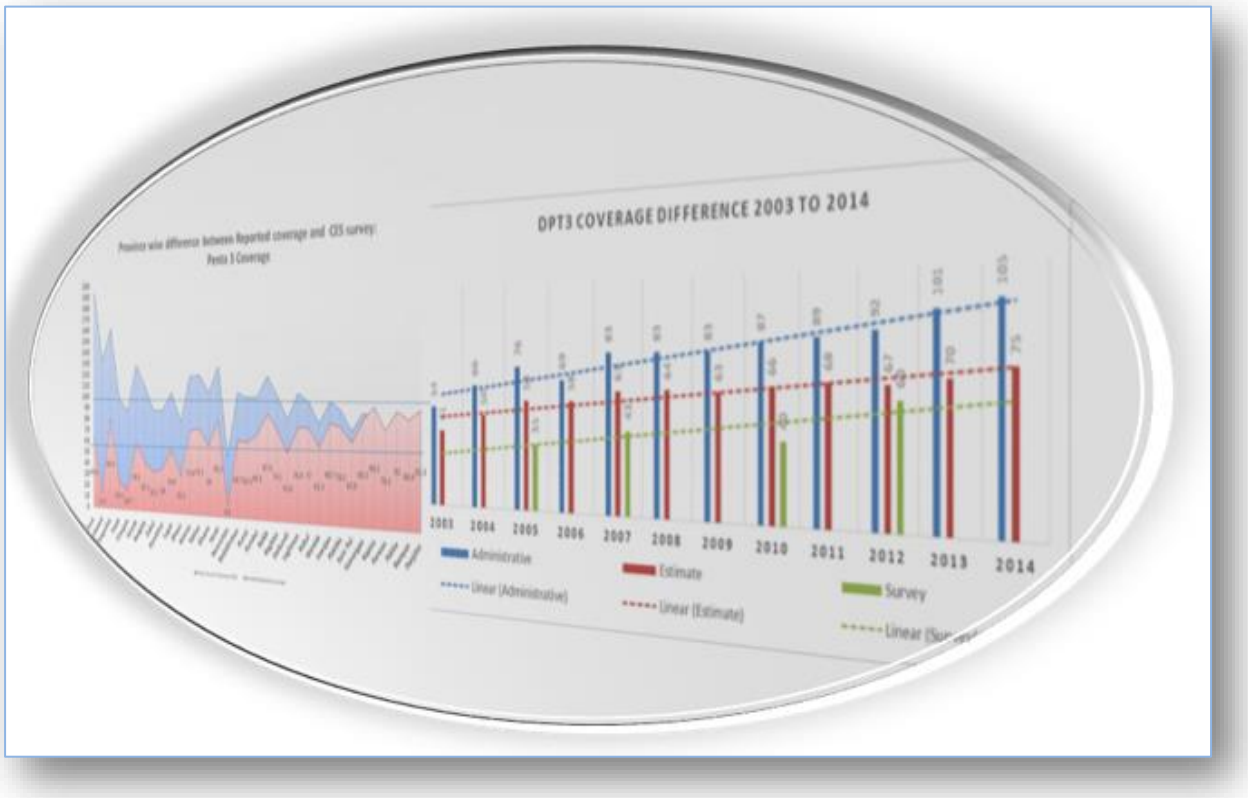
EPI data quality Improvement Plan: **Afghanistan**



Proposal submitted to GAVI

15TH February 2016

Contents

List of Acronyms

AFIX	Assessment, Feedback, Incentives, and eXchange	IRC	Independent Review Committee
BCG	Bacillus Calmette-Guérin (anti-tuberculosis vaccine)	JANS	Joint Assessment of National Strategies
BHC	Basic Health Center	JRF	Joint Reporting Form (WHO-UNICEF report on coverage)
BPHS	Basic Package of Health Services	M&E	Monitoring and Evaluation
CAAC	Catchment Area Annual Census	MNCH	Maternal, Neonatal and Child Health
CES	Coverage Evaluation Survey	MNT	Maternal and Neonatal Tetanus
cMYP	Comprehensive Multi-year Plan	MoF	Ministry of Finance
CSOs	Central Statistics Organization	MoPH	Ministry of Public Health
CTA	Country Tailored Approach	NEPI	National Expanded Programme on Immunisation
DQIP	Data Quality Improvement Plan	NGO	Non-Governmental Organization
DPT	Diphtheria Tetanus Pertussis vaccine	NVS	New and underused Vaccines Support
DQ	Data Quality	OPV	Oral Polio Vaccine
DQS	Data Quality Self-assessment	PEI	Polio Eradication Initiative
EPHS	Essential Package of Hospital Services	PEMT	Provincial EPI management Team
EPI	Expanded Program on Immunization	Penta	Pentavalent vaccine (DPT-HepB-Hib)
GAVI	Gavi - The Vaccine Alliance	PHC	Primary Health Care
GCMU	Grants and service Contract Management Unit	PHD	Provincial Health Directorate
HBVC	Home Based Vaccination Card	REC	Reaching Every Child
Hep-B	Hepatitis-B	RED	Reaching Every District (EPI strategy)
HFs	Health Facilities	REMT	Regional EPI Management Team
HIS	Health Information System	RI	Routine Immunization
HMIS	Health Management Information System	SOPs	Standard Operating Procedures
HR	Human Resources	TT	Tetanus Toxoid
HSCC	Health Sector Coordinating Committee	UNFPA	United Nations Population Fund
HSS	Health Systems Strengthening	UNICEF	United Nations Children's Fund
ICC	Inter-agency Coordinating Committee	USD	United States Dollar
IMR	Infant Mortality Rate	WHO	World Health Organization

Executive Summary

This EPI data quality improvement proposal has been developed to address the data quality issues in EPI, which were identified as important concerns for awarding the PBF (performance based financing) grant of the HSS2 proposal. Through the country-tailored approach agreement with GAVI and MOPH, the PBF grant of 2.3 million USD was provided as an opportunity to Afghanistan to improve the EPI data quality. As outlined in the Country tailored approach document, the proposal aims to achieve the following.: a) Improved availability of disaggregated immunization data by geographic area by month; b) Reduced gap between the estimates of different data sources for immunization coverage; c) Improved data quality monitoring through systematic and robust data audits; d) Improved staff capacity on data recording, reporting; and e) Improve systems for data use and feedback leading to informed decision making

The proposal has been developed by extensive consultation with all the stakeholders at all levels starting from vaccinators, supervisors, Implementing BPHS NGOs focal points, mid-level and national level managers and directors, Data Quality (DQ) experts and partners. A national workshop was held to analyze the DQ bottlenecks and understand the contextual issues followed by an international workshop with DQ experts from WHO and UNICEF headquarters at UAE (Dubai). Following eight intervention areas were identified for the EPI DQ improvement; - recording, reporting, and data flow, redesigning of client records, data management capacity, data use & feedback system, data verification exercises, child tracking using a nominal system, changing BPHS contracts and accuracy of Denominator. A set of criteria was used to prioritize the above eight areas of interventions to choose the appropriate interventions for funding under this proposal. The criteria included 1**.**Impact: Contribution to Results (EPI coverage data improvement) 2.Feasibility of Implementation (Cost effectiveness, the time taken to achieve the results, contextually appropriate, does not significantly affect the workload of staff) and 3. Complementarity with GAVI HSS 3 proposal activities.

The proposal development team finally came out with four objectives for the plan, which include; 1) To build the capacity of the health staff to produce higher quality data and support data use. 2) To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions. 3) To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator. 4) To explore and use innovative mechanisms for improving quality data generation and management at field level.
The activities under each objective are outlined with the main results to be achieved along with monitoring indicators and source of verification. The DQ proposal activities are well complemented by the DQ interventions of the GAVI HSS 3 proposal. The implementation period of these interventions synchronize with HSS3 intervention period from 2016-2019. The national EPI department will spearhead the implementation of the proposal interventions with the support of the Department of HIS (Health information system), M&E department of MOPH, HSS unit, and Partners. The core dedicated implementation committee had been formed including the UNICEF, WHO, CDC to support the NEPI in implementing DQIP. The monitoring of the implementation of the DQ proposal activities will be the standing agenda for ICC/HSCC committee.

1. Introduction and background

This EPI data quality strategic improvement plan has been developed to address the data quality issues in EPI. EPI data quality was identified as a major concern for awarding the PBF (performance based financing) grant of the HSS2 proposal. Through the country-tailored approach agreement with GAVI and MOPH, the PBF grant of 2.3 million USD was offered as an opportunity to Afghanistan to improve the data quality.
Afghanistan, a GAVI-eligible country has been receiving support to improve the immunization outcomes since 2001. The support has helped the country to strengthen immunization systems and introduce the newer vaccines and accelerated control of VPDs. This commitment was up to the tune of $198,430,122 until 2015. In 2012, Afghanistan was approved for the Health System Strengthening HSS-2 cash support of $15.9 million to implement in 2013 and 2014. The HSS-2 fund was a Performance-Based Funding (PBF) grant. The program could not earn the performance-based fund of 2.3 million USD due to 19% difference between the official coverage and WHO-UNICEF estimates. (The 2013 National Immunization Coverage Survey with a DTP 3 coverage estimate of 59.6% is substantially less than the WHO/UNICEF estimate of 71 % while the country's official estimate is 90% (2013) and the administrative estimate is 101%).The disparity between the administrative coverage, WUENIC estimates, and CES survey results raised concerns about data quality issues.

The Board of Gavi, the Vaccine Alliance, approved a new policy entitled "Gavi and fragile states: a country by country approach", for countries that face immunization challenges. The policy aims to introduce flexibilities to Gavi's support enabling Gavi to work more intensively with countries that require special efforts to improve vaccination coverage. This approach is called Country tailored approach (CTA).

The Country Tailored Approach for Afghanistan was developed through a consultative process. Ministry of Public health approved the CTA. The CTA document is attached to this proposal as an attachment #1 as per the CTA agreement "Gavi will allow the program to access its full HSS-2 budget ceiling. The additional funding of $2.3 million which is made available through this measure is to be utilized solely to improve data quality, with the objective to reduce the gap between administrative coverage data and coverage survey data. To ensure a strategic and efficient use of this flexibility, the strategic data quality improvement plan has been developed through the inclusive and transparent process with the involvement of all key stakeholders.
The important objectives of this DQ improvement plan are to have the
a) Improved availability of disaggregated immunization data by geographic area by month;
b) Reduced gap between the estimates of different data sources for immunization coverage;
c) Improved data quality monitoring through systematic and robust data audits;
d) Improved staff capacity on data recording, reporting; and
e) Improve systems for data use and feedback leading to informed decision-making
GAVI HSS 3 proposal for 2016 to 2019 was also developed and submitted to GAVI in June 2015, which has been approved by the IRC (Independent review committee). This proposal that is complementary to HSS3 proposal represents the earnest desire of the MOPH and partners to concentrate efforts and focus on the task of improving the quality of data in the EPI program.

2. Proposal development process:

The proposal development committee was formed under the leadership of Director General of Preventive Medicine, headed by national EPI manager, HIS dept., HMIS, M&E dept., GCMU, UNICEF, WHO, CDC Partners. The workshop was conducted at the national level on 22nd July 2015 involving the representation from all levels. Group discussion was carried out to identify the issues, root causes, and solutions. The BPHS NGO representatives from 10 provinces participated. The detailed report of the national workshop is provided as a separate file along with this proposal with the title 'Kabul DQ workshop summary and agenda. Attachment #2

The International DQ workshop was conducted at Dubai on 27th and 28th of July 2015 involving the international experts on data quality. The two-day workshop exclusively focussed on the improvement of EPI coverage data quality. The national program heads and partners presented the situation analysis as well as in-country workshop findings to the audience. The Data quality focal points from WHO and UNICEF headquarters introduced the different innovations and case studies and challenges in improving EPI data quality. The DQ status and context of Afghanistan discussed in depth. Principal implementing BPHS NGOs' chiefs from ACTD and AADA, who were nominated by the all implementing NGOs to represent the BPHS partners in the international consultation meeting presented their views on the DQ. The group discussions were very fruitful which came out with eight areas of interventions and all participants participated in an exercise to prioritize the interventions by feasibility and impact framework for inclusion in the DQ proposal. GAVI HSS3 proposal was also presented to ensure the complementarity of prioritized interventions. The detailed report of the workshop is provided as a separate file along with this proposal with the title; - 'Dubai Workshop report - Afghanistan - July 2015.Attachment # 3

This proposal was also reviewed by WHO-HQ and the inputs and comments received were considered by national DQ proposal team and were incorporated before submission.

The country group convened multiple meetings with all department heads including HIS, HMIS, GCMU and HSS of the MOPH and the partners to address the comments raised by **IRC** on the proposal submitted in October 2015. During these meetings, the comments were discussed, and responses were collectively formulated. The responses and content of DQ proposal revised for resubmission were presented in the HSCC meeting to seek advice from all the members. Comments received from the HSSC committee members were incorporated in the proposal, and the responses summary is presented in *Annexe 1*

To leverage the polio assets for improving EPI data quality, a consultation meeting with WHO and UNICEF PEI teams was also conducted on 14th January 2016, The possible activities from polio funded staff to improve the DQ was discussed.

The proposal development subcommittee drafted the proposal following which the proposal was further finalized with inputs and agreement from all stakeholders.

3. Situation Analysis

The section presents the in-depth analysis of the situation of EPI data quality from the desk review of the data as well as the proposal preparation workshops held in the country with all stakeholders. The EPI coverage data analysis included completeness and timeliness of the reporting, internal data consistency, data consistency over time (identifying patterns and outliers) and comparison of the data with external data sources. The detailed situation analysis graphs, charts, tables are depicted in the in the EPI data situation analysis document Attachment #4.

The issues and root causes are also summarized later in the section.

a.Lack of accurate information on the size of the population in Afghanistan

Lack of accurate information on the size of the population is a fundamental problem in health planning and management. The last count of the population of Afghanistan was done in 1979 Population and Housing Census. The Central Statistics Organization (CSO), Government of Afghanistan, projects annual population estimates of the settled population based on a constant population growth rate of 2.03 percent since 1979. As per CSO projections the population size was 26.01 million for January 2013. Also, the nomadic Kuchi population is established at 1.5 million persons.

However, this population projection is different from the estimates that are used by the National Expanded Program on Immunization (EPI) system that is based on UNIDATA. These projections are based on a study conducted in 1991 with support from United Nations Development Programme (UNDP). Based on a population growth rate of 2.4%, UNIDATA estimates a population size of 30.75 million for January 2013 (Baseline year for cMYP).

It is argued that the CSO projections not account for the refugee population; therefore, the UNIDATA estimates are closer to the reality. The State of the World Population Report, 2013 also reports Afghanistan's population size as 30.6 million. Previous cMYPs and program proposals submitted for funding by National EPI also used population profile based on UNIDATA.

The key concern is that MoPH has used CSO data for target setting for its Basic Package of Health Services (BPHS) Project, which is nearly 5 million less than the UNIDATA projections.

Currently, the district and provincial targets are estimated by UNIDATA. The coverage percentage is calculated by taking UNIDATA estimations. As per UNIDATA the target children < 1 year are 1,317,559 whereas the CSO data shows 1,084,055. There is a difference of 233,504 in <1-year target children between the UNIDATA and CSO DATA. The difference between the two data sets varies widely among the 34 provinces in the country. The variation ranges from 15000 to 5 children. If we consider the number of the children immunized versus the CSO data as the denominator, the coverage is exorbitantly high. Hence, the UNIDATA estimates seem to be a better fit as the denominator.

Table 1: Denominator data sources and concerns

Denominator Data sources	Concerns
UNIDATA:	Estimation based on since 1978 census, Internal displacement, Migration not considered
CSO	Five million less population compare to UNIDATA. BPHS package considers the CSO data as a basis.
CAAC	Is performed by CHWs and the figures are not accurate Missing of small village and remote areas and not countrywide
Polio NIDs	High numbers due to vaccination of over age group
HH Listing	Done in one district, Labor and cost-intensive

b.Reported data showing high coverage

Nationally the coverage of all antigens as per the reported coverage shows the increasing trend over the last eight years as shown in the table below. In 2014 BCG, DPT1, DPT3 have reached more than 100 percent.

Table 2: Showing reported coverage against the target from 2007-2014

Year	Total births	Surviving infants	BCG	%	DPT1	%	DPT3	%	MCV1	%	MCV2	%
2007	1,254,168	1,059,772	961,705	77	1,120,045	106	736,335	69	725,610	68	272,478	26
2008	1,315,091	1,145,444	1,116,419	85	1,193,171	104	969,149	85	857,008	75	449,578	39
2009	1,346,653	1,172,935	1,106,848	82	1,247,803	106	977,606	83	895,505	76	474,710	40
2010	1,376,369	1,198,817	1,199,858	87	1,185,135	99	1,037,889	87	946,751	79	555,989	46
2011	1,409,401	1,227,588	1,267,519	90	1,227,586	100	1,087,210	89	1,000,611	82	584,711	48
2012	1,443,139	1,256,974	1,354,463	94	1,341,174	107	1,158,416	92	1,067,415	85	677,890	54
2013	1,477,244	1,286,679	1,487,437	101	1,447,307	112	1,302,508	101	1,183,570	92	734,030	57
2014	1,512,698	1,317,560	1,530,282	101	1,585,681	120	1,378,943	105	1,278,491	97	791,861	60

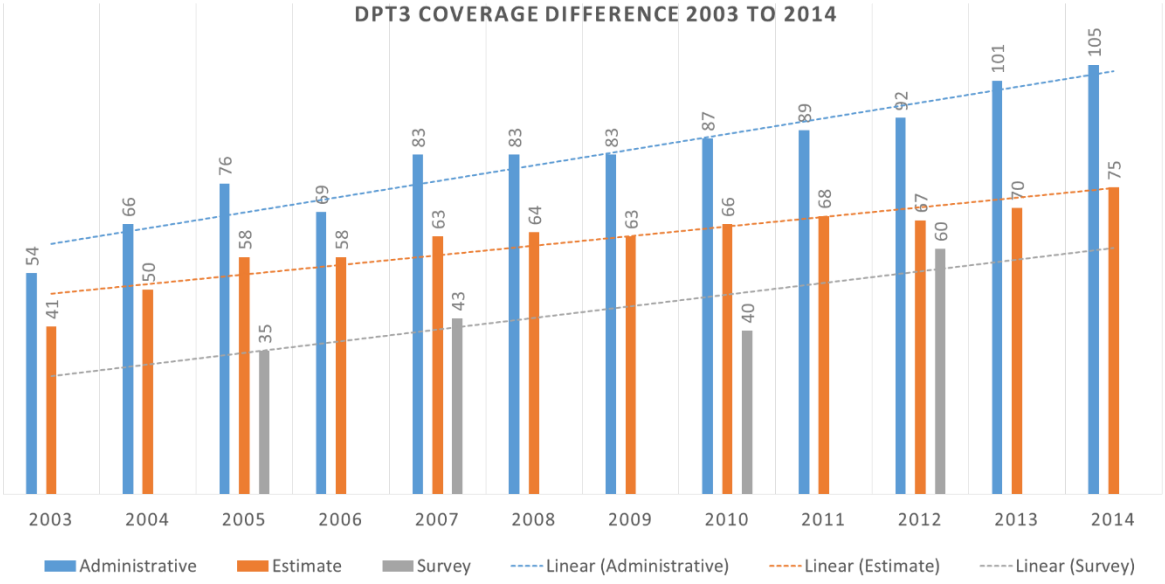
Among the 34 provinces; 16 provinces show the coverage of Penta 3 more than 100%. The analysis of the district coverage of Penta 3 from 2007-2014 reported coverage data reveals the areas with more than 95 percent coverage increased from 119 (36%) to 174 (55%).

	District with Penta 3 coverage % :Total districts 329					
Year	<50%	50-79%	80-89%	90-94%	>95%	Not reported
2007	58	103	42		119	7
2008	30	99	53	26	112	9
2009	38	97	52	29	104	9
2010	37	94	40	24	126	8
2011	37	97	40	24	123	8
2012	38	91	42	17	136	5
2013	28	79	34	20	165	3
2014	28	73	32	18	174	4

The trend of reported coverage increasing over the period beyond 100 percent raises the concern of the quality of the data which needs to be audited periodically.

The trend chart in figure-1 below shows the trend of the vaccination coverage from routinely reported data, Wuenic estimates, and survey data. The routine reported coverage is consistently increased crossing 100% from 2013 onwards.

Figure 1: Comparison of the survey wuenic estimates and reported coverage of DPT3 from 2003 to 2014



We understand clearly that the reported coverage is high and not an actual value. After discussions with all stakeholders including implementing NGOs and vaccinators to find the cause of this, the following issues were highlighted. Some data issues are due to possible intentional over reporting to reach the performance targets.

When we further analyzed the root causes of the over reporting we found two important reasons. Per-diem of the vaccinator for the RI outreach sessions is determined by at least 20 children getting vaccinated in the session. The implementing NGOs provide the per diem (200 Afs) on the basis of the outreach report- children count. Although vaccinator vaccinated 15 children in an outreach session, he tends to give count more than twenty to get his per diem. Another issue is implementing NGOs, not inclined report true low coverage as it affects their overall performance in the province.

The denominator is also incorrectly low in few districts. The system of periodic data check /audit is not in place at the provincial level. The officials are only concerned with a timely compilation of the data but not the quality. There was also a need for reviewing the over reporting and ensuring quality reporting. The quality data self-assessments were conducted in 20009 and 2011; their reports are attached in the annex. The regular data quality assessments have not been conducted since 2011. The upcoming HSS3 proposal includes yearly data quality assessments considering the need of data quality improvement.

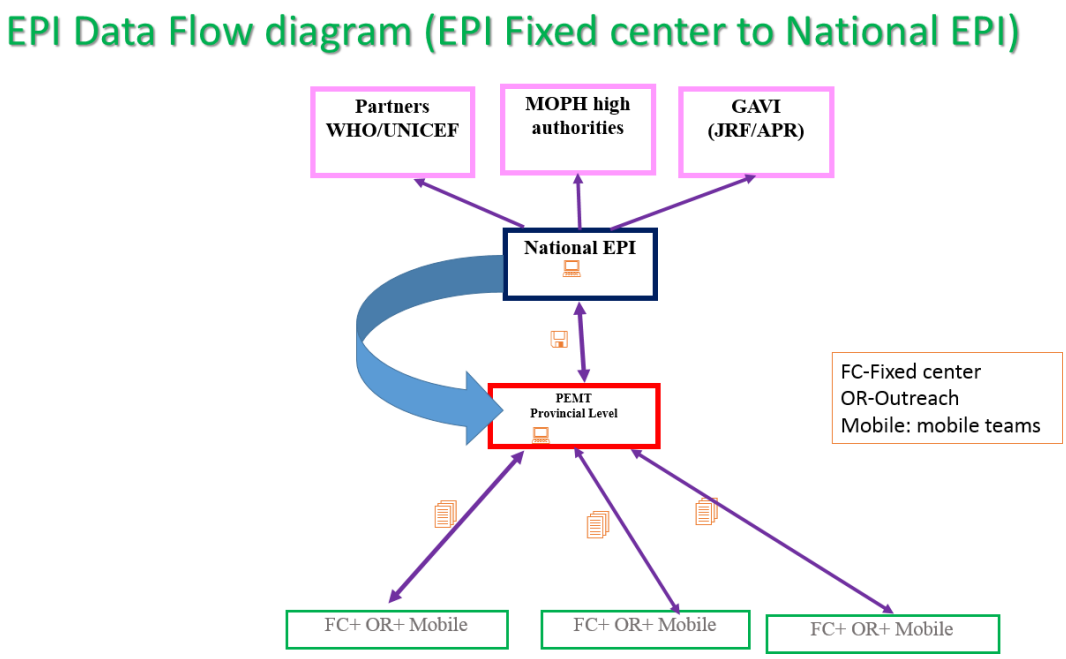
Home based vaccination card retention and usage by the health workers is an important issue in Afghanistan. During the national workshop, vaccinators confirmed that in the absence of the card they will issue a new card and unfortunately in many cases they restart the vaccination from the beginning of the schedule that is unnecessary and also leads to wastage of vaccines as well as wrongly increasing reported coverage and show negative dropout rate.

The last DQS assessment conducted in the 2011 showed that among the five domains of quality questionnaire (Demography, Reporting and Recording, Supervision and feedback, Cold Chain and Training), The best domain was Report and Recording (9.02/10) followed by Cold Chain (8.99/10) and Supervision and monitoring (8.47/10), **while the lowest one was Training (5.43/10),** followed by demography (7.98/10).

c.Data flow

EPI services were initiated in 1978, and the role of the National EPI department was played by Kabul REMT (Regional EPI management team), with data being collected by UNICEF. In the year 2002, the national EPI office was established. The national EPI started the reporting system since 2002. The denominator has been set based on census 1978 and every year the NEPI gave the denominator up to district level based on UNIDATA estimation.

Figure 2: EPI data flow

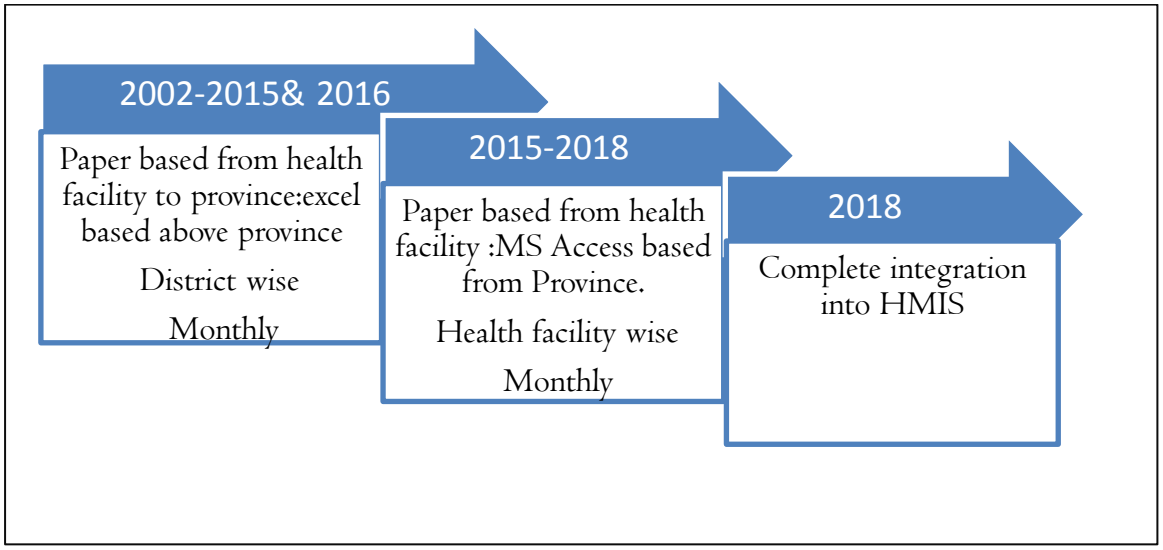


Since 2002 the paper-based reporting from health facility to district then to province was established, from the provincial level onwards the PEMT EPI supervisor keys in the compiled district wise data in the excel sheet and forwards to the national level. At the national level, the Excel files from the provinces are compiled to make a national report that was fed into Joint reporting format yearly.

In the year 2015, Access based software was developed which enable us to capture the data from each health facility. The data from all the health facilities received at the provincial level is keyed into MS access database. At the national level, these access based files are imported to get the national database. This system is functional since eight months.
The strengths of this system include.1, Health facility wise data disaggregation available. 2. Errors in the manual data entry minimized, 3.Multiple data compilation minimized 4.Vaccine utilization information, AEFI, Human resources data also available.5.Use of data for generating analysis is easy.6. Potential to make HMIS module in the future once the system is well implemented.

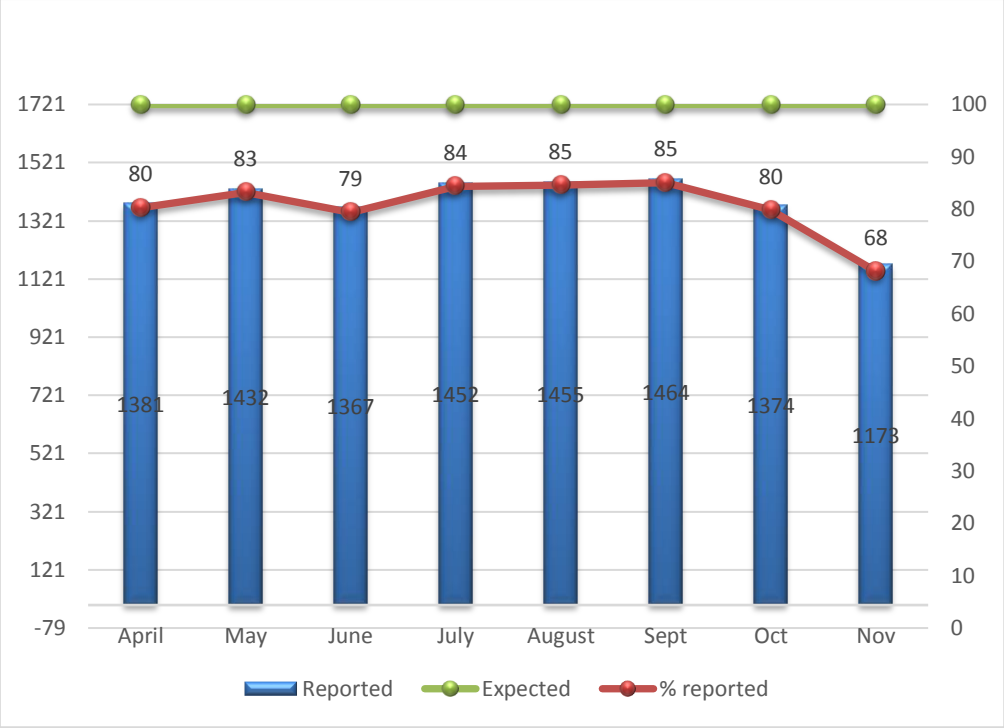
The data flow system is in the transition from Excel sheets to Access based database which has all of the advantages and potential to include in the HMIS later. In the year 2015, both systems were implemented. In 2016 and 2017, the access database will be used to ensure quality EPI data which is timely, completely and with internal consistency. It is planned to integrate the module fully in the HMIS in 2018. The details of the HMIS system in Afghanistan is presented in annex named: HMIS-*Integration EPI module*. Attachment #5. The transition of data flow system is shown in figure 3 below

Figure 3: Data flow system: In transition



The figure-4 below shows the proportion of health facilities reported timely monthly reports. On an average, 80% of health facilities have reported monthly EPI coverage data which was captured in the access database. Albeit this has to improve further, we consider that is shifting to another system was taken up actively in the country.

Figure 4: Number & proportion of health facilities reported through Access based software in 2015



d. Inadequate data use

Although there are laid out guidelines for the review of the program and the data in the national EPI strategy, the quality of the review at all levels, especially at health facility level, are poor. Currently, there is no system for analyzing and validating data at the level of health facility. The health facility simply reports the hard copies of their register forms on a monthly basis to provincial EPI management team. The collected data from districts are converted by the provincial team to excel soft copies.

Provincial EPI committee which are responsible for steering the program at the provincial level do not accord the due importance to the EPI data quality.

In some places, there is an error in the accuracy of data at health facility level when monthly reports were compared with daily tally sheets. There is no proper coordination between HFs to record the number of children vaccinated from outside their catchment areas and to report to the respective areas.

The routine EPI data reporting system is based on superficial indicators. It only reflects the district, provincial and national coverage by antigen according to set target population. The data by a health facility, the gender of vaccinated children, and coverage by type of strategy (fixed, outreach and mobile) is not provided.

There is no check of data accuracy, internal data consistency, outliers and patterns and uniformity at the provincial level. There is a need for capacity building of the key personnel at

the provincial level on the analytical skills, the ability to make informed decisions using available data.

e.Weak supervision and monitoring:

Supervision and monitoring are not implemented are a systematic way. Although supervisory plan exists and national supervisory checklist is developed, many of the monitoring and supervisory visits could not be conducted because of non-availability of the funds and transportation facility.

Two supervisors in the PEMT cannot undertake supervisory activities in a satisfactory way considering an average of 30 to 100 health facilities in a province. Also, the findings from supervision are not followed with an action plan and field level staff are discouraged by insufficient or lack of feedback and follow-up for improvement. The above issues have been considered for funding in the HSS 3 proposal; additional DQ specific supportive supervision needs are addressed in this proposal

f.Records and reports

The immunization records and reporting system is well established in the country. However, a close review of the Immunization Register, tally sheet, monthly reporting formats reveals the following inadequacies to meet the EPI program's needs.

1) The Immunization registers and tally sheets do not enable the vaccinators to track easily the children who are drop outs and do not enable them to prepare the due listing for outreach sessions.
2) At present, the vaccinator has to record relevant information three times for each child which consumes more time and is challenging in a busy center. Each client is recorded in the immunization register, tally sheet, and Immunization card which will be tallied and reported at the end of the month.
3) Daily sheets and immunization register and monthly reporting template have the sex-disaggregated data, but the disaggregated data is not compiled at the national level. Hence, there is a failure in transmitting the sex-disaggregated data.
   The present available Access based database overcomes this shortcoming.
4) There is a need to implement the tracking system for the children to mobilize them when they are due for the next vaccine. At present no defaulter tracking system or due listing system in place.

g. Home based vaccination card (HBVC)

The home-based vaccination record is an inexpensive yet effective instrument for systematically recording the vaccines received by a child. Moreover, the home-based record can enhance the vaccinator's ability to make clinical decisions, empower parents/caregivers in the health care of their children, and support public health monitoring.
Home-based records also support the collection of data for uses of public health monitoring. Periodic coverage surveys, through which information is collected directly from a sample of households, are one way in which vaccination of young children is monitored. In the absence of an available or completed home-based record, surveys often collect information based on

maternal recall, though there is mixed evidence regarding the validity and reliability of recall about health records or immunization cards.

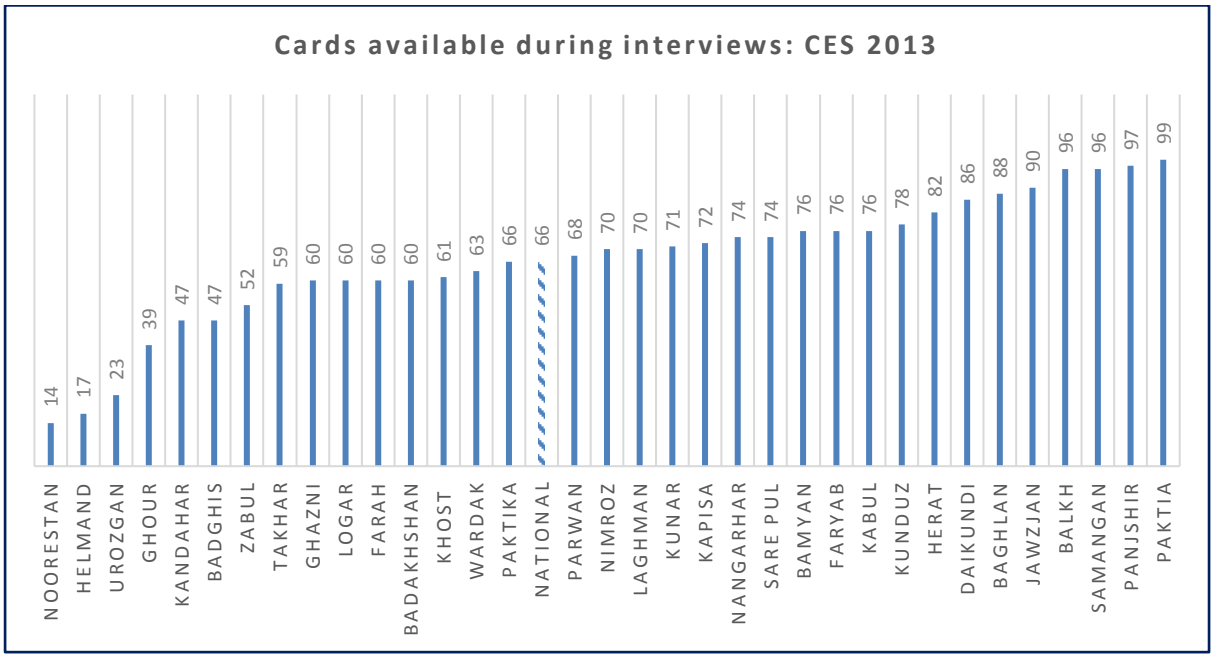
Home based vaccination card retention and usage by the health workers is an important issue in Afghanistan. During the national workshop, vaccinators confirmed that in the absence of the card they will issue a new card and unfortunately in some cases they restart the vaccination from the beginning of the schedule that is unnecessary and also leads to wastage of vaccines as well as wrongly increasing reported coverage. Moreover, show negative dropout rate. The periodic surveys conducted in the country revealed that the retention increased from 17% in 2006 AHS to 66% of retention during CES 2013.

Table 3: Immunization card availability with parents during surveys

Survey details	Cards availability
Afghanistan National EPI Coverage Survey, 2013	66%
Afghanistan Multiple Indicator Cluster Survey 2010-2011	31%
National Risk and Vulnerability Assessment 2007/8	34%
Afghanistan Health Survey 2006	17%

The province-wise retention rate analysis shows that in 26 provinces out of 34, the retention is less than 80% with parents. The national average is only 66% as shown in figure 2.

Figure 5: Province wise Immunization card availability with parent during CES 2013



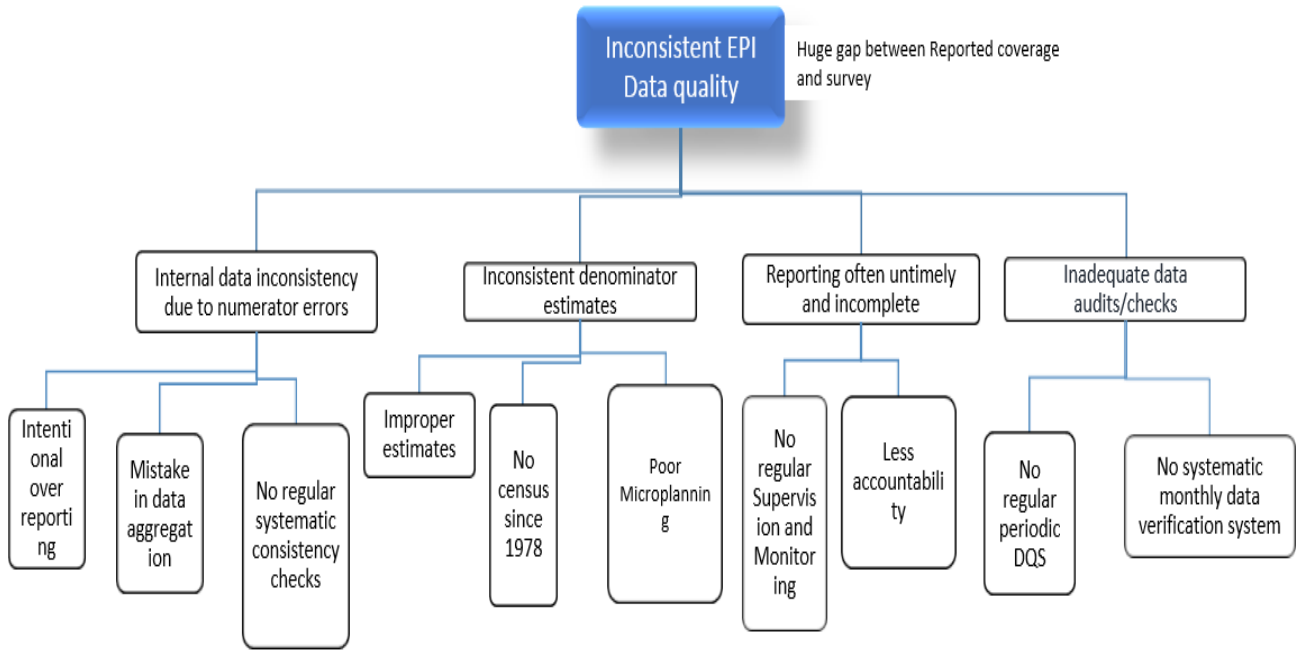
Considering the advantages of the Immunization card in assessing the immunization status, determining the next vaccination date, validity during the survey and also community

monitoring processes, there is a need for a study on the factors responsible for low card retention and accordingly redesign the card or implement other appropriate actions to improve retention. There is a separate card for the TT vaccination. There is also a possibility of relook into the family health card (unified card for recording all maternal and child interventions) instead of the two different cards.

Summary of bottlenecks and barriers to EPI data quality

Both workshops had group discussions identified the bottlenecks and obstacles to improving the EPI data quality.
The details of the debates are outlined in the summary reports of the workshop proceedings. The key summary is presented here to link the proposed objectives and activities of the proposal that are suitably planned to address the bottlenecks.
Following schematic diagram depicts the problem tree of the poor EPI data quality

Figure 6: Schematic diagram of EPI data quality issues in Afghanistan.



4. The interventions of DQ improvement in **GAVI HSS3.**

While developing the GAVI HSS 3 proposal, the four major data quality interventions were incorporated. (Reference: GAVI HSS3 proposal form Part D section 11 page 35 onwards). Attachment#6. These interventions will directly contribute to achieving EPI data quality outcomes. As EPI DQ proposal and GAVI HSS3 proposal will be implemented in synergy during the same period between 2016 -2019, it is important for both the proposals to complement each other. The following interventions which have been considered in the GAVI HSS3 proposal were not included in the EPI DQ proposal.
Performance Based Financing (PBF) Budget will be used to for Incentivising Vaccinators.The following activities under 1.5, 4.1, 4.2 are contributing to the improvement of the data quality:

1.5: Supporting micro-planning through RED strategy using CHWs and BASIC tools to improve the immunization services:

Through building the capacity of public health providers, DHOs, and PHOs towards the universal implementation of the Reach Every District (RED) strategy to strengthen immunization service and planning at the district level. The activities are intended to conduct a detailed mapping and micro-planning with the assistance of CHWs to reach every community (REC). The support of the Geographical Information System will also be considered while mapping and microplanning.The total budget allocated in HSS3 for this activity is USD 559,379.00

4.1: Improving supportive supervision and monitoring of BPHS HFs at different levels with more focus on decentralization: through training and supporting PHOs, DHOs, and EPI supervisors to conduct supportive supervision based on the National Monitoring Checklist will keep the HFs under BPHS-implementing-NGOs on track in their coverage interventions and improving services. The data quality component will be included in all the supervisory and monitoring visits by all officials from the district and provincial level. The Provincial EPI committee will be appraised to include the EPI data review to ensure the internal consistency of the monthly EPI report and endorse the report to increase the accountability.The total budget allocated in HSS3 for this activity is USD 1,769,985.00

4.2: Conducting Periodic evaluations to ensure accountability for equity at district and provincial level: this will improve data quality by conducting a Data Quality Self-Assessment (DQS) each year, the four annual data quality self-assessments are planned considering the poor EPI data quality. The DQS findings will be considered for awarding the best performing provinces/districts/health facilities using the PBF grant of HSS3.

Two EPI coverage surveys are planned during the project period. One in the first year of the GAVI HSS3 implementation and the second one will be in the fourth and last year of the proposal period.As the survey is labor intensive and the resource intensive, at least, the three-year gap between them will be optimum.The last survey was conducted in 2013.

The survey will be conducted through involving the Academia and third party expert agencies which will yield the unbiased results to make evidence-based decisions for the improvement of the program. The total budget allocated in HSS3 for this activity is USD 880,000.

II.Performance Based Financing (PBF) Budget for Incentivising Vaccinators.

This is to note that the total funding basket from GAVI HSS3 is USD 47.5 million. However, 7.6 million of this grant is placed on Performance Based Financing (PBF). If Afghanistan successfully achieves its targets and is considered eligible for the PBF portion, this money will be utilized as an incentive for improving the performance of vaccinators through a Pay for Performance (P4P) scheme. Considering the overall nature and condition of GAVI proposal guidelines, all the incentives, benefits, contracts, and payments are performance based and will be managed through a clear and properly defined set of performance indicators explained in the HSS3 implementation manual in their action plans and contracts.

To determine the achieved targets, the EPI data quality improvement is critical in the country. Hence, much importance is given to EPI data quality improvement and Incentivizing the vaccinators with 50$ per month would be initiated soon for the health facilities which are reporting the data that is timely, complete and accurate to ensure the availability, quality, and consistency of the data. The provincial EPI committee will decide based on the EPI DQ performance of each health center and accord the incentive.

Non-financial incentives through recognizing in the review meetings, certificates for quality reporting and solar lights for the facilities will be instituted.

While deciding on the incentivising the vaccinators, EPI data quality indicators will be factored in as major criteria to award the incentive.

This EPI data quality proposal excludes the above interventions of HSS3 proposal and focuses on other complementary interventions aimed at improving the EPI coverage data quality.

PEI assets for EPI data quality

Leveraging polio funded staff for improving EPI and specifically EPI data quality was discussed in consultation meeting with Polio team leadership in the country. It was very clear that the polio field staff presence in the country is limited to 100 districts out of the total 399.

The cadres of District Polio Officers and District Communication Officers can earmark designated days in a month to EPI program for monitoring EPI and participate in the data quality training and advocacy and mobilization for EPI. It is difficult to bank upon the Polio processes for ascertaining denominator as the Polio micro- planning is not based on the household but based on the number of children vaccinated per day. However, the count of # of children under one year age is in the tally sheets, and EPI planning units can utilize this data during EPI microplanning.

For EPI data quality improvement through PEI assets following activities will be considered.

- *Polio funded staff at the district level, and provincial level does the monitoring of EPI sessions including the data quality in 100 districts with standard monitoring checklist.Monitoring findings will be compiled, and feedback will be shared with provincial EPI committee for actions.*
- *Polio funded staff at the district level get involved in the DQ training to the vaccinators and orient themselves*
- *Provincial polio officers will be involved in the assessment of DQ training to vaccinators at the provincial level for the training quality assessment.*
- *The polio micro plans and tally sheet count of less than one year children will be considered while improving the denominator of the EPI micro plans.*
- *While conducting a micro plan RED/REC approach through GAVI HSS3 funding, the polio micro plans of respective areas will be consulted.*

All the above activities will be implemented through PEI or other funding, hence, these activities are not budgeted in this proposal.

5. Objectives and activities of the EPI DQ proposal

This section of the proposal describes the four different objectives of the proposal and their activities.

Objective 1: To build the capacity of the health staff to produce higher quality data and support data use.

Capacity building of staff involved in EPI program is crucial in improving EPI data quality. The paradigm shift to report accurate data versus high inflated coverage is critical to get the quality EPI data. Service providers to take utmost care in the recording and reporting of the vaccinations, which needs periodic training and supportive supervision will be addressed through capacity building of the frontline health workers. The mid-level management should be trained in analyzing the internal consistency of the data and take the corrective steps and inspire the Vaccinators, implementing NGOs and EPI supervisors to report the accurate data than intentional high coverage.

The EPI supervisors who are involved in the data compilation will be given training on checking the data for internal consistency of the data, Outlier detection, pattern and uniformity check of the reports received from the health facility. Their regular supervisory visits will include data quality checks and identify the reasons for false/wrong/incorrect data and provide on the job training to vaccinators. The supportive supervision visits will include the on the job training, and reinforcement of the accurate data recording and reporting will be part of the regular supervision from PEMT/NGO EPI supervisors.

Provincial EPI managers will be trained in the analysis of the data quality before sending the provincial report to regional and national level.

The present access based data compilation will facilitate the analyzing the data for its internal consistency. The national EPI will analyze further and produce monthly EPI dashboard which will be presented to EPI task force meeting. Capacity building for improving the EPI data quality is planned for three levels.

Table 4: Capacity building for improving the EPI data quality is designed for three levels

	Health Staff	Numbers	Capacity building components/areas
1	Vaccinators and Supervisors	3000	Data recording and reporting Duelist preparation, Tracking/tickler bag usage
2	PDMC (Provincial data management committee	243	Data collation, Facility wise data analysis, trend analysis, Triangulation with vaccine utilization data.
3	NDMC (National Data monitoring cell)	3	EPI National dashboard containing all the data from HMIS, HRMIS, Training status, Surveillance data and Cold chain and vaccine logistics data
4	Implementing NGOs focal points	31	Workshop to provide clear instructions on the importance of the high quality of EPI data rather inflated EPI coverage. Coordination Delinking outreach session per- diem from the criteria of vaccinating minimum 20 children.

Eighty-nine MOPH-EPI staff who are working at the provincial level, 120 EPI supervisors from NGOs and PEMTs and 34 provincial HMIS officers will be given the Master training. These master trainers will consequently train the vaccinators in their provinces.
One day workshop for all implementing NGOs chiefs/focal points will be conducted to appraise the issue of the EPI data quality and its implications for the program and clear instructions to provide the accurate information than the inflated data will be informed. Their co-operation for vaccinators' capacity building on the data quality will be sought.
The inclusion of data quality module in the regular initial and refresher training which are funded by the GAVI -HSS 3 and SEHAT respectively will be done.
As per the findings of the annual EPI review, Data quality self-assessments and periodic data quality in depth assessment interim training will be repeated for frontline health workers from selected provinces/districts.
Activities:

1. Developing training package and guidelines/SOPs for the EPI data quality improvement.
2. Master training on EPI data quality
3. Frontline health workers training on the EPI data quality.
4. Implementing NGOs one-day orientation workshop on the EPI data quality
5. Inclusion of revised EPI data quality module to the initial and refresher training
6. Interim, additional training frontline health workers from selected provinces/districts.
7. Supportive supervision and monitoring visits for aiming at improving the EPI data quality and on the job training for tracking dropouts and left outs.
8. Provide Job aids for each EPI fixed center on the EPI data quality: The job aids will be field tested before going into mass production.

This objective is considered as essential and priority because the results of last DQS assessment conducted in the 2011 showed that among the five domains of quality questionnaire (Demography, Reporting and Recording, Supervision and feedback, Cold Chain and Training), The best domain was Report and Recording (9.02/10) followed by Cold Chain (8.99/10) and Supervision and monitoring (8.47/10), **while the lowest one was Training (5.43/10),** followed by demography (7.98/10).

Objective 2: To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.

The main purpose of this objective is four folds, which include:

- To ensure timely availability of disaggregated immunization data by geographic area by month.
- To ensure the complete reporting of all health facilities public, private and nomadic EPI delivery centers.
- To analyze the health facility wise reported coverage and triangulate with the previous months coverage as well as vaccine utilization data with standard EPI data quality analysis format.and
- To provide feedback and make supervisory visits to the identified problematic centers and provide on job training..

This activity is in tandem with the HSS 3 proposal activities. The planned expansion EPI delivery centers in 310 health sub-health centers need the differential performance of them to be recorded to report as per the GAVI-HSS3 proposal.

Provincial level: Every province has the functional Provincial EPI committee (PEC).EPI data quality monthly review, analysis and ownership of the data compiled from the health facilities will be an important part of the existing Provincial EPI committee. The existing members of this committee are headed by Provincial Health Director (PHD) and PEMT manager, PEMT EPI supervisor, CCT, HMIS officer, EPI supervisor from NGO, Provincial focal points from UNICEF and WHO. The data reviewed by the provincial EPI committee will be forwarded to the national level with endorsement by PHDs.
The committee will review monthly report compiled by EPI supervisor and HMIS officer for timeliness; completeness analyzes health facility wise coverage with the standard analytical tool. The problems identified in the data quality as well as the coverage will be addressed by appropriate actions. The EPI supervisor will make monthly, at least, four visits to the poor centers and for supportive supervision and problem solving. The visit report also will be shared with provincial EPI committee at the next monthly meeting.

National level: National EPI unit needs a strong M&E/data section to facilitate NEPI and MOPH to take data-driven decisions for the EPI program management. The EPI task force committee, Health system co-ordination committee, and NITAG meetings demand data and evidence to base their programmatic decisions. At the moment the M& E focal point in the NEPI is vacant. There is a need for strengthening NEPI by establishing a data monitoring cell. The characteristics of the data monitoring cell are as follows.The cell is headed by the Data Manager/Epidemiologist and an IT officer. Critical functions would be to liaise closely with HMIS department, Surveillance Section, Cold chain and vaccine logistics management section, Training section and get the monthly data on the coverage, disease burden, Vaccine utilization, Training status respectively to make national EPI data dashboard. The EPI national data dashboard presented in monthly EPI task force meeting to facilitate data driven programmatic decisions.
IT officer will facilitate the Access database functionality and work closely with HMIS unit to make the module of EPI data which is now offline to the online system to make the smooth transition from present system to HMIS. He will continuously assign the codes to planned newer establishment of EPI centers during the project period.

Overall the objective of the cell is to help the program managers and partners to facilitate their data-driven managerial decision making, program monitoring, and epidemiological intelligence.

Activities:

1. Sensitization of all provincial EPI committee members on EPI data quality:
   This will be conducted at the regional level. Provincial PEI committee members for the region will be convened at the regional level, The National data quality team and experts will facilitate the sensitization in components of Data collation, Facility wise data analysis, trend analysis, Triangulation with vaccine utilization data.
   Responsibilities of the provincial committee, criteria's of financial and non-financial incentives will be appraised to the team members.
2. Establishing EPI data monitoring cell at the national level
3. Planned transition of the current data flow system to HMIS

Objective 3: To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.

Under this objective, three assessments envisaged which will guide the country for improving the EPI data quality.These include a. Expert-led consultation to ascertain the denominator. In-depth assessment of EPI data flow, data quality and barriers and bottlenecks through KAP studies. c. A qualitative study of the causes of low retention of home-based vaccination card. These studies have had direct bearing on the improving data quality

a.Expert-led consultation to ascertain the denominator

Ascertaining the denominator is a challenging task but fundamental to come to a consensus to steer the EPI program especially data quality and reach the objective of this proposal.

Following alternate sources for ascertaining denominator are and will be available in the country.

There are six different denominator data sources for Afghanistan, (1.UN projections based on the 1978 census, 2.Central Statistics Organization (CSO) projections, 3. Catchment Area Annual Census (CAAC), 4. Polio NIDs data, 5.Micro-planning data. 6. A census being conducted through CSO with support UNFPA, in 14 provinces will be available in near future).

Aerial satellite imagery can also be of use for few insecure areas. The aerial satellite imagery will be sought through coordinating with Afghan agriculture ministry- (e- Afghan ag maps).

Polio campaign do collect the data of less than one year children during the campaign with the support of the provincial polio teams the data to be compiled on EPI cluster-wise to ascertain the target children.

Initially, Expert-led consultation will ascertain the national level target children of less than one year, less than two years, one to five years and women of childbearing age through statistical modeling exercise.

This exercise based on comparing the available different data sources, Ascertaining the population growth rate and Crude birth rates with appropriately determined conversion factors. The recently developed WHO/UNICEF document on Assessing and Improving the Accuracy of Target Population Estimates for Immunization Coverage: http://www.who.int/immunization/monitoring_surveillance/data/Denominator_guide.pdf?ua=1 will assist the consultation for the estimates.

The expert-led in-country workshop will be conducted.

The activity will be led by the HIS directorate. With close collaboration with Central statistical department in-country experts and international statistical experts will be consulted with different data sources and workshop will be conducted on the same. A national working group comprising HIS directorate central statistical office, DGPM and NEPI manager will be formulated in the country to estimate the subnational denominators and plan for long-term harmonization to meet on an ongoing basis to resolve inconsistencies.

The dedicated international staff from UNICEF and WHO, who are funded by GAVI-PEF agreement will be recruited soon to spearhead and facilitate whole activity by collecting, collating the different data sources of denominator which will be presented to experts to arrive at the improved denominator for the country.

b. In-depth assessment of EPI data flow, data quality and barriers and bottlenecks through KAP studies

An Assessment will be undertaken through quantitative and qualitative inquiry methods to determine the barriers and bottlenecks for having seamless data flow, quality EPI data, and its use.

The information gathered through the Data quality Self-assessments, which are planned through GAVI HSS 3 Budget, Implementation of the capacity building activities planned in objective one and analysis of national EPI dashboards will be analyzed in depth in this exercise. The KAP study will be conducted for vaccinators on their capacity to produce the quality EPI data, the implementing NGOs, Provincial EPI committee members and national level EPI leaders will be interviewed with a structured questionnaire on the EPI data quality.

This design and assessment and analysis and report drafting will be the responsibility of the core implementation committee members.

c. A qualitative study of the causes of low retention of home-based vaccination card.

Home-based records support the collection of data for uses of public health monitoring. Periodic coverage surveys, through which information is collected directly from a sample of households, are one way in which immunization coverage of young children is monitored. Home based vaccination card retention and usage by the health workers is an important issue in Afghanistan. During the national workshop, vaccinators confirmed that in the absence of the card they sometimes issue a new card, and, unfortunately, they restart the vaccination from the beginning of the schedule which is unnecessary and leads to wastage of vaccines as well as contributes to increasing reported coverage to a high number.

The periodic surveys conducted in the country revealed that 66% of retention as per CES 2013. In HSS 3 proposal coverage evaluation surveys are planned twice, one in the beginning and another at after three years. Hence, this is an opportunity to study the client record retention and find ways to improve the retention of the card. This study also find the issues related to distributing the vaccination card to care givers, availability of the cards in fixed center/ outreach/mobile sessions, completeness of the recording the data, use of the card for tracking and issuing repeated new cards to the parents who lost/did not bring the card will also be considered.

Activities

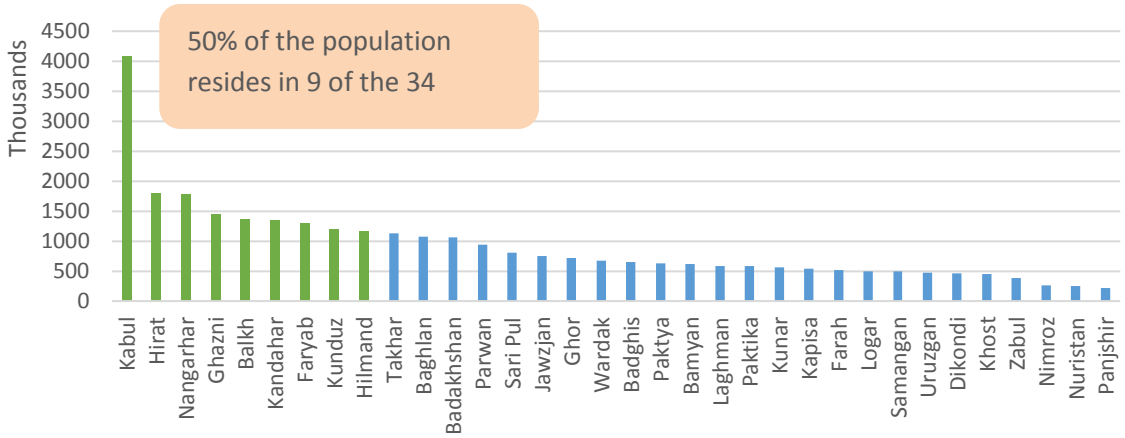
1. Expert-led Consultation workshops for improving the accuracy of denominator
2. National working group for improving subnational denominators and plan for long-term harmonization
3. In-depth assessment of data flow, data quality, data use. Including KAP study on different stakeholders on EPI data quality
4. A qualitative study of the causes of low retention of home-based vaccination card and also to find any issues in distributing cards to the caregiver.

Objective 4._To explore and use innovative mechanisms for improving quality data generation and management at field level.

1.Mobile application for promoting and managing Immunization Information: There are multiple innovative methods have been implemented in different countries in the region related to **name based child tracking system** with mobile technology[1] to improve the data quality as well as coverage. Considering the context of the Afghanistan, these interventions need to be carefully selected for implementation. This need to be considered in the provinces where there is high feasibility to implement effectively and get the results. The following intervention that is technology dependent is selected to implement one or two urban provinces.

Afghanistan has 50% of the population in eight provinces which are shown in the graph below. The urban areas of Kabul, Herat, Nangarhar, Ghazni, Balkh, Kandahar, Kunduz, Faryab and Helmond are highly populated; there is also the availability of the Internet coverage, mobile network, and educated vaccinators. Hence, implementation of technological interventions is feasible.

Figure 4: Population of Afghanistan by province



Android tabs will be given to vaccinator with installed app. The vaccinator will register the each new child and enter the vaccines administered to them. The central database generates the Immunization Register and due children for vaccination for the session will be automatically updated in the tab of the vaccinator. Vaccinator can see the duelist every day of her work and mobilize the children. The central database system could also send an SMS to the parents.

The advantages of the systems are 1.Real time availability of the coverage data 2.Simplification the reporting of the data.3.Easily available duelists.2. Reminders to Parents, 4 improve the timeliness of vaccination

2.The basic system of defaulter tracking and mobilizing dropouts are very poorly implemented in the country due to multiple barriers. The involving community health workers for mobilizing the left out and dropout children is planned through GAVI HSS3 proposal. There is a need for capacity building and vaccinators for duelist preparation and provision of tracking bag/tickler box to facilitate tracking the drop outs. The tracking bag/tickler box/reminder box

will be distributed to all the EPI fixed center the training of the vaccinators on the preparation of the duelists and usage of tracking bag/tickler box will be part of the data quality improvement training as envisaged in objective one.

It is important to track children and pregnant women who fail to present for immunization. If many in the catchment area of the health facility are defaulting, then this may indicate a widespread lack of confidence in vaccines, poor outreach services, or problems with stock-outs. A system to track drop-outs is an integral part of the Reaching Every District (RED) strategy. The WHO&UNICEF module on increasing coverage at the health facility level describes the detailed system which is yet to be adopted in the country. (http://apps.who.int/iris/bitstream/10665/67791/1/WHO_V%26B_02.27.pdf).hence establishing this system which is already in place in many countries is an important system to improve coverage as well as data quality.

This system will improve the reduction of dropouts, timeliness of vaccination, improves the card retention, and helps vaccinator to assess the vaccination status of the child accurately contribute to the proper recording and data handling which eventually enahances the accuracy of the data.

Activities

1. Adoption and establishment of existing apps on name based child tracking system (SEARO/EMRO region) in one /two selected urban areas.
2. Provision of tabs and training of vaccinators
3. Provision of Tracking bag/tickler box for all the EPI fixed centers

6. Performance monitoring framework

The ultimate objective of the DQ proposal is to have the reliable, accurate and usable data which is available timely with quality and consistency. The discrepancies between different data sources of the immunization coverage should show the consistency and reduce the gap between the administrative coverage and the WUENIC estimates to less than 5% by next four years (2019) which is presently at 30%. Simultaneously ensuring the improved availability of disaggregated immunization data by geographic area by month. Improved data quality monitoring through systematic and robust data audits, improved staff capacity on data recording, reporting and Improve systems for data use and feedback leading to informed decision making are the important improvements to be achieved.
Improving the full immunization coverage and by reducing the left outs and drop outs would result with the multiple interventions planned during the same period through GAV-HSS3 proposal, The improved data quality through this proposal will complement to identify the low performing areas and help to channel resources to improve the coverage.

The performance monitoring of the implementation of the proposed four objectives and their activities will be done routinely by EPI DQ committee comprising of the NEPI, HIS, GCMU units of the MOPH and will be part of the standing agenda of the ICC/HSCC meetings. To report the progress to the GAVI of the DQ improvements following outcome and output indicators and source of verification are presented in the table below. The excel file of performance is in the Attachment #7

Outcome Indicators

DQ proposal Outcome Indicators

A	Difference of Penta 3 coverage as per different sources	2013	2014	2015	2016	2017	2018	2019
1	Administrative coverage of Penta 3 coverage	101	105					
3	WUENIC estimates	70	75					
4	Survey coverage	59						
	Baseline and Targets to achieve							
1	Difference between Admin coverage and WUENIC estimates	31	30		20	15	10	5
	Source of Verification: JRF,WUENIC Estimates							

B	Data timeliness, completeness and accuracy	2015	2016	2017	2018	2019
1	Proportion of health facilities reporting the monthly report timely	80.06%	90%	95%	100%	100%
2	Proportion of provinces reporting EPI coverage data completely from all EPI delivery centers (EPI delivery centers from SEHAT, Private, Nomadic and PPP)	83%	90%	95%	100%	100%

3	Proportion of provinces with data checked for Internal Consistency (Data analysis sheet available by province)	10%	40%	70%	90%	100%
4	Penta 1-penta 3 dropout rate	15%	12	10	8	6
	Source of Verification: JRF/EPI dashboards					

Output Indicators

	Output Indicators							
Sr No	**Objectives**	**Monitoring Indicator**	**Source Verification**	**Baseline 2015**	**2016**	**2017**	**2018**	**2019**
Obj-1	1) To build the capacity of the health staff to produce higher quality data and support data use.	Proportion of frontline health workers trained in the EPI Data quality	Training report	Nil	50%	100%		
Obj-2	2) To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.	Number of EPI data dashboard prepared and presented to EPI task force meeting	Quarterly EPI data dashboard	Nil	3	4	4	4
		Proportion of provinces with data checked for Internal Consistency	Completed data analysis templates	10%	40%	70%	90%	100%
Obj-3	3) To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.	Assessment report available	Report	Nil		1		
		Consultation Workshop Held	Workshop Report	Nil	1		1	
		A qualitative study of the causes of low retention of home-based vaccination card	Study report	Nil	1			
Obj-4	4) To explore and use innovative mechanisms for improving quality data generation and management at field level	Name based child tracking system piloted	System functional report	Nil		1		
		Provision of Tracking bag/tickler box for all the EPI fixed centers	Distribution list and Monitoring Report	Nil	50%	100%	100%	100%

7. Explanation of link between objectives/activities and EPI data quality outcomes

The following table explains the link, how the" **immunization EPI data quality outcomes"** will be achieved through the proposed activities.

We also outlined the data quality related activities from the HSS 3 proposal for their bearing on the EPI DQ outcomes.

Objective / Activity	**Explanation of link to improving immunization EPI data quality outcomes**
1) To build the capacity of the health staff to produce higher quality data and support data use.	
1. *Developing training package and guidelines/SOPs for the EPI data quality improvement.* *2. Masters training on EPI data quality* *3. Frontline health workers training on the EPI data quality.* *4. Implementing NGOs one-day orientation workshop on the EPI data quality* *5. Inclusion of revised EPI data quality module to the initial and refresher training* *6. Interim, additional training frontline health workers from selected provinces/districts*.	Capacity building of frontline health workers is the crucial activity where the generation of the reporting takes place. This activity intended to overcome the poor recording and reporting. Implementing NGOs focal points orientation intended to avoid the intentional over reporting and support the vaccination staff for quality data. For regular reorientation and sustainability, the package of EPI DQ module will be the important part of the existing initial and refresher training.
2) To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.	
1. *Sensitization of all provincial EPI committee members on EPI data quality* *2.Establishing EPI data monitoring cell at the national level* *3.Planned transition of the current data flow system to HMIS* *4. Supervision and monitoring*	Provincial EPI committee having the responsibility of stewardship of EPI program in the province, sensitization of the committee making them accountable with their endorsement for the data transmitted from the province and reviewing and checking for the internal consistency of data at the provincial level will improve the data quality received at the national level. Data monitoring cell at the NEPI will contribute to overall data use for decision making by making national EPI data dashboard which enable the EPI task force/ICC committee to make the evidence-based decisions. The planned transition to HMIS will contribute the health system strengthening from being vertical to centralized MIS.
3) To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.	

1.*Expert-led Consultation workshops for improving the accuracy of denominator* *2. Establishing National working group for improving subnational denominators and plan for long-term harmonization* *3. In-depth assessment of data flow, data quality, data use. Including KAP study on different stakeholders on EPI data quality* *4. A qualitative study of the causes of low retention of home-based vaccination card and also to find any issues in distributing cards to the caregiver.*	Expert –led consultation with the small in-country working group to improve the accuracy of denominator will be of great help in preparing yearly joint reporting form (JRF) and WUENIC estimates to ascertain the coverage level annually. in-depth assessment will help the country to learn and channelize the DQ resources for the appropriate areas and activities as the assessment involves the assessment of behavioral components of all stake holders. The study on the card retention will contribute to better design as the MOPH is in the process of designing the MCH card in 2016 and to increase the retention rate which will lead to improving defaulter tracking, easy assessment vaccine by health workers. The high retention will contribute to the quality of coverage evaluation survey results.
4) To explore and use innovative mechanisms for improving quality data generation and management at field level.	
1. Adoption and establishment of existing apps on name based child tracking system (SEARO/EMRO region) in one /two selected urban areas. *2. Provision of tabs and training of vaccinators* *3. Provision of Tracking bag/tickler box for all the EPI fixed centres*	Name based child tracking system using mobile technology in pilot mode enable us to use the innovation which exists and feasibility of scaling up. However, it also contributes to data quality by having the client data base, real-time reports of the pilot area. Provision of tracking bag and training on the due children tracking is a basic tool for child tracking, by providing this tools and training improves the data recording in addition to defaulter tracing.
GAVI HSS 3 activities which contribute for EPI data quality	
Objective 1: Enhance the equitable access and effective coverage	
Activity 1.4: Conducting micro-plan exercise to enlist all the beneficiaries village-wise using CHWs to improve the denominator	Enlisting the beneficiary and conducting micro-planning exercise is very important in the country. This activity improves the planning, monitoring, feedback system to get the accurate data. This will help to track drop outs and left outs.
Objective 4: Strengthening national immunization program planning & management	
Activity 4.1 Improving supportive supervision and monitoring processes at different levels with a more focus on decentralization Activity 4.1.1: Establishing a supportive supervision system to improve supervision activities at district, BHC, HSC, PPP, outreach and mobile clinic Activity 4.1.2: Improving Monitoring and processes at different levels with a more focus on decentralization	Supportive supervision and monitoring will help to improve the quality of service delivery as well as EPI data quality by feedback and addressing the bottlenecks in all the extent of the vaccination.

Activity 4.2 Conduct Periodic evaluations	
Activity 4.2.1 Conduct Data quality Self-Assessment(DQSA) and Activity 4.2.2 Conduct BPHS gap analysis every three years, Activity 4.2.3: Conduct EPI coverage survey to be repeated each two times in five years	The data quality self-assessment planned annually will help us in understanding the status and assist us in determining the better performing and low performing areas. The Incentivizing the PBF money will be based on the DQS assessment. These Coverage evaluation survey will help us to know the status and also inequity indicators and area to address for continued improvement of the program.
Performance Based Financing (PBF) Budget for Incentivizing Vaccinators.	This will increase the motivation of the vaccinators, supervisors, who are at field doing the service delivery to have good record keeping, reporting, in turn, lead to improvement in EPI data quality.

8. Risk assessment and proposed mitigation measures

The following table presents an output wise risk assessment and related mitigation measures.

Risk	**Probability** **(High, Significant, Medium, Low)**	**Potential Impact** **(High, Significant, Medium, Low)**	**Steps to Manage Risk**
1) To build the capacity of the health staff to produce higher quality data and support data use.			
Low literacy of the few vaccinators in some provinces	Medium	Medium	• Using local language training material package, • Job aids for training. • Due Consideration to the education level of vaccinators will be given while recruiting newer vaccinators for the planned 310 EPI delivery centers. • On the Job training during the supportive supervision
Overcoming the intentional over reporting	Medium	Medium	• Orienting the NGO directorates and GCMU about the need for accurate reporting versus inflated reports. • Delinking minimum 20 children criteria for an outreach session per-diem to vaccinators. • Actions as per the annual DQS reports.
2) To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.			

Less importance to EPI data quality as the country is still polio endemic and more time devoted to PEI. Weak coordination PEMT, NGOs and other implementing NGOs.	Low	low	• Activities of the Gavi HSS3 proposal implementation is more intensive and depend highly on the EPI data quality for major decisions. Hence, the team will take more interest in the EPI DQ. • With GAVI-PEF support, three international staff and 2 national staff who are working dedicated for EPI will be of immense help in supporting the implementation of DQIP. Periodic coordination meeting and Feedback system. Monitoring from National level to provincial levels.
3) To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.			
Consensus on one particular denominator may not be achieved	Low	Low	• Census being conducted in fourteen provinces which can give a birthrate and other demographic indicators which will help the experts to factor to arrive at the more sensible denominator. • The small working group in the country will have a quarterly consultation on the same. • The dedicated international staff from UNICEF and WHO, who are funded from GAVI-PEF agreement support in collecting, collating the different data sources of denominator which will be presented to experts to facilitate the process of improved denominator for the country
4) To explore and use innovative mechanisms for improving quality data generation and management at field level.			
• Apps, tabs, mobile technology, may be cumbersome and time-consuming, and vaccinators may not learn fast.	• Low	• Low	• Only piloting in an urban area considered in addition to regular reporting • Existing apps from SEARO/EMRO will be considered than making a new app.

9. Summary Budget

The detailed budget with assumptions are attached in the separate excel file in the attachment #8, the summary of the budget is presented in the table below.

Detailed budget plan for EPI Data Quality Improvement proposal -- 2016 to 2019				
#	**ACTIVITIES**	**Qty**	**Unit**	**Total in US$**
Obj-1	To build the capacity of the health staff to produce higher quality data and support data use.			
	1. Developing training package and guidelines/SOPs for the EPI data quality improvement.	1	10,000	10,000
	2. Master training on EPI data quality	1	55,000	55,000
	3. Frontline health workers training on the EPI data quality.	3000	150	450,000
	4. Implementing NGOs one-day orientation workshop on the EPI data quality	50	100	5,000
	5. Inclusion of revised EPI data quality module to the initial and refresher training	1	-	-
	6. Interim, additional training frontline health workers from selected provinces/districts.	900	90	81,000
	7. Supervision and monitoring at provincial level EPI Supervisors,Regional data managers PEC.	3264	90	293,760
	8. Supervision and monitoring by national staff to regions and provinces/HFs	64	800	51,200
	9. Job aids on data Quality for each EPI fixed centers	1700	28	48,959
	Objective Total			**994,919**
Obj-2	To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.			
	1. Sensitization of all provincial EPI committee members on EPI data quality	141	250	35,250
	2. Establishing EPI data monitoring cell at the national level (Epidemiologist)	1	168,000	168,000
	3. Establishing EPI data monitoring cell at the national level (IT/admin)	1	84,000	84,000
	4. Regional data management officer (four poor performing regions of south, central, east and west)	5	38,400	192,000
	5. Computer for staff in data cell at national and regional data managers	7	1,000	7,000
	6. Internet connection cost for staff at data cell and regional data managers	7	960	7,230
	3. Planned transition of the current data flow system to HMIS	1	10,000	10,000
	4. Annual review of progress and feedback mechanism with provincial partners	4	30,000	120,000
	Objective Total			**623,480**

Obj-3	To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.			
	1. Expert-led Consultation workshops for improving the accuracy of denominator	2	50,000	100,000
	2. Establishing National working group for improving subnational denominators and plan for long-term harmonization	16	4,000	64,000
	3. In-depth assessment of data flow, data quality, data use including KAP study on different stakeholders on EPI data quality	2	70,000	70,000
	4. A qualitative study of the causes of low retention of home-based vaccination card	1	70,000	70,000
	Objective Total			**304,000**
Obj-4	To explore and use innovative mechanisms for improving quality data generation and management at field level.			
	1. Adoption and establishment of existing apps on name based child tracking system (SEARO/EMRO region) in one or two selected urban areas.	1	20,000	20,000
	2. Provision of tabs, training of vaccinators	200	250	50,000
	3. Internet connection for selected HFs	200	848	169,600
	4. Provision of Tracking bag/tickler box for all the EPI fixed centers	3000	30	90,000
	Admin/finance expenditure	48	1,000	48,001
	Objective Total			**377,601**
			Grand total	**2,300,000**

10. Implementation Arrangements

About transaction of the fund, this funding to be routed through the Ministry of Finance, Government of Afghanistan. However, the previous ISS account in Ministry of Finance is still active. If need be, the Finance Ministry has agreed to open an official bank account specifically for the transaction of this grant. Regarding the financial management and procurement arrangements, same procedures of GAVI HSS 3 as outlined in the page no 61 to 68 will apply for this grant. The grant of DQIP will be channeled to ISS account or the new account.

Project management

There are already existing institutions for the management EPI programme. Health system steering committee is the apex committee headed by Deputy minister of Policy planning and Deputy minister for health service provision, director general of preventive medicine, national EPI manager, HSS unit,GCMU,HIS and M&E directorates, UNICEF,WHO,CDC and all other partners and donors are the members. The proposal and comments by IRC were already discussed in the HSSC meeting and approved. The implementation of DQIP is the standing agenda for the HSCC committee meetings.

The proposal will be implemented under the oversight of Director General Preventive Medicine. National EPI will be leading the implementation with the support of HIS department and the Grants Coordination and Management Unit (GCMU) of the Ministry of Public Health.

DQIP Core Implementation Committee

A dedicated core Implementation Committee for the implementation of the DQIP has been formed with National EPI Manager, UNICEF- Immunization specialist, WHO- National professional officer-EPI, CDC supported national officers, Director General of HIS and HMIS manager, EPI focal point from GCMU.

Through the GAVIs Partner engagement framework, the positions from UNICEF and WHO and one national technical officer for DQIP are already funded. This committee's principal role is to implement the DQIP.

While implementing these activities extensive support from UNICEF and WHO will be sought for the technical and programmatic inputs.

Progress review

Progress review will be a part of the HSSC/ICC agenda after two years of implementation, a relook into the progress will be undertaken by the Health sector coordination committee to modify or intensify the future course of actions,and same will be communicated with GAVI Secretariat for approval.

DQIP documentation by GAVI Secretariat

The GAVI Secretariat intends to document the Immunization Data Quality Improvement Process as this is the first time that Gavi is investing for improvement of the data quality. The purpose is to observe and record the process and status of implementation before, during and after the project period.

The country team accepted the proposal for its documentation and committed to assisting this process from the inception. The DQIP Implementation Committee will ensure and facilitate the study.

Much relevant information which may be needed by the IRC will also be available in the GAVI HSS 3 proposal.

11. Timeline of activities for implementation of the project

The activities planned in the DQ improvement plan will be implemented as presented in the timeline below.

Sr no	Objectives and Activities / Timeline of activities	2016				2017				2018				2019			
		First Q	Second Q	Third Q	Fourth Q	First Q	Second Q	Third Q	Fourth Q	First Q	Second Q	Third Q	Fourth Q	First Q	Second Q	Third Q	Fourth Q
1	To build the capacity of the health staff to produce higher quality data and support data use.																
1. Developing training package and guidelines/SOPs for the EPI data quality improvement.			✓														
2. Master training on EPI data quality				✓													
3. Frontline health workers training on the EPI data quality.					✓	✓											
4.Implementing NGOs one-day orientation workshop on the EPI data quality				✓													
5. Inclusion of revised EPI data quality module to the initial and refresher training					✓												
6. Interim, additional training frontline health workers from selected provinces/districts.										✓	✓				✓		
7. Supervision and monitoring at provincial level EPI supervisors, Regional data managers PEC.					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Supervision and monitoring by national staff to regions and provinces/HFs					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9. Job aids on data Quality for each EPI fixed centers					✓												
2	To improve the accountability of the Provincial and National leaders for enhancing the EPI data quality and use of data for programmatic decisions.																
1.Sensitization of all provincial EPI committee members on EPI data quality				✓	□	□	□	□	□	□	□	□					
2.Establishing EPI data monitoring cell at the national level				✓ □	□	□	□	□	□	□	□	□					
3. Planned transition of the current data flow system to HMIS				□	□	□	□	□	□	✓	✓	□					
4.Data quality review					✓				✓				✓				✓
3	To conduct the biennial expert-led, in –depth consultations for assessment of data flows &data quality (including KAP studies) along with improving the accuracy of the denominator.																

1.Expert-led Consultation workshops for improving the accuracy of denominator	☐	☐	✓	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐			
2.Establishing National working group for improving subnational denominators and plan for long-term harmonization	☐	✓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
3. In-depth assessment of data flow, data quality, data use. Including KAP study on different stakeholders on EPI data quality	☐	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	☐	☐			
4. A qualitative study of the causes of low retention of home-based vaccination card and also to find any issues in distributing cards to the caregiver.	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	☐	☐	☐			
4	To explore and use innovative mechanisms for improving quality data generation and management at field level.															
1. Adoption and establishment of existing apps on name based child tracking system (SEARO/EMRO region) in one /two selected urban areas.		☐	☐	☐	☐	✓	☐	☐								
2. Provision of tabs and training of vaccinators and air time.		☐	☐	☐	☐	☐	✓	☐								
3.Provision of Tracking bag/tickler box for all the EPI fixed centers		☐	✓	✓	☐	☐	☐	☐								

12. Responses from HSCC to the comments from IRC

The comments made by the IRC for the Data quality improvement proposal submitted in October 2015 are well discussed and addressed in the present proposal. All inputs are considered in the plan. The comments made by the IRC was discussed in detail by all the HSCC members in the meeting held on the 20th December 2015. The summary of discussion and considerations for the main comments are outlined in the table below.

	Responses from HSCC to the comments from IRC	
1	Limited focus on "objective d - improving staff capacity on data recording, reporting and use."	
		A larger budget and range of activities is needed for training, supervision and motivation of BPHS contractors and their health staff to produce higher quality data and to support the use of data. For example, the main HSS proposal notes "Twenty percent of the total budget of NGOs implementing Gavi grant contracts will be contingent on satisfactory performance on selected indicators." A similar provision could be made to incentivize improved completeness and quality of data.
	Response from HSCC	In the newer proposal, we have considered the Capacity building of health staff as a first and important objective. Planned to develop a training package and SOPs DQ improvement (data reporting, data analysis, and data use from the health facility, district level to national level. The new DQ module will be included in the existing training modalities including Initial training and refresher training.The details are in the Objective 1 of the proposal. Regarding the Incentivization of the EPI data quality, the proposed budget of the 2.3 million USD from CTA will not be enough. However, GAVI HSS3 has 7.6 million grant which is placed on Performance Based Financing (PBF). If Afghanistan successfully achieves its targets and is considered eligible for the PBF portion, this money will be utilized as an incentive for improving the performance of vaccinators through a Pay for Performance (P4P) scheme. The data quality criteria will be factored to award the PBF money as an incentive to Vaccinator will be considered.The detailed SOPs will be made based on the internal consistency, timeliness, and completeness of the routine reports from each health facility, DQS assessment results, Monitoring data to incentivize the vaccinators.
2	Limited focus on efforts to define the reasons for poor quality record keeping and reporting	
		A revised DQI proposal should discuss how the annual DQSs proposed under activity 4.3 of the main HSS proposal are to be achieved. Note that the budget for the main HSS now includes no funding for these DQSs.
	Response from HSCC	Please be noted that GAVI HSS3 proposal has budgeted DQS assessments every year -60,000 USD for four years from 2016-19. Reference HSS3 proposal page no: 37 and also in the budget sheet.
3	The proposed approach to strengthening data management/data flow is limited to an inadequately funded pilot effort in 9 of 34 provinces	
		A revised DQI proposal should discuss how the objectives of activity 4.2 of the main HSS proposal (improve data flow systems) are to be achieved. This may involve increasing the budget and the narrative description of activity 4.2 of the main HSS grant, or it may involve a greater focus on this component in the DQI proposal. The revised proposal should discuss efforts to increase the completeness of reporting and how this will be monitored and incentivized. The revised proposal should discuss what will be done for "Harmonization of EPI with SEHAT and HMIS data systems" (an objective

		from the main HSS proposal). This might include placement of the proposed data cell in the HMIS unit.
	Response from HSCC	The present data flow system has shifted from Excel to Access module; We have planned a transition of this to integrate with HMIS by 2018. The revised proposal considers the timeliness and completeness and internal consistency data check as the performance indicators. The data monitoring cell proposed at the NEPI will receive the data from the HMIS system, HR data, facility data, Surveillance data from the AFP and measles surveillance and CCVLM data and triangulate prepare monthly dashboard which supports the NEPI manager and partners to take programmatic decisions.
4	The main HSS application states, "The data collection tools have been updated in January 2015, concerned staff at the national level have been provided training, and now all provinces are submitting data to the national level using these tools."	
		Clarify why it is necessary to update again the data collection tools. Note that disaggregation of data by gender is not recommended and a system for identifying dropouts may be very challenging to implement.
	Response from HSCC	The proposed update was to establish the defaulter tracking system to address the issue of dropouts. The Immunization register, Tally sheets, monthly report already have the gender disaggregation. The recent Access software also have the same. Hence after the elaborate discussion with HSCC members it was decided that there be no need of changing the already existing routine reporting tools.
5	More reliable and nationally consistent denominators are unlikely to result from the proposed DEDQE approach	
		Resolution of this issue will require an approach that is consistently applied at the national level through the use of the available census and other national population estimates in combination with aerial imagery and data from polio campaigns, for example. To reach consensus, consider an expert-led triangulation exercise at the national level.
	Response from HSCC	Expert-led triangulation exercise at the national level for addressing denominator is considered in the newer proposal; This activity will be supported by the in-country working group. Details outlined in objective 3. -A workshop will be conducted to review denominator sources (Census through CSO with UNFPA has been completed in few provinces, CSO data, UNIDATA, CAAC are the other sources of the denominator using Imagery). - The dedicated international staff from UNICEF and WHO, who are funded from GAVI-PEF agreement will be recruited soon to spearhead and facilitate whole activity by collecting, collating the different data sources of denominator which will be presented to experts to arrive at the improved denominator for the country.
6	Need to understand better the reasons for low card retention before devoting such a large portion of the budget to printing of home-based cards	
		Funding should be reserved for activities that will directly improve data quality as discussed above.
	Response from HSCC	Agreed. The Home based Vaccination Cards have their value, but considering there is no direct contribution to EPI DQ, this activity is not considered in the DQI proposal. However as MOPH is in the process of designing the Maternal and child health card we have included the KAP study on determining the retention of the card. The good retention will contribute to the high quality of the coverage evaluation survey results which are planned in 2016 and 2018.

List of additional attachments

1. Country tailored approach document
2. National DQ Workshop Minutes
3. International EPI DQ workshop minutes
4. EPI data situation Analysis
5. Report on HMIS system in Afghanistan
6. GAVI HSS proposal -2016-19
7. Performance monitoring and evaluation framework
8. Detailed Budget sheet.
9. DQS report 2009
10. DQS report 2011
