UC micro-plans are not developed
Opportunities	**Threats**
• Devolution • Partners available to support EPI	• Political interference in transferring/ posting of managers at different levels
Human resource management	
Strength	**Weaknesses**
• Experienced team at provincial and district level • EPI coordinator in each district	• Shortage of Vaccinators • Minimal use of other qualified health staff in immunization • Lack of capacity of vaccinators and other SIS • Capacity issues at managerial level • No training institute/pre-service training available for vaccinators • No job descriptions available for EPI staff at all levels • Lack of effective system for performance appraisal • Turnover of key EPI managerial staff is high
Opportunities	**Threats**
• LHWs & CMWs available • Human Resource Development Centre available.	• Union politics • Political interference
Costing and financing	
Strength	**Weaknesses**
• Government allocation for EPI Program • PC1 developed and it can be modified after finalization of cMYP	• No provincial cMYP • No separate budget line • Insufficient funding and no timely releases of budgets • PC1 not approved yet • Limited non-development funds.
Opportunities	**Threats**
• New political set up and interest in EPI strengthening • Potential donors to support Balochistan's EPI	• Lack of finances available with GoB

program	
Vaccine supply, cold chain and logistics	
Strength	**Weaknesses**
• Sufficient allocations and supply of vaccines • Adequate provincial cold storage space	• The EPI program does not forecast the requirement of vaccine • EPI program does not regularly develop supply cycle and distribution plan for vaccine and injections • No adequate transportation system in place for vaccine supplies from province to districts and to health facilities • Insufficient Cold Chain equipment • Lack of EVM • No established system for preventive/ curative maintenance of cold chain equipment at provincial and divisional level • Shortage of vehicles and motorcycles • No purpose built warehouses
Opportunities	**Threats**
• Commitment of partners/ donors to support	• Notables influence to install Solars, ILRs and Cold Chain equipment at their homes.
Immunization services delivery	
Strength	**Weaknesses**
• EPI service delivery infrastructure • Skilled human resource	• Inadequate number of EPI static centers • Limited number of outreach sessions • Lack of micro-planning at the UC level • Lack of special micro-plans for security compromised areas • Lack of involvement of LHWs in immunization • Lack of public private partnership initiatives • Major involvement of vaccination staff in PEI • Low immunization coverage • Insufficient number of vehicles/motorcycles
Opportunities	**Threats**
• Availability of LHWs • New Government's commitment towards immunization program • Availability of donors' support	• Poor law and order situation • Scattered population • Inaccessible areas • Social and cultural barriers
Monitoring, surveillance and reporting	
Strength	**Weaknesses**
• Management structure at provincial and district level available • PEI monitoring structure available • MIS systems (DHIS and VPD) in place	• Weak monitoring, surveillance and reporting system • Lack of ownership and accountability • No plans for monitoring visits • Lack of training for immunization and management staff on VPD surveillance • No feedback and error rectification mechanism in practice • No use of data for decision making by the

	management. • No AEFI surveillance system
Opportunities	**Threats**
• Involvement of district administration/ PPHI in monitoring • Involvement of LHWs and CMWs in surveillance (community based)	• Security issues • Uncertainty about approval of PC1 • Release of budget is irregular, limited and not timely
Demand generation, communization and advocacy	
Strength	**Weaknesses**
• Acceptance of RI in community is comparatively good as compared to PEI • Availability of EPI staff for advocacy and communication	• Lack of awareness among community regarding the importance and benefits of immunization • Little involvement of community and political leadership • Lack of capacity of immunization staff in social mobilization • Evidence based communication strategies are not developed and implemented
Opportunities	**Threats**
• Availability of partners' support • Availability of LHWs, CMWs and PPHI SM • New political setup's willingness	• Illiteracy • Poverty

2 Immunization objectives and strategies

2.1 Program objectives and milestones

Goal of the PIP is to decrease VPD associated morbidity and mortality:

- Cases of measles from 225 to 110 (per 1 million population) by 2018
- Cases of polio from 4 to zero by 2018
- Death caused by Tetanus from 0.6 to 0.3 per 10,000 newborn by 2018.

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

Figure 13: Coverage rates (Baseline and Projections

Indicators	2012	2014	2015	2016	2017	2018
1. Increase DTP3 coverage	27	40	50	60	65	70
2. Increase Measles 1 coverage	37	40	48	55	60	65
3. Increase the proportion of population protected at birth from neonatal tetanus	23	30	35	40	45	50
4. Increase OPV3 coverage	61	40	50	60	65	70
5. Increase PCV(10)3 coverage	N/A	40	50	60	65	70
6. Increase IPV coverage	N/A	--	20	30	40	50
7. Increase Rota virus vaccine coverage	N/A	--	--	30	40	50
8. Increase Hepatitis (Birth dose) coverage	N/A	--	20	30	40	50
9. Increase the proportion of children fully immunized – (% of children aged 12-23 months who receive all basic vaccinations in a country's routine immunization program)	16	30	40	50	55	65
10. Improve geographical equity - % of districts(UC) that have at or above 80% DTP3 coverage	0	10	25	40	50	60
11. Improve socio-economic equity - DTP3 coverage in the lowest wealth quintile is +/- X % points of the coverage in the highest wealth quintile	--	--	--	--	--	--
12. Decrease dropout rate - percentage point difference between DTP1 and DTP3 coverage	11	<10	<10	<10	<10	<10
13. Increased demand - % of children whose mothers intend to vaccinate children	--	30	35	40	45	50

2.2 Strategies and main activities

In order to achieve the goals and objectives of the PIP, following component wise strategies and activities have been formulated in the light of situational analysis especially undertaken for this task.

2.2.1 Program Management

The objective of the immunization system component is to increase program management performance. It means that by 2018:

- Immunization program planning is integrated into provincial budgeting, namely:
  - Provincial EPI policy/guidelines are developed and implemented

  - EPI annual plans are developed and consistent with the provincial cMYP
  - PC1 documents are adjusted as needed and aligned with the EPI annual plans
- Implementation annual progress reports are produced and discussed with key stakeholders regularly
- The provincial cMYP is updated regularly reflecting either changes in the context (epidemiological, vaccine availability, etc.), resource availability or immunization system outcomes (achievements)
- Capacity of management staff is build
- Ownership and accountability is improved at the management level
- The turnover of EPI key managerial staff decreases
- Coordination or interaction with EPI partners (donors, private entities and non-governmental organizations) increases (e.g. partners engage in decision-making (e.g. planning, assessment of achievements or challenges) regularly, as documented in meeting minutes).

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

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

Strategy 1.1: Advocacy and partnership development:

Activity 1.1.1: Identification/ mapping of relevant stakeholders

Activity 1.1.2: Regular advocacy meetings with provincial health authorities/ policy makers (Steering and technical committees)

Activity 1.1.3: Produce regularly policy briefs/guidelines/advocacy materials to share with high level officials

Strategy 1.2: Management staff capacity building and motivation growth (see corresponding strategy under HR management component)

Activity 1.2.1: Management and technical training on EPI for senior level health managers

Strategy 1.3: Policy/guidelines formulation

Activity 1.3.1: Develop provincial EPI policy/guidelines in consultation with all relevant stakeholders and share with high level officials for their comments

Activity 1.3.2: Finalize provincial EPI policy/guidelines incorporating high level officials' comments

Strategy 1.4: Effective planning

Activity 1.4.1: Develop comprehensive multi-year plan (cMYP) and PC-1 in consultation with all the relevant stakeholders

Activity 1.4.2: Develop comprehensive yearly operational plan in consultation with all the relevant stakeholders

Strategy 1.5: Monitoring and supervision

Activity 1.5.1: Develop monitoring and supervision plan in consultation with all the relevant stakeholders

Strategy 1.6: Improve accountability at district level

Activity 1.6.1: Conduct regular EPI coordination/review meetings chaired by the Secretary Health

Activity 1.6.2: Take corrective measures in the light of feedback from review meetings

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 2018:

- Proportion of skilled immunization staff (SIS) per 10,000 population increases from 0.95 to 1.76
- Managerial and technical positions are staffed
- Capacity of SIS and managerial staff is increased
- Motivation level of immunization staff is increased
- Performance of key immunization staff is increased.

Figure 14: Availability and workload of SIS (Baseline and Different Scenarios)

	Total FTE spent on immunization	FTE spent on PEI	Total FTE available for EPI (except PEI)	Total FTE Needed for EPI (except PEI)	GAP (in FTE and %)	
Baseline	1,943	1,153	**790**	1,461	**671**	46%
Scenario 1	2,393	1,153	**1240**	1461	**221**	15%
Scenario 2	2,539	1,153	**1386**	1461	**75**	5%
Scenario 3	2,580	1,153	**1427**	1461	**34**	2%

Out of 3 different scenarios given in figure 14, provincial EPI program has selected scenario 1 as a strategic priority as it is possible to recruit 221 vaccinators and this way program will have full time dedicated vaccinators vs. relying more on existing qualified professionals who has negligible role in the outreach. The existing gap of 671 FTE will be fulfilled by recruiting 221 new vaccinators and by involving existing qualified health professionals (450 FTE).

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 the number of SIS by mobilizing (or focusing on) vaccinators

Activity 2.1.1: Review, modify and update job descriptions for vaccinators

Activity 2.1.2: Develop selection criteria ensuring merit

Activity 2.1.3: Advertise vaccinator positions in provincial/local media

Activity 2.1.4: Select and contract new vaccinators

Activity 2.1.5: Explore and provide professional/career growth opportunities to vaccinators

Strategy 2.2: Increase the number of SIS by integrating available qualified health professionals in the delivery of immunization services:

Activity 2.2.1: Assess opportunities (availability, readiness/willingness) for engagement of different categories of SIS into immunization program

Activity 2.2.2: Carry out consultations with relevant health authorities (vertical program management) and agree on feasible and sustainable arrangements

Activity 2.2.3: Revise the regulatory framework (standards/guidelines, scope of work) in order to ensure the engagement of SIS in the immunization as planned

Strategy 2.3: Enhance capacity of SIS and managerial staff:

Activity 2.3.1: Conduct rapid training need assessment

Activity 2.3.2: Develop training material in the light of training need assessment findings

Activity 2.3.3: Develop training plan for SIS and managerial staff

Activity 2.3.4: Carry out refresher training for each SIS at least once in 2 years (as per the national policy)

Activity 2.3.5: Carry out training of managerial staff in planning (e.g. vaccine forecasting, budgeting), EVM, reporting, decision making and advocacy

Activity 2.3.6: Monitor trainings through introducing pre and post tests

Activity 2.3.7: Assess periodically competency of selected category of healthcare professionals involved in immunization

Activity 2.3.8: Train immunization staff in medical, surveillance and logistics required for the introduction of new vaccines

Strategy 2.4: Increase motivation of key staff of the immunization program

Activity 2.4.1: Assess regularly motivations of selected category of HR of the immunization system

Activity 2.4.2: Develop and implement non-financial incentives (career growth opportunities, promotion, recognition/awards, etc.)

Activity 2.4.3: Explore possibilities for financial incentives (bonuses, performance based payments, etc.) and implement whenever feasible

Strategy 2.5: Increase performance of key staff of the immunization program

Activity 2.5.1: Improve existing performance appraisal system by incorporating key performance indicators for each category of SIS and managerial staff

Activity 2.5.2: Conduct regular performance appraisal of key immunization staff on the basis of key performance indicators

Activity 2.5.3: Provide appropriate incentives to the best performers

Activity 2.5.4: Issue warning and punishment to poor performers

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 2018:

- Immunization system outcome targets are balanced with the financial resources available:
  - Proportion of secured financial resources 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: Resource mobilization and sustain financing

Activity 3.1.1: Develop comprehensive multi-year plan including costing in consultation with all relevant stakeholders

Activity 3.1.2: In the light of cMYP, develop/modify PC-1 and submit for approval

Activity 3.1.3: Advocacy and follow up with the authorities for approval of PC-1

Activity 3.1.4: Regular advocacy with the concerned authorities for inclusion of EPI budget in non-development

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 2018:

- Timely collection and distribution of vaccine and injection devices is increased
- % of districts with average EVM score above 80% is increased

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: Timely collection and distribution of vaccines and injection devices

Activity 4.1.1: Forecast the requirement of vaccines and injection devices

Activity 4.1.2: Share the requirements with federal EPI cell for procurement of vaccines and injection devices

Activity 4.1.3: Timely collect vaccines and injection devices

Activity 4.1.4: Develop the supply cycle and distribution plan

Activity 4.1.5: Distribute the vaccines and injection devices as per distribution plan

Strategy 4.2: Effective Vaccine Management (EVM)

Activity 4.2.1: Carry out EVM assessment

Activity 4.2.2: Review and update cold chain equipment inventory

Activity 4.2.3: Standardize cold chain equipment

Activity 4.2.4: Purchase and install necessary cold chain equipment

Activity 4.2.5: Review and update the maintenance and repair plan

Activity 4.2.6: Strengthen provincial and divisional cold chain maintenance workshop

Strategy 4.3: Build state of art warehouses

Activity 4.3.1: Secure land for warehouses in Lahore and Multan

Activity 4.3.2: Approach donors to provide support for building two warehouses (one in Lahore and one in Multan)

Activity 4.3.3: Follow-up donors

Activity 4.3.4: Monitor progress

Activity 4.3.5: Start construction

Activity 4.3.6: Complete construction

2.2.5 Immunization Services Delivery

The objective of the immunization system component is to strengthen capacity of immunization service delivery. It means that by 2018:

- Geographical access increased: Number of population per each EPI fixed sites
- Share of static/fixed immunization services delivered by EPI centers (vs. outreach) increased

- Number of UC not having EPI centers (decreased) from 227 to 50. (These new EPI centers will be established within existing health facilities. Hence, no cost will be required for construction)
- Number of UC not having Skilled Immunization Staff (SIS) decreased from 185 to 90
- Number of outreach and mobile teams is increased
- Involvement and capacity of LHWs in routine immunization is increased

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: Increase number of EPI static centers by making existing BHU/RHC functional (for EPI)

Activity 5.1.1: Identify room/ space for EPI center in existing health facilities (not having EPI center)

Activity 5.1.2: Recruit qualified staff (see corresponding strategy under component 2.2.2 "Human Resource Management")

Activity 5.1.3: Install cold chain equipment (see corresponding strategy under component 2.2.4 "Vaccine, Cold Chain and Logistics")

Strategy 5.2: Increase number of ORT and mobile

Activity 5.2.1: Conduct need assessment for ORT and mobile

Activity 5.2.2: Develop micro plan on the basis of need assessment findings

Strategy 5.3: Improve coverage of security compromised areas

Activity 5.3.1: Develop special micro plan for security compromised areas in coordination with law and enforcement agencies and notables

Strategy 5.4: Involve LHWs in routine immunization

Activity 5.4.1: Develop/review training manual for LHWs

Activity 5.4.2: Conduct training of LHWs in routine immunization

Strategy 5.5: Public private partnership

Activity 5.5.1: Develop ToR/Scope of Work for public private partnership

Activity 5.5.2: Sign memorandum of understanding with private organization/ institute

Activity 5.5.3: Assess performance and efficiency of the private organization/ institute

Strategy 5.6: Decrease involvement of EPI staff especially vaccinators in PEI

Activity 5.6.1: Advocacy meetings with health authorities to minimize the involvement of EPI staff especially vaccinator in PEI

2.2.6 Monitoring, Surveillance and Reporting

The objective of the 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 between administrative and survey data is decreased
  - % of reporting units receiving satisfactory DQS score/mark is increased
- Ability of surveillance to detect and report on certain cases increased:
  - Number of non-polio AFP cases detected and reported
  - Number of discarded measles cases per 100,000 population
- Periodic assessment of immunization coverage is carried out.

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

ISC Objective 6: **Improve performance of surveillance and routine monitoring/reporting**

Strategy 6.1: Monitoring and supervision

Activity 6.1.1: Develop joint quarterly monitoring and supervision plan in consultation with PPHI and vertical programs

Activity 6.1.2: Conduct monitoring and supervision visits as per plan

Activity 6.1.3: Prepare and submit monitoring reports for feedback

Activity 6.1.4: Take corrective measures in the light of feedback

Strategy 6.2: Strengthen Weekly VPD surveillance system

Activity 6.2.1: Review and update weekly VPD surveillance indicators

Activity 6.2.2: Training of immunization staff and managers on weekly VPD surveillance

Activity 6.2.3: Prepare and submit weekly VPD surveillance reports for feedback

Activity 6.2.4: Take corrective measures in the light of feedback

Strategy 6.3: Ensure regular, complete and reliable reporting

Activity 6.3.1: Conduct regular monitoring to ensure regular and complete reporting

Activity 6.3.2: Assess main causes of data quality flaws

Activity 6.3.3: Introduce regular (FORMAL) feedback mechanism on the administrative reports of subordinated entities

Activity 6.3.4: Take corrective measures in the light of feedback received from high-ups

Activity 6.3.5: Provide continuous supportive supervision

2.2.7 Demand Generation, Communication and Advocacy

The objective of the immunization system component is to improve knowledge and attitude toward immunization among target population. It means that by 2018:

- % of caregivers who understand benefits of immunization (or demonstrate proper knowledge of benefits) is increased
- % of caregivers will advise their friends/relatives/neighbors to vaccinate children regularly.

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

ISC Objective 7: **Improve knowledge and attitude toward immunization among target population**

Strategy 7.1: (in short-run) continue community mobilization and communication interventions that proved being effective:

Activity 7.1.1: Conduct advocacy meetings with community leaders and district administration to sensitize and motivate them regarding the routine immunization

Activity 7.1.2: Develop social mobilization plans at all levels

Activity 7.1.3: Capacity building of immunization staff including PPHI and vertical programs involved in social mobilization

Activity 7.1.4: Conduct social mobilization activities as planned

Activity 7.1.5: Monitor social mobilization activities

Activity 7.1.6: Provide regular supportive supervision to social mobilization teams

Strategy 7.2: (in long-run) Develop and implement evidence based communication strategies

Activity 7.2.1: Conduct formative research of the target population regarding immunization

Activity 7.2.2: Develop communication plan in the light of formative research findings

Activity 7.2.3: Conduct communication activities as per plan

Activity 7.2.4: Assess the effectiveness of the communication strategies

2.3 Alignment with GVAP, Regional Targets and Health Sector Strategy

ONLY FOR NATIONAL cMYP

3 Implementation and M&E

3.1 Timelines for the cMYP

Objective/strategies/activities			2014	2015	2016	2017	2018
ISC Objective 1:	Increase program management performance						
Strategy 1.1:	Advocacy and partnership development:						
	Activity 1.1.1:	Identification/ mapping of relevant stakeholders					
	Activity 1.1.2:	Regular advocacy meetings with provincial health authorities/ policy makers (Steering and technical committees)					
	Activity 1.1.3:	Produce regularly policy briefs/guidelines/advocacy materials to share with high level officials					
Strategy 1.2:	Management staff capacity building and motivation growth (see corresponding strategy under HR management component)						
	Activity 1.2.1:	Management and technical training on EPI for senior level health managers					
Strategy 1.3:	Policy/guidelines formulation						
	Activity 1.3.1:	Develop provincial EPI policy/guidelines in consultation with all relevant stakeholders and share with high level officials for their comments					
	Activity 1.3.2:	Finalize provincial EPI policy/guidelines incorporating high level officials' comments					
Strategy 1.4:	Effective planning						
	Activity 1.4.1:	Develop comprehensive multi-year plan (cMYP) and PC-1 in consultation with all the relevant stakeholders					
	Activity 1.4.2:	Develop comprehensive yearly operational plan in consultation with all the relevant stakeholders					
Strategy 1.5:	Monitoring and supervision						
	Activity 1.5.1:	Develop monitoring and supervision plan in consultation with all the relevant stakeholders					
Strategy 1.6:	Improve accountability at provincial and district level						
	Activity 1.6.1:	Conduct regular EPI coordination/review meetings chaired by the Secretary Health/Deputy Commissioner					
	Activity 1.6.2:	Take corrective measures in the light of feedback from review meetings					

Objective/strategies/activities		2014	2015	2016	2017	2018
ISC Objective 2:	Increase the availability of qualified human resources for the immunization program					
Strategy 2.1:	Increase the number of SIS by mobilizing (or focusing on) vaccinators					
Activity 2.1.1:	Review, modify and update job descriptions for vaccinators	■				
Activity 2.1.2:	Develop selection criteria ensuring merit	■				
Activity 2.1.3:	Advertise vaccinator positions in provincial/local media		■			
Activity 2.1.4:	Select and contract new vaccinators		■			
Activity 2.1.5:	Explore and provide professional/career growth opportunities to vaccinators	■	■			
Strategy 2.2:	Increase the number of SIS by integrating available qualified health professionals in the delivery of immunization services:					
Activity 2.2.1:	Assess opportunities (availability, readiness/willingness) for engagement of different categories of SIS into immunization program	■				
Activity 2.2.2:	Carry out consultations with relevant health authorities (vertical program management) and agree on feasible and sustainable arrangements	■				
Activity 2.2.3:	Revise the regulatory framework (standards/guidelines, scope of work) in order to ensure the engagement of SIS in the immunization as planned	■				
Strategy 2.3:	Enhance capacity of SIS and managerial staff:					
Activity 2.3.1:	Conduct rapid training need assessment	■				
Activity 2.3.2:	Develop training material in the light of training need assessment findings	■				
Activity 2.3.3:	Develop training plan for SIS and managerial staff	■				
Activity 2.3.4:	Carry out refresher training for each SIS at least once in 2 years (as per the national policy)	■		■		■
Activity 2.3.5:	Carry out training of managerial staff in planning (e.g. vaccine forecasting, budgeting), EVM, monitoring, reporting, decision making and advocacy	■		■		■
Activity 2.3.6:	Monitor trainings through introducing pre and post tests	■		■		■

Objective/strategies/activities		2014	2015	2016	2017	2018
Activity 2.3.7:	Assess periodically competency of selected category of SIS					
Activity 2.3.8:	Train immunization staff in medical, surveillance and logistics required for the introduction of new vaccines					
Strategy 2.4:	Increase motivation of key staff of the immunization program					
Activity 2.4.1:	Assess regularly motivations of selected category of HR of the immunization system					
Activity 2.4.2:	Develop and implement non-financial incentives (career growth opportunities, promotion, recognition/awards, etc.)					
Activity 2.4.3:	Explore possibilities for financial incentives (bonuses, performance based payments, etc.) and implement whenever feasible					
Strategy 2.5:	Increase performance of key staff of the immunization program					
Activity 2.5.1:	Improve existing performance appraisal system by incorporating key performance indicators for each category of SIS and managerial staff					
Activity 2.5.2:	Conduct regular performance appraisal of key immunization staff on the basis of key performance indicators					
Activity 2.5.3:	Provide appropriate incentives to the best performers					
Activity 2.5.4:	Issue warning and punishment to poor performers					
ISC Objective 3:	Increase financial efficiency and sustainability of the immunization program.					
Strategy 3.1:	Resource mobilization and sustain financing					
Activity 3.1.1:	Develop comprehensive multi-year plan including costing in consultation with all relevant stakeholders					
Activity 3.1.2:	In the light of cMYP, develop PC-1 and submit for approval					
Activity 3.1.3:	Advocacy and follow up with the authorities for approval of PC-1					
Activity 3.1.4:	Regular advocacy with the concerned authorities for inclusion of EPI budget in non-development					
ISC Objective 4:	Improve/sustain uninterrupted supply of vaccines to immunization service delivery					

Objective/strategies/activities		2014	2015	2016	2017	2018
Strategy 4.1:	Timely collection and distribution of vaccines and injection devices					
Activity 4.1.1:	Forecast the requirement of vaccines and injection devices	■	■	■	■	■
Activity 4.1.2:	Share the requirements with federal EPI cell for procurement of vaccines and injection devices	■	■	■	■	■
Activity 4.1.3:	Timely collect vaccines and injection devices	■	■	■	■	■
Activity 4.1.4:	Develop the supply cycle and distribution plan	■	■	■	■	■
Activity 4.1.5:	Distribute the vaccines and injection devices as per distribution plan	■	■	■	■	■
Strategy 4.2:	Effective Vaccine Management (EVM)					
Activity 4.2.1:	Carry out EVM assessment	■		■		■
Activity 4.2.2:	Review and update cold chain equipment inventory	■	■	■	■	■
Activity 4.2.3:	Standardize cold chain equipment	■				
Activity 4.2.4:	Purchase and install necessary cold chain equipment	■	■			
Activity 4.2.5:	Review and update the maintenance and repair plan	■	■	■	■	■
Activity 4.2.6:	Strengthen provincial and divisional cold chain maintenance workshop	■	■			
Strategy 4.3:	Effective Vaccine Management (EVM)					
Activity 4.3.1:	Secure land for warehouses in Lahore and Multan	■				
Activity 4.3.2:	Approach donors to provide support for constructing two warehouses (one in Lahore and one in Multan)	■				
Activity 4.3.3:	Follow-up with donors	■				
Activity 4.3.4:	Monitor progress	■				
Activity 4.3.5:	Start construction	■				
Activity 4.3.6:	Complete construction	■				
ISC Objective 5:	Strengthen and optimize capacity of immunization service delivery					
Strategy 5.1:	Increase number of EPI static centers by making existing BHU/RHC functional (for EPI)					

Objective/strategies/activities		2014	2015	2016	2017	2018
Activity 5.1.1:	Secure room/ space for EPI center in existing health facilities (not having EPI centers)	■				
Activity 5.1.2:	Recruit qualified staff (see corresponding strategy under component 2.2.2 "Human Resource Management")		■			
Activity 5.1.3:	Install cold chain equipment (see corresponding strategy under component 2.2.4 "Vaccine, Cold Chain and Logistics")		■			
Strategy 5.2:	Increase number of ORT and mobile					
Activity 5.2.1:	Conduct need assessment for ORT and mobile	■				
Activity 5.2.2:	Develop micro plan on the basis of need assessment findings	■	■	■	■	■
Strategy 5.3:	Improve coverage of security compromised areas					
Activity 5.3.1:	Develop special micro plan for security compromised areas in coordination with law and enforcement agencies and notables	■	■	■	■	■
Strategy 5.4:	Involve LHWs in routine immunization					
Activity 5.4.1:	Develop/review training manual for LHWs	■				
Activity 5.4.2:	Conduct training of LHWs in routine immunization	■	■	■	■	■
Strategy 5.5:	Public private partnership					
Activity 5.5.1:	Develop ToR/Scope of Work for public private partnership	■				
Activity 5.5.2:	Sign memorandum of understanding with private organization/ institute	■	■	■	■	■
Activity 5.5.3:	Assess performance and efficiency of the private organization/ institute	■	■	■	■	■
Strategy 5.6:	Decrease involvement of EPI staff especially vaccinators in PEI					
Activity 5.6.1:	Advocacy meetings with health authorities to minimize the involvement of EPI staff especially vaccinator in PEI	■				
ISC Objective 6:	Improve performance of surveillance and routine monitoring/reporting					
Strategy 6.1:	Monitoring and supervision					
Activity 6.1.1:	Develop joint quarterly monitoring and supervision plan in consultation with PPHI and vertical programs	■	■	■	■	■

Objective/strategies/activities		2014	2015	2016	2017	2018
Activity 6.1.2:	Conduct monitoring and supervision visits as per plan	■	■	■	■	■
Activity 6.1.3:	Prepare and submit monitoring reports for feedback	■	■	■	■	■
Activity 6.1.4:	Take corrective measures in the light of feedback	■	■	■	■	■
Strategy 6.2:	Strengthen VPD surveillance system					
Activity 6.2.1:	Review and update VPD surveillance indicators	■				
Activity 6.2.2:	Training of immunization staff and managers on VPD surveillance	■		■		■
Activity 6.2.3:	Prepare and submit VPD surveillance reports for feedback	■	■	■	■	■
Activity 6.2.4:	Take corrective measures in the light of feedback	■	■	■	■	■
Strategy 6.3:	Ensure regular, complete and reliable reporting					
Activity 6.3.1:	Conduct regular monitoring to ensure regular and complete reporting	■	■	■	■	■
Activity 6.3.2:	Assess main causes of data quality flaws					
Activity 6.3.3:	Introduce regular (FORMAL) feedback mechanism on the administrative reports of subordinated entities	■	■	■	■	■
Activity 6.3.4:	Take corrective measures in the light of feedback received from high-ups	■	■	■	■	■
Activity 6.3.5:	Provide continuous supportive supervision	■	■	■	■	■
ISC Objective 7:	Improve knowledge and attitude toward immunization among target population					
Strategy 7.1:	(in short-run) continue community mobilization and communication interventions that proved being effective:					
Activity 7.1.1:	Conduct advocacy meetings with community leaders and district administration to sensitize and motivate them regarding the routine immunization	■				
Activity 7.1.2:	Develop social mobilization plans at all levels	■	■	■	■	■
Activity 7.1.3:	Capacity building of immunization staff including PPHI and vertical programs involved in social mobilization	■		■		■
Activity 7.1.4:	Conduct social mobilization activities as planned	■	■	■	■	■

Objective/strategies/activities		2014	2015	2016	2017	2018
Activity 7.1.5:	Monitor social mobilization activities					
Activity 7.1.6:	Provide regular supportive supervision to social mobilization teams					
Strategy 7.2: (in long-run) Develop and implement evidence based communication strategies						
Activity 7.2.1:	Conduct formative research of the target population regarding immunization					
Activity 7.2.2:	Develop communication plan in the light of formative research findings					
Activity 7.2.3:	Conduct communication activities as per plan					
Activity 7.2.4:	Assess the effectiveness of the communication strategies					

3.2 Monitoring and Evaluation

3.2.1 M&E Framework for immunization

M&E Framework

M&E framework attached as a separate excel file (click to open the file).

3.2.2 Monitoring and Evaluation Strategy and Plan

M&E framework tool will be used to track and assess the performance of the immunization program. The framework is based on seven components of immunization system discussed above. The added value of the framework is that it brings together indicators across the results chain in its entirety i-e from “inputs/processes”, “outputs”, and “outcomes”, to “impact”. It is designed to address monitoring and evaluation needs for different users and multiple purposes including:

- monitoring of program inputs, processes and results, required for the management of immunization program investments;
- immunization program performance assessment, as the key for decision-making processes at the provincial level; and

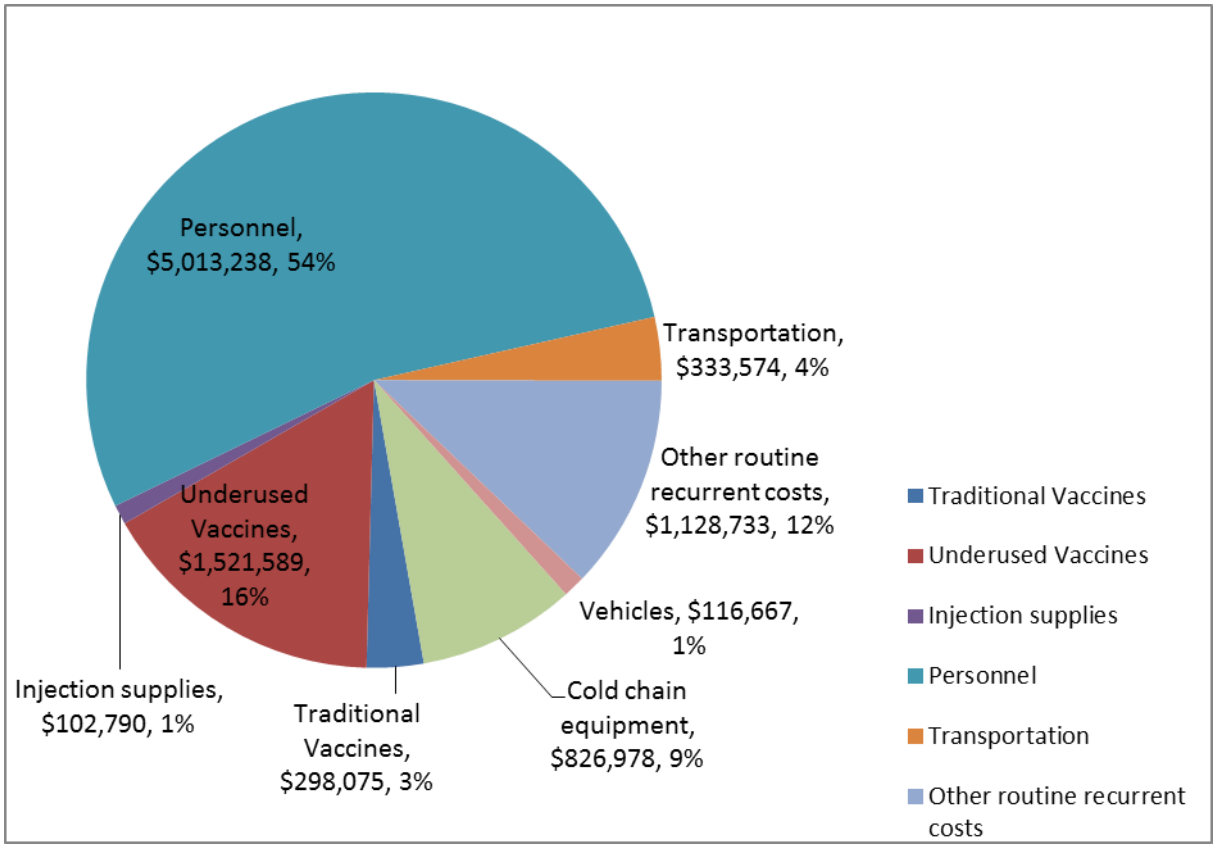
Most of the data will be collected through the existing EPI/DoH MIS systems. However, the findings of other independent surveys like PDHS, PSLM, MICS and others will also be used for validation purposes.

4 Immunization Program Costing and Financing

4.1 Current program costs and financing

BAL Costing Tool

Figure 15: Baseline Cost Profile (shared costs and campaigns excluded)



The baseline cost profile for Balochistan is grouped under five categories: Personnel, Vehicles & Transportation, Other routine recurrent costs, Cold Chain Equipment, Vaccines and Injection and supplies (Figure 15).

1. Personnel

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

The baseline information was compiled on the basis of standard government payment rates that are used for payment of salaries, allowances and per-diems. The EPI Provincial Office used this in consultation with the Provincial Health department.

The analysis of the baseline cost profiles (2012) shows that USD5.013 million was incurred on personnel cost which constituted to 54% of the total expenditure on immunization program. Further analysis shows that 82% of this cost was spent on payment of salaries and allowances. The expenses incurred under 'Personnel' were borne mainly by the provincial government. This analysis highlights that salaries and allowance were the major cost driver in 2012.

2. Vehicles & Transportation

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

The analysis shows that the expenditure on transportation contributed to 5% (USD 0.450 million) of the total expenditure in 2012. On the main reasons for less expenditure on transportation was non-availability of sufficient number of vehicles for the immunization staff. For example, only 233 motorbikes were available/in working condition for 1214 vaccinators at the union council level. The provincial government was the sole contributor for the running expenditure on transportation.

3. Other routine recurrent costs

The other routine costs comprised expenditures for cold chain maintenance and overheads, short term trainings, social mobilization, disease surveillance and program management. This information was populated by cMYP costing tool based on the standard inputs provided by the Provincial EPI Cell.

The total expenditure against routine recurrent costs was USD 1.128 million which was found 12% of the total baseline expenditure. Besides provincial government, GAVI, WHO & UNICEF contributed for this expenditure (49% in total) on the other routine recurrent costs.

4. Cold Chain Equipment

In 2012, Balochistan installed 6 walk-in cold rooms in addition to refrigerators, with the assistance of UNICEF & GAVI. The procurement rates provided in the Federal PC-I were used to estimate the costs incurred on the cold chain equipment. An amount of USD 0.827 million, 9% of the total baseline expenses, was spent on these cold chain equipment.

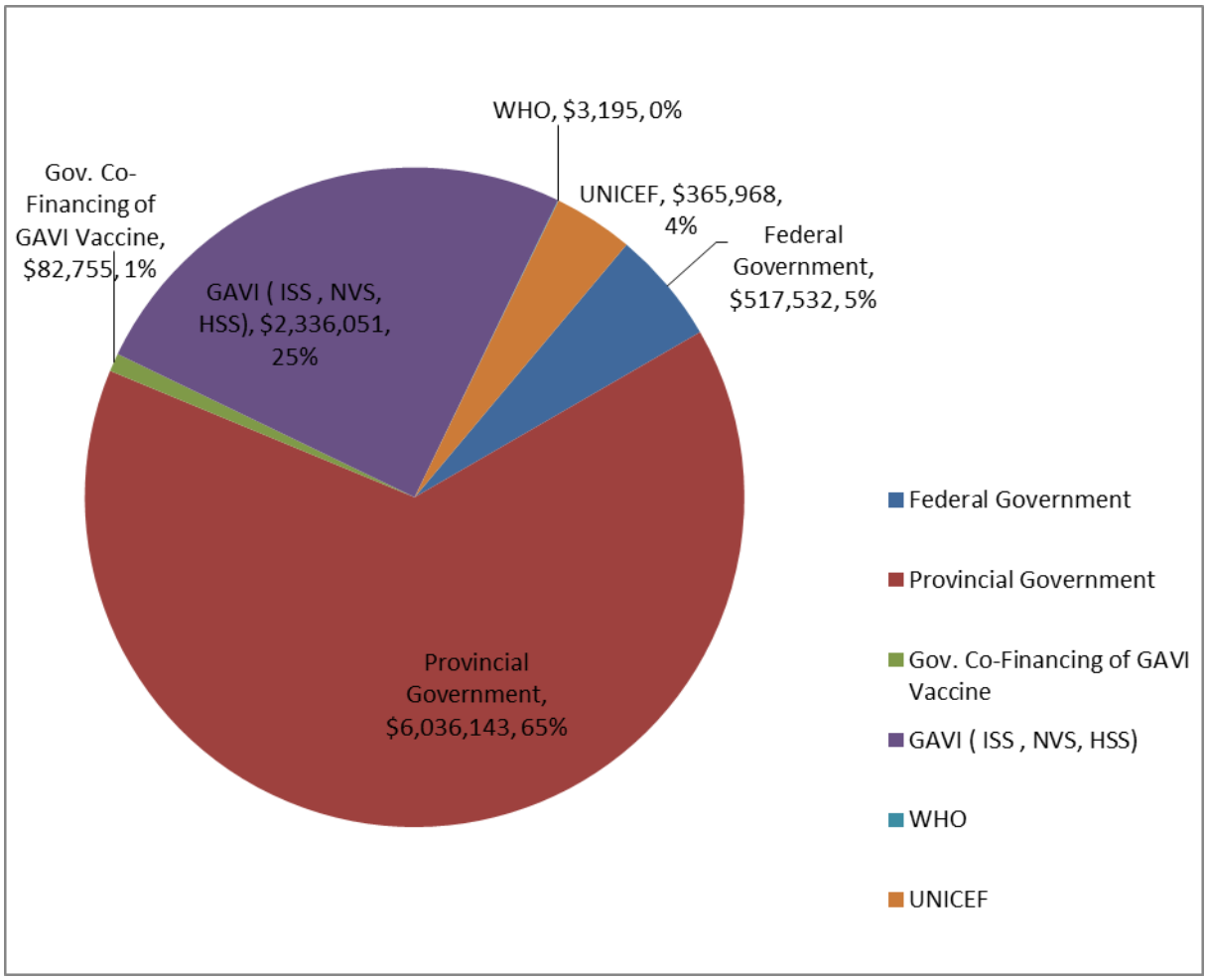
5. Vaccines, Injections and Supplies

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 Underused Vaccines include Pentavalent (DPT-HepB-Hib). New vaccines include Pneumococcal, IPV and Rota vaccine; however, the new vaccines were not introduced in 2012 and the government plans to introduce these vaccines from 2014, 2015 and 2016 respectively. All the vaccines are procured at the Federal level and then supplied to the provincial governments.

WHO'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 Provincial EPI Cell on the number of doses per antigen supplied during 2012. The total expenditure was calculated by using the cost per dose per antigen provided in the costing tool.

In 2012, 20% (USD 1.922 million) of the total expenditure was incurred on vaccines, injections and supplies, another cost driver for EPI besides personnel. In the coming years, this cost will further increase because the government plans to introduce new vaccines, Pneumococcal, IPV and Rota.

Figure 16: Baseline Financing Profile (shared costs and campaigns excluded)



In 2012, the total spending on EPI program in Balochistan was shared among the federal government, provincial government, GAVI, WHO and UNICEF (Figure 16).

The finances provided by the federal government (5%) were spent on procuring vaccines, injection supplies and vehicles. The breakdown of this expenditure is presented in Figure 15. The donor contribution was from GAVI (25%) and UNICEF (4%). GAVI supported the underused vaccines, whereas UNICEF's support was mainly for supplying cold rooms.

In 2012, the Balochistan government was the biggest financer of the EPI program which provided 66% of the total resources. It included expenditure for payment of salaries and allowances (78%), vehicles & transportation (5.5%) and maintenance of cold chains equipment (16%) and other recurring costs (0.5%). Despite spending nearly USD6.118 million on immunization, the Balochistan government remained heavily dependent upon the contributions from the Federal government and International Donors (UDS 3.222 million).

Figure 17: Immunization program baseline indicators

Baseline Indicators	2012
Total Immunization Expenditures	17,325,769
Campaigns	7,984,126
Routine Immunization only	9,341,644
per capita	$ 1.13
per DTP3 child	$ 129.10
% Vaccines and supplies	**21%**
% Government funding	**85%**
% Total health expenditures	**4%**
% Gov. health expenditures	**38%**
% GDP	**0.09%**
Total Shared Costs	4,666,101
% Shared health systems cost	**21%**
TOTAL	21,991,870

The analysis of the baseline indicators shows that, in 2012, the total expenditure of the immunization system was USD17.325 million (Figure 17). However, it is important to mention that besides this immunization-specific cost, the Government of Balochistan also contributed USD 4.6 million as the Shared Health System costs which formed 21% of the total expenditure on immunization system.

Of the total immunization expenditure, 46% funds were spent on special immunization campaign, primarily on Polio Eradication Initiative (PEI). In comparison, the routine immunization activities consumed USD9.34 million (54%) of the total immunization expenditure excluding shared health system costs. The Provincial EPI management plans to highlight this important aspect at all forums including politicians, technocrats and donors in order to bring their focus more towards the significance of routine immunization services.

Further analysis of indicators reveals that, the expenditure on routine immunization in 2012 was spent at an average of USD1.13 per capita or USD129.10 per DTP3 child. The future investments in human resources, cold chain equipment, vehicles and transportation will obviously increase per capita and per DTP3 child costs. In a situation where 71% of the total costs were borne by the government, both federal and provincial, the provincial managers will require to develop their skills in planning and management in order to compete with other government departments for allocation of additional resources.

The provincial EPI management also plans to use these indicators as a demand creation tool to deliver general awareness messages to the general population highlighting how much government is spending on every child in Balochistan. For example, in 2012, the government spent USD129 on every child when he/she became 3 and a half month old. This expenditure rose up to USD 164 when the shared health systems were also accounted for.

The next section present details on future resource requirements.

4.2 Future resource requirements

Figure 18: Future resource requirements by cost categories

Cost Category	2014	2015	2016	2017	2018
Routine Recurrent Cost	**US$**	**US$**	**US$**	**US$**	**US$**
Traditional Vaccines	188,639	235,153	281,694	305,814	335,575
Underused Vaccines	1,035,309	1,313,287	1,592,981	1,723,631	1,890,402
New Vaccines	2,653,657	2,916,253	4,624,206	5,098,981	5,805,968
Injection supplies	118,697	161,985	197,469	218,880	243,939
Personnel	5,533,694	6,867,476	7,416,874	8,010,224	8,651,042
Transportation	478,727	976,373	1,437,467	1,246,163	1,363,317
Other routine recurrent costs	1,703,524	2,227,816	2,590,082	2,865,607	3,207,097
Vehicles	224,045	1,330,651	835,241	696,722	0
Cold chain equipment	3,729,335	2,623,681	3,126,673	1,638,766	2,035,483
Other capital equipment	49,867	22,195	0	0	0
Campaigns	8,167,464	7,408,563	7,606,538	8,517,603	7,929,992
Total	**23,882,958**	**26,083,434**	**29,709,226**	**30,322,391**	**31,462,814**

Figure 18 shows future requirements by cost categories of immunization program in Balochistan for next five years (2014-18). The majority of funds will be utilized on campaigns followed by personnel cost.

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

1. Vaccines and Injection Supplies

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 available in the costing tool.

The Federal Government will provide resources for traditional vaccines. The underused vaccines and two new vaccines will be financed through co-financing between the Federal government and GAVI till year 2015. The government plans to introduce new vaccines: PCV, IPV, Rota and Hep B (Birth Dose) vaccines in 2014, 2015 and 2016. IPV will be financed through GAVI, whereas other vaccines will be supported through co-financing between the Federal government and GAVI definitely till 2015. The introduction of new vaccines will have financial implication 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 purchasing vaccines and injection supplies will increase in 2018. In comparison to the expenditure of USD 1.922 million in 2012, the resource requirement will increase to USD 8.275 million by the year 2018. These aspects are discussed in the subsequent sections.

2. Personnel

The provincial EPI office plans to increase the availability of qualified human resources for the immunization program at provincial, district and union council levels (ISC Objective 2).

At provincial level, new positions of Deputy Provincial Manager and Provincial Epidemiologist will be created. It will also include increasing the number of support staff in provincial EPI office.

At district level, one position each for district epidemiologist officer and data entry operator will be created in all 32 districts. Further, vacant positions will also be filled.

At UC level, 221 vaccinators will be recruited for fixed EPI centers across Balochistan.

The addition of new staff will require a substantial increase in resource allocation for immunization program. By 2018, the funds required for payment of salaries and allowances will be substantially increased as compared to 2012. The provincial government will require USD8.651 million in 2018 as compared to USD5.013 million in 2012.

3. Transportation

Expansion in the EPI program coverage will result in increase in demand for resources for transportation. In 2012, nearly 3.5% of the total resources were spent on transportation. By 2018, the immunization system will require to increase this expenditure to USD1.363 million compared to USD 333,574 in 2012. This requirement is closely linked with the increase in POL prices. Although, the costing tool has accounted for inflation in POL prices, the provincial EPI office will revise these estimates on yearly basis in order to ensure realistic projections for resource requirement.

4. Vehicles

The immunization system will require an amount of USD3.086 million to procure vehicles required for the immunization staff and supply of vaccines. These projections are based on the price list provided by Federal EPI Cell and the total number of vehicles that are planned to be hired. The provincial level staff will be provided 4-wheel drive vehicles and district level will be provided single cabin vehicles for monitoring and supervision, whereas motorbikes will be procured for 1,435 vaccinators for outreach immunization services.

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 will be introduced in 2015 and 2016. It includes installation of an additional cold room, and supply of new ILRs/Freezers to district offices and ILRs to fixed EPI centers. It also includes supply of power generators and other cold chain equipment. The provincial EPI office has estimated these projections by using the information on number of items required and the price list provided by the Federal PC-I.

It is estimated that USD13.153 million will be required to meet the needs of cold chain equipment.

6. Other capital requirement

The immunization system will require USD72,062 for supplying other capital equipment (laptops, computers, photocopiers, furniture etc.) for one provincial office and 32 district offices. These projections are estimated by using average unit costs as per the prevailing market rates.

7. Other 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, program management and other routine recurrent costs. The provincial 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 the immunization program will require USD12.594 million to meet the expenditure planned under other recurrent costs during coming 5 years.

In total, immunization system in Balochistan will require USD70.572 million to meet the needs of routine immunization system over a period of 5 years (2014-18).

In addition to the routine immunization, the provincial government plans to conduct special immunization campaigns in the next 5 years. Majority of the campaign costs will be incurred on PEI – with an average coverage of 97%. In addition to PEI, the government plans to conduct two measles campaigns with an average coverage of 95%, one each in 2014 and 2017. In order to achieve the coverage targets, the immunization system will require USD39.63 million.

Figure 19: Costs by Strategy

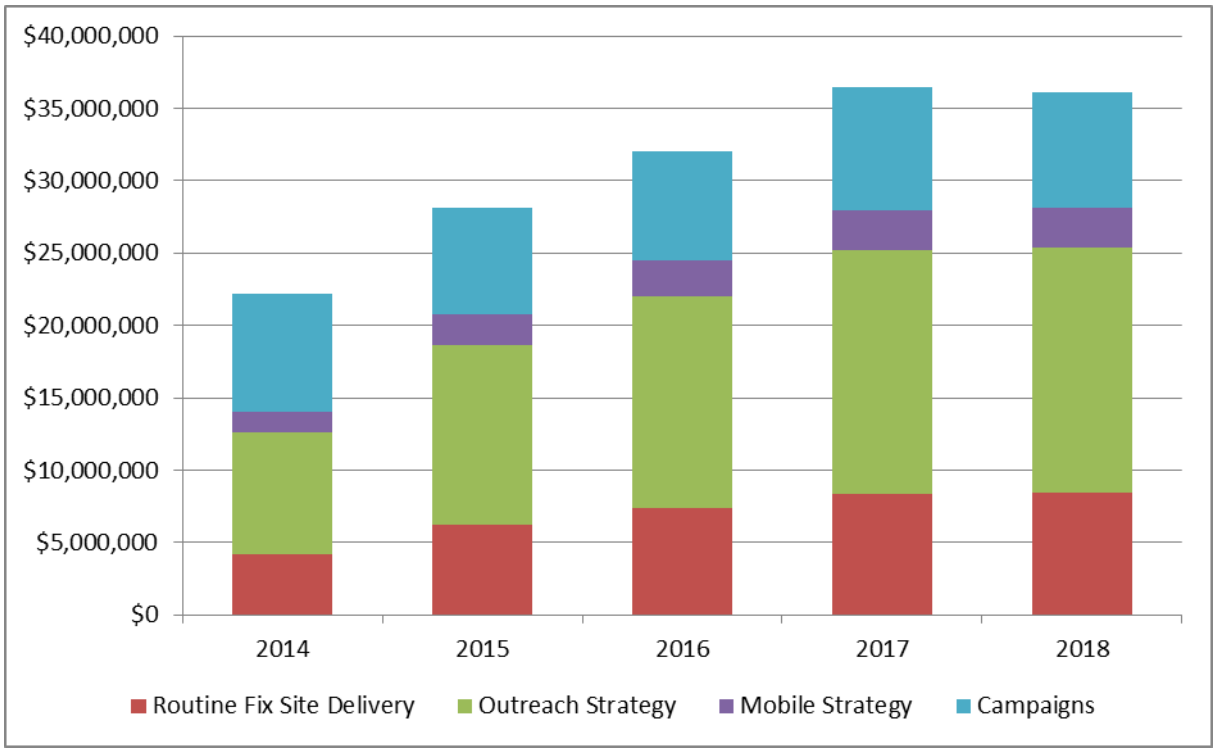
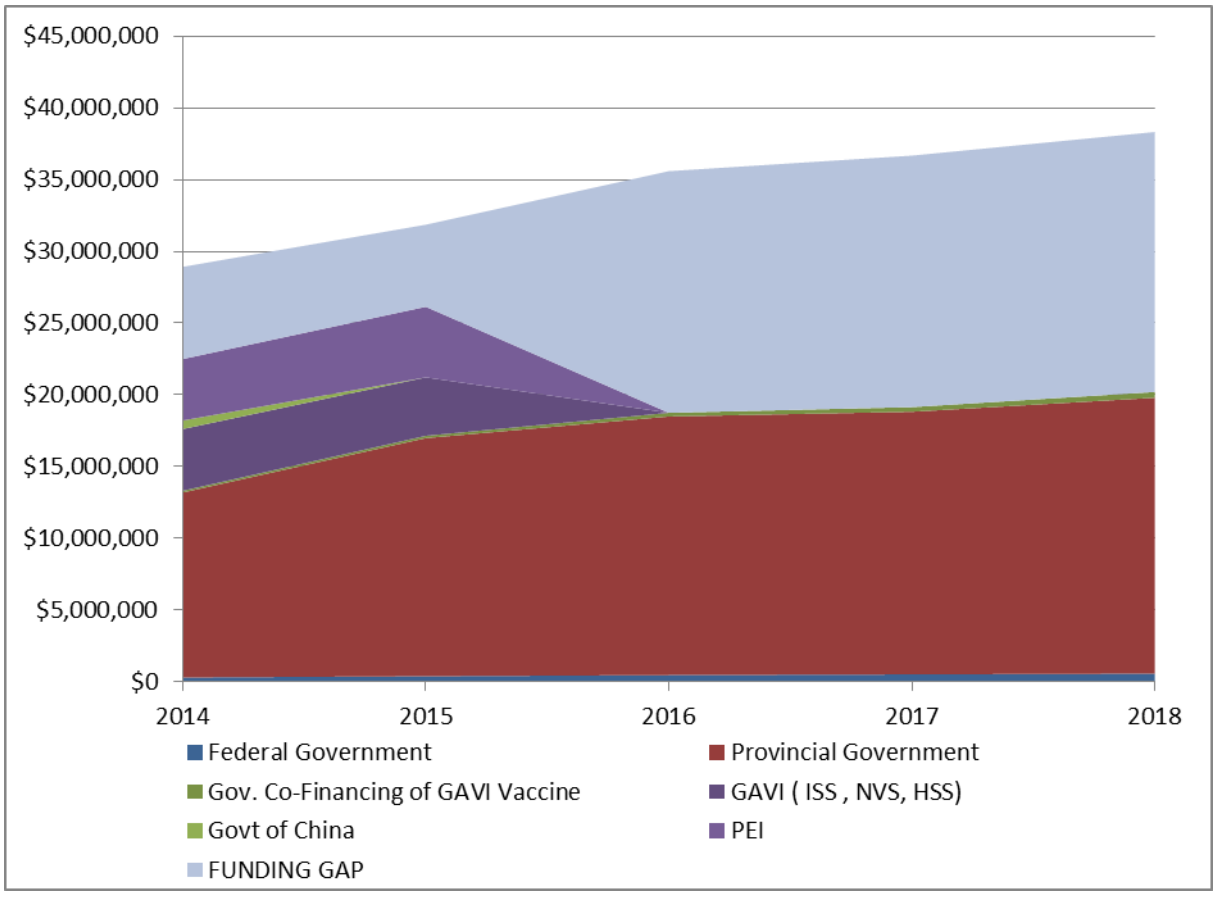


Figure 19, very clearly depicts the average costs of immunization program by strategy for next five years (2014-18). 22% percent of total cost is kept for routine fix site delivery, while 45% for outreach strategy. The remaining 33% funds will be utilized on the mobile strategy and campaigns.

4.3 Future financing and funding gaps of the immunization program

Figure 20: Future Secure Financing and Gaps (shared costs excluded)



The financial projections presented in Figure 20 indicate that the Federal and provincial governments are the main sources of secure financing for immunization program in the next five years. Further, their contribution will gradually increase from USD13.320 million in 2014 to USD20.207 million in 2018. The major contribution from GAVI will be in providing vaccine support and operational support for measles campaign up till 2015.

Considering only the secure funds, there is a substantial funding gap which increases beyond 2015 from 22% in 2014 to 47.0% in 2018. The main drivers of this funding gap are the costs required for new vaccines, campaigns and other recurrent costs. It also includes the resources required for conducting campaigns from 2016 onwards. Bridging this gap, it is important to maintain the momentum build during 2014-15 and improve performance of the immunization program.

Figure 21: Future Secure and Probable Financing and Gaps (shared costs excluded)

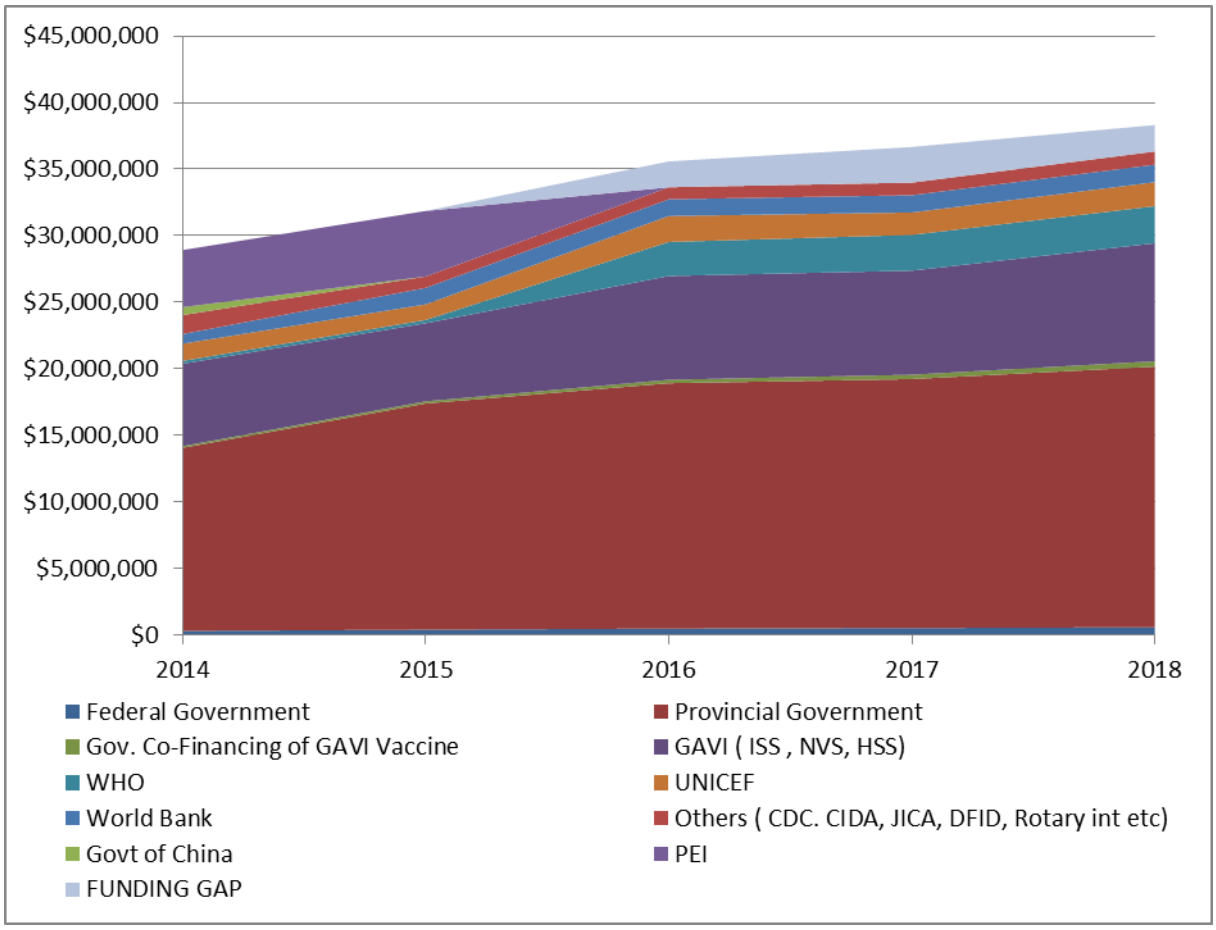


Figure 21, shows that the probable funding do have the potential to bridge the funding gap highlighted in Figure 20. The major contributors to probable funding are GAVI, WHO and UNICEF. The financial projections indicate that considering both secure and probable funding beyond 2015, there will not be substantial gap especially for underused, new vaccines and campaigns. Provincial government should make efforts to secure funds from GAVI and other donors, in post 2015 scenario.

4.4 Funding gap analysis

Figure 22: Composition of the Funding Gap with secure financing only

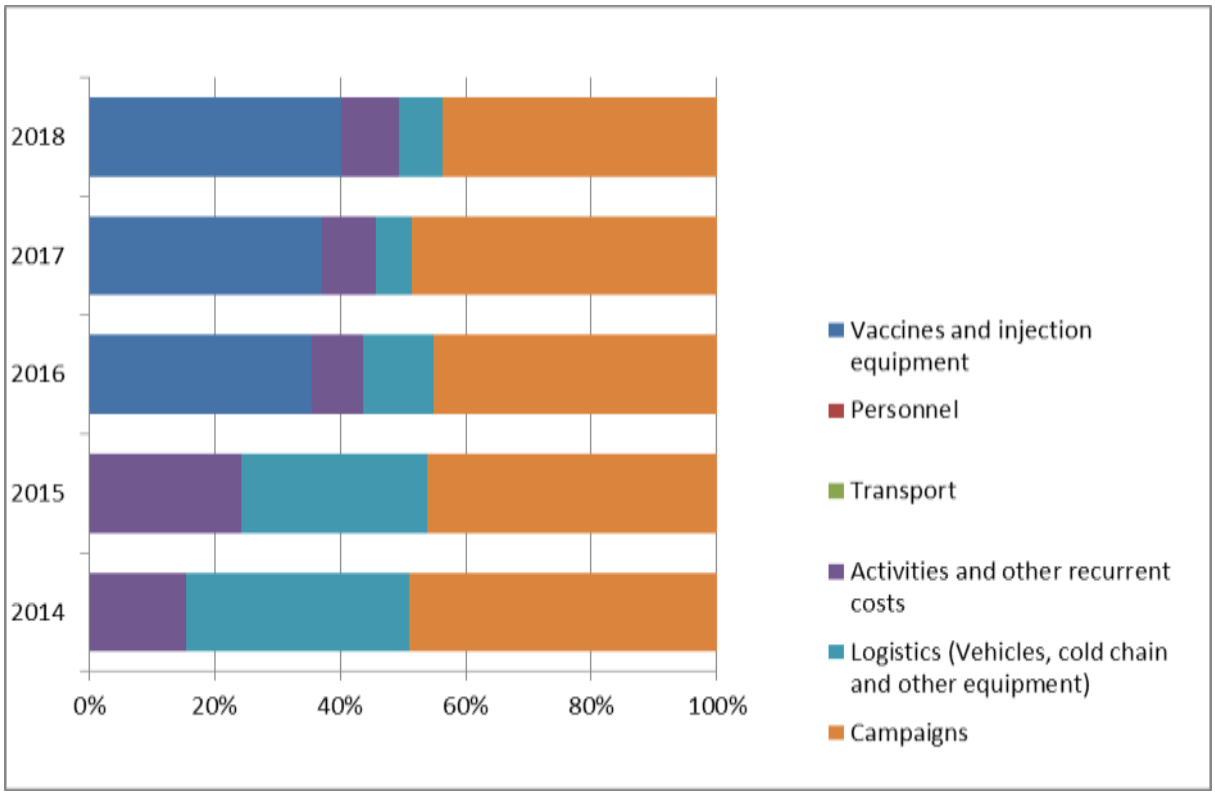


Figure 22, highlights the composition of the funding gap. Throughout 2014-2018, the gap is mainly related with the resources required for campaigns for which average USD5.937 million are needed annually. From 2015 onwards, PEI activities will require mobilization of additional resources because the current PEI program covers the costs up to 2015 only. If funding gap for polio campaigns remains, it increases likelihood of polio transmission and undermines previous investments in polio eradication.

Another important component of the funding gap is the resource requirement for new and underused vaccines after year 2015. The immunization program estimates that average USD 2.2 million annually will be further required to bridge this gap in 2016 onwards. If the funding gap related to vaccines cost is not addressed it will badly affect overall performance of the immunization program.

4.5 Financial sustainability

The macroeconomic indicators listed in Figure 23 highlight that sustainability of immunization system is closely linked with resource allocation from the government health expenditures. The current financial projections indicate that the cost per DPT3 child will decrease to USD 145 in 2018 from USD194 in 2012.

It is expected that the government will continue its funding for immunization system. The financial analysis shows that there are multiple financers/partners, however the program mainly depends upon the provincial government funding which is a positive sign and shows its future sustainability.

In order to secure funding requirements from all financers, the provincial immunization program has to work hard and run a very strong resource mobilization campaign. The immunization program has an opportunity of having potential donors that are ready and willing to support the provincial immunization program as identified during the SWOT analysis. This cMYP will help a lot in preparing proposals/financial requests for potential donors and also will help in preparing provincial PC-1 for EPI immunization program for securing provincial government's share.

Figure 23: Sustainability indicators

Macroeconomic and Sustainability Indicators Reference	2012	2014	2015	2016	2017	2018
Per capita GDP ($)	$ 1,256	$ 1,332	$ 1,372	$ 1,414	$ 1,456	$ 1,500
Total health expenditures per capita (THE per capita $)	$ 30	$ 32	$ 33	$ 34	$ 35	$ 36
Population	8,295,628	8,593,581	8,746,546	8,902,235	9,060,695	9,221,975
GDP ($)	$ 10,419,308,768	$ 11,446,649,550	$ 12,000,261,772	$ 12,587,760,302	$ 13,192,371,616	$ 13,832,962,738
Total Health Expenditures (THE $)	$ 248,868,840	$ 274,994,584	$ 288,636,034	$ 302,675,990	$ 317,124,318	$ 331,991,106
Government Health Expenditures (GHE $)	$	$	$	$	$	$

	24,886,884	30,249,404	31,749,964	36,321,119	38,054,918	43,158,844
Resource Requirements for Immunization						
Routine and Campaigns ($)	$ 21,991,870	$ 28,922,347	$ 31,858,486	$ 35,587,169	$ 36,670,570	$ 38,318,848
Routine Only ($)	$ 14,007,745	$ 20,754,883	$ 24,449,923	$ 27,980,631	$ 28,152,967	$ 30,388,856
per DTP3 child ($)	$ 194	$ 186	$ 173	$ 162	$ 147	$ 145
% Total Health Expenditures						
Resource Requirements for Immunization						
Routine and Campaigns (Includes Vaccines and Operational Costs)	8.84%	10.52%	11.04%	11.76%	11.56%	11.54%
Routine Only	5.63%	7.55%	8.47%	9.24%	8.88%	9.15%
Funding Gap						
With Secure Funds Only		2.33%	1.98%	5.56%	5.52%	5.46%
With Secure and Probable Funds		0.00%	0.00%	0.64%	0.84%	0.60%
% Government Health Expenditures						
Resource Requirements for Immunization						
Routine and Campaigns (Includes Vaccines and Operational Costs)	88.37%	95.61%	100.34%	97.98%	96.36%	88.79%
Routine Only (Includes Vaccines and Operational Costs)	56.29%	68.61%	77.01%	77.04%	73.98%	70.41%
Funding Gap						
With Secure Funds Only		21.23%	18.01%	46.34%	46.04%	41.97%

With Secure and Probable Funds		0.00%	0.00%	5.36%	7.04%	4.60%
% GDP						
Resource Requirements for Immunization						
Routine and Campaigns (Includes Vaccines and Operational Costs)	0.21%	0.25%	0.27%	0.28%	0.28%	0.28%
Routine Only (Includes Vaccines and Operational Costs)	0.13%	0.18%	0.20%	0.22%	0.21%	0.22%
Per Capita						
Resource Requirements for Immunization						
Routine and Campaigns (Includes Vaccines and Operational Costs)	$ 2.65	$ 3.37	$ 3.64	$ 4.00	$ 4.05	$ 4.16
Routine Only (Includes Vaccines and Operational Costs)	$ 1.69	$ 2.42	$ 2.80	$ 3.14	$ 3.11	$ 3.30

5 Annexes

Annex 1: Costing and financing

Figure 24: Expenditures and future resource requirements by cMYP components

	Expenditures		Future Resource Requirements				
	US$	US$	US$	US$	US$	US$	US$
cMYP Component	2012	2014	2015	2016	2017	2018	Total 2014 - 2018
Vaccine Supply and Logistics (routine only)	3,311,361	8,961,129	9,908,937	12,404,105	11,669,214	12,602,988	$55,546,374
Service Delivery	5,346,812	6,012,421	7,843,850	8,854,342	9,256,388	10,014,359	$41,981,360
Advocacy and Communication	72,186	117,300	122,039	126,958	132,089	137,436	$635,822
Monitoring and Disease Surveillance	282,981	344,250	358,158	372,624	387,682	403,342	$1,866,055
Programme Management	328,304	280,394	441,887	344,659	359,415	374,697	$1,801,053
Supplemental Immunization Activities (SIA) (includes vaccine and operation costs)	7,984,126	8,167,464	7,408,563	7,606,538	8,517,603	7,929,992	$39,630,161
Shared Health Systems Costs	4,666,101	5,039,389	5,775,052	5,877,943	6,348,179	6,856,033	$29,896,596
GRAND TOTAL	**$21,991,870**	**$28,922,347**	**$31,858,486**	**$35,587,169**	**$36,670,570**	**$38,318,848**	**$171,357,420**

Figure 25: Composition of the Funding Gap with secure funding (Immunization Specific Only)

Composition of the funding gap	2014	2015	2016	2017	2018	Avg. 2014 - 2018
Vaccines and injection equipment	$0	$0	$5,955,337	$6,501,098	$7,289,593	$19,746,028
Personnel	$0	$0	$0	$0	$0	$0
Transport	$0	$0	$0	$0	$0	$0
Activities and other recurrent costs	$987,948	$1,301,415	$1,393,746	$1,518,801	$1,670,792	$6,872,701
Logistics (Vehicles, cold chain and other equipment)	$2,286,869	$1,596,137	$1,876,004	$983,260	$1,221,290	$7,963,560
Campaigns	$3,145,853	$2,488,237	$7,606,538	$8,517,603	$7,929,992	$29,688,223
Total Funding Gap*	**$6,420,670**	**$5,385,788**	**$16,831,625**	**$17,520,762**	**$18,111,667**	**$64,270,512**