

Government of Pakistan Ministry of National Health Services Regulation & Coordination (EXPANDED PROGRAMME ON IMMUNIZATION)



Federal EPI Cell, Health Complex, Park Road,

A Comparative Analysis of Immunization Data Quality Assessment in Gilgit Baltistan: 2016 vs 2019

8-13th July 2019

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1. Background

Gilgit-Baltistan region, formerly named as Northern Areas, has a unique geographical composition on the globe. Occupying an extraordinarily varied and attractive landscape, Gilgit-Baltistan is meeting point of the world's four famous high altitude mountain ranges i.e. Pamirs, Hindukush, Karakorum and Himalayas. This region, in the opinion of geologists, is the meeting ground of "continents in collision" as the Indo-Pak sub-continental mass emerges to integrate into Eurasian continent of the north-west, leaving behind two main "faults" along the area. Previously known as Federally Administered Northern Areas (FANA), now "Gilgit-Baltistan" is a vital factor in the country's fortunes. The mighty Indus, the longest and largest river and a major source of Pakistan's agricultural strength meanders through Gilgit-Baltistan. With recent administrative changes in this part of the country, its strategic significance has increased more than ever. Gilgit-Baltistan lies in Northern Areas of Pakistan, with border belts of India, China and Afghanistan. The Ministry of Kashmir Affairs and Gilgit-Baltistan, Government of Pakistan looks after the matters pertaining to GB government.

The Health department GB follows National Immunization Policy. Administrative orders have been issued to improve the service delivery coverage through appointment of two vaccinators per union council. Budgetary allocation for immunization services primarily covers salaries and overhead expenses. There is no budget line item for vaccine procurement because vaccines and other related materials are directly supplied by the Federal EPI Cell.

At the Federal level, the National Program Manager – EPI under the MoNHSRC leads Federal EPI, and is mainly responsible for coordination, resource mobilization (internally and externally), policy and planning, technical guidance to the provinces and areas, monitoring and evaluation and vaccine-logistics procurement and distribution. In each federating area, EPI program is headed by Provincial EPI manager/director under the respective Provincial Department of Health within the relevant directorate. At the district level the Executive District Officer (Health) and/or District Health Officer is head of the district health management.

2. Expanded Programme on Immunization:

EPI in Pakistan aims to immunize all children, below 23 months of age, against ten vaccine preventable diseases (table 1). It also protects mothers and newborns against Tetanus. To reach the target populations, EPI implements routine immunization strategies that include: fixed vaccination in health centers, outreach and mobile vaccination. The beneficiaries are the children under two years of age and the women of Childbearing age. Immunization service delivery is carried out through fixed site, outreach sessions and mobile teams.

3. Immunization Schedule:

The immunization schedule in whole country including GB is given below:

Age	Antigen	Disease Prevented
	BCG	Childhood Tuberculosis
At Birth	OPV-0	Poliomyelitis
	Hepatitis-B	Hepatitis-B
	Pentavalent-I	Diphtheria, Tetanus, Pertussis, Haemophilus influenza B, & Hepatitis B
6 weeks	Pneumococcal - I	Hib Pneumonia & Meningitis
	OPV-I	Poliomyelitis
	Rota-1	Rota diarrhoea
	Pentavalent–II	Diphtheria, Tetanus, Pertussis, Haemophilus influenza B, & Hepatitis B
10 weeks	Pneumococcal - II	Hib Pneumonia & Meningitis
	OPV-II	Poliomyelitis
	Rota-2	Rota diarrhoea
	Pentavalent-III	Diphtheria, Tetanus, Pertussis, Haemophilus influenza B, & Hepatitis B
14 weeks	Pneumococcal- III	Hib Pneumonia & Meningitis
	OPV-III	Poliomyelitis
	IPV	Poliomyelitis
9 months	Measles-I	Measles
15 months	Measles-II	

4. Rationale:

Quality of EPI admin data has been questioned for its authenticity in the past and is still seen with skepticism by partners and donors. The doubt in reliability of data stems from huge discrepancies between administrative coverage figures and figures generated through various surveys.

Coverage of certain antigens higher than 100% and high/negative dropout rates, reported coverage of measles first dose higher than Penta-3 coverage are few examples of data discordance that raise questions on quality of data.

Keeping in view the debatable nature of data being generated from Gigit-Baltistan, Federal EPI cell conducted data quality assessment with the support of WHO/EMRO and HQ in all districts of GB in 2016. Based on findings of which, focused improvement plan with strict timelines was designed and implemented in GB. In order to evaluate the effectiveness of interventions done, another Data Quality Assessment exercise was planned and executed by Federal EPI in 2019.

5. Objectives:

The objective of Data Quality Assessment were:

- 1. Calculate quality indicators for different categories of immunization data management and information system at each level (Health facility, District and Province)
- 2. Assess the completeness and timeliness of data being reported by the program at different tiers
- 3. Determine the accuracy of data by comparing the congruence between the data recorded from the Health Facilities and the data reported to the districts and province
- 4. Compare findings of DQA-2016 and DQA-2019
- 5. To diagnose existing problems in the monitoring and reporting system through determining the accuracy of coverage and surveillance reports
- 6. Provide information and recommendations to develop and implement an improvement plan for further refinement of data quality
- 7. Formulate recommendations to improve the quality of the data based on the analysis and identification of the strengths and weaknesses of the EPI system's coverage monitoring

6. Methodology:

DQA tools assess not only the quality of data but also quality of the system for monitoring vaccination coverage by reviewing different sources of data, interviews of key informants and field visits to sites selected through random sampling in order to evaluate:

- Quality of the monitoring system: evaluating the registers, reports, archiving, analysis and uses of information, demographic data, and others.
- Accuracy of data: analyzing data consistency between different data sources and levels of the reporting system.
- Completeness and timeliness: evaluating the report

DQA implementation includes the following activities:

- Collect data to determine accuracy of the reported data (quantitative assessment)
- Collect data to determine quality of the monitoring and reporting system (qualitative assessment)
- Analyze the data and formulate report
- Comparative analysis of two rounds of Data quality assessments
- Present the findings of the DQA and agreeing on the recommendations

7. Preparation:

Federal EPI conducted the DQA in Gigit Baltistan. Five out of ten districts of GB were selected through random sampling. Six teams, one for provincial office and five for respective district offices were constituted, comprising of a minimum of three members with at least one government personnel, either from Federal EPI or provincial EPI in each team. In each district, data was collected from district EPI office and from two health facilities in each district. The health facilities were also selected through random sampling.

DISTRICTS	HEALTH FACILITIES
Cilgit	Jageer Baseen
Gilgit	CD Danyor
Llunzo	Aliabad
Hunza	BHC Gulmit
Diaman	DHQ Challas
Diamer	ACD Goharabad
Skardu	CD Sermic
Skardu	CD Astana
Ganche	CD Kudus
	BHU Thallay

8. Pre-DQA Meeting:

A meeting was conducted at Federal EPI for all EPI and Partner members who were to participate in the DQA exercise. Purpose of the meeting was to review existing tools and acquaint all members with data collection, compilation and interpretation of results.

9. Data Collection tools:

Standardized WHO data collection tools were used for the different levels of the reporting system to evaluate quality of the monitoring system. The tools were tailored according to the local needs. The antigens and doses defined to be assessed were Pentavalent-3 and Measles-1.

A combined indicator expressed as Quality Index was calculated by reviewing the quality of the different components of the monitoring system. To calculate the Quality Index, three questionnaires were used (Annex A), one for each level (province, district and HF). Each questionnaire included questions specific for each level according to seven ambits. Each question had a score to get quantitative results, assigning its weight (1-3) according to the importance of the item. The questions were categorized in seven domains:

- Demographics
- Registration
- Reporting and archiving
- Data analysis and use
- Supervision and feedback
- Planning and management
- Human resources.

To collect the information needed to calculate the accuracy of data, several forms were used (**Annex B**). The data were collected from different sources of information: daily register at the HF, tabulation of the vaccine doses of Penta-3 and Measles-1 registered in the monthly report at the HF and district and the provincial tabulation.

The data collection tool comprised of the following questionnaires and forms:

8.1 Data accuracy form:

It entails a comparison between the number of Penta-3 and Measles-1 doses administered at the lower service delivery level as compared with the number of the same antigen reported to the higher level for the period January-March 2019. The same data accuracy form was completed at all levels from the lowest HF/UC level passing by Tehsil/Taluka, district and provincial levels.

8.2 Data timeliness and completeness form:

It entails reviewing the report received at one level, if it is complete and timely reported to the higher level. The same form was completed from Tehsil/Taluka level, District level and Provincial level.

8.3 Data Quality form:

It entails reviewing of the quality of data as per the person in charge at each level. The form comprises a number of questions; each question was scored according to its importance tackling different program components.

8.4 Community questionnaire:

It is a list of 15 children selected randomly from daily register of every UC and compared with the actual vaccination status of only ten of those children as visited in their houses and comparing their vaccination cards for the registered antigens and vaccination dates. This questionnaire was filled out only at the HF/UC level.

10. Data collection & Time:

Each team divided their roles, one person was responsible to collect the qualitative information, and two or three persons collected the quantitative data. At the end of each day, each team verified that all forms were correctly filled. The data collection period from October to December was specified.

11. Data entry and analysis:

The data of each questionnaire, after being completed, were transferred to a data entry tool. Federal EPI was responsible for collecting the data collection form (Hard or soft copy) to be entered in the data entry tool on daily basis. When all teams concluded the collection of data, all forms were double-checked for quality control and to identify inconsistencies or missing data to reduce possibility of errors. Data entry verification, double-checking and data cleaning were implemented before generating the final results interpreted in the report.

To calculate the QI excel files were used to enter the data. Each spreadsheet had formulas to calculate the scores of each domain and the overall QI. Entered data will automatically generate a Quality index for each category and an overall Quality index for the assessed level, the evaluated domain as well as for the whole selected district and the whole province accordingly. The results were presented using spider graphs.

An accuracy ratio was also calculated for each level separately and the overall province for both Penta- 3 and Measles-1 for the three assessed months. To calculate the Accuracy Ratio the data were entered in two excel sheets: one to enter the Penta1 data recounted and reported in each HF and the second to enter the data regarding the measles 1 doses. To assess the accuracy of data, a review of reported data at different levels was conducted by comparing the data retrieved from the basic records with the data reported to the higher level.

A quantitative ratio was calculated as follows:

Accuracy Ratio = Immunizations counted (verified from the 'source') X 100
Immunizations reported (found at the 'higher' level)

Less than 100%: indicates over-reporting (not all reported vaccinations could be verified)

More than 100%: indicates under-reporting (more vaccinations could be retrieved than was reported)

12. Results:

11.1 Provincial Quality Index:

Quality index of EPI monitoring system at Provincial level was found to be 59%, which has improved, in comparison to Quality Index of GB in 2016 which was 41%. Scores secured in each ambit are given in the following table along with scores of previous DQA for comparison. Major improvement was brought in registration and human resource areas.

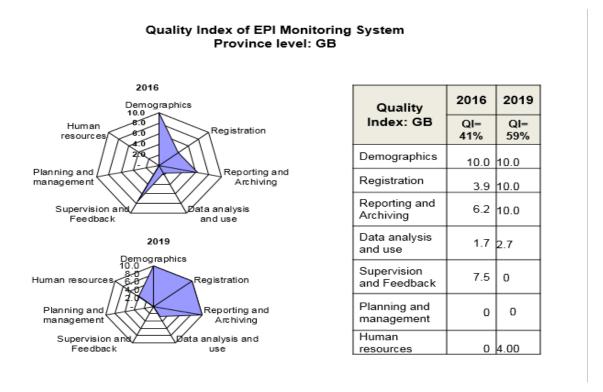
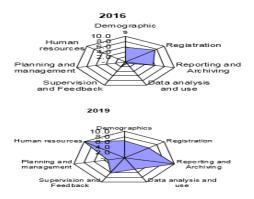


Figure 1: Provincial Quality Index

11.2 District Gilgit Quality Index:

Quality Index in district Gilgit improved to 66 % from 31% in 2016. Significant improvement was observed in district Gilgit's Quality Index when compared to 2016 results. All domains showed improvement with maximum improvement in Reporting and Archiving.

Quality Index of EPI Monitoring System: District Gilgit



	2016	2019	
Gilgit	QI= 31%	QI= 66%	
Demographics	5.7	6.4	
Registration	7.5	6.1	
Reporting and Archiving	5.7	10.0	
Data analysis and use	0.7	4.7	
Supervision and Feedback	2.0	6.3	
Planning and management	О	3.33	
Human resources	0	10.00	

Figure 2: Gilgit Quality Index

11.3 District Hunza Quality Index:

The quality index of district Hunza was 33%. Some improvement in QI was observed when compared to 2016 results. All domains showed improvement with maximum improvement in Reporting and Archiving. Significant improvement was made in demographics, human resource and planning and management domain. Reporting and archiving score has significantly dropped. Data analysis and supervision and feedback domains were the weakest.

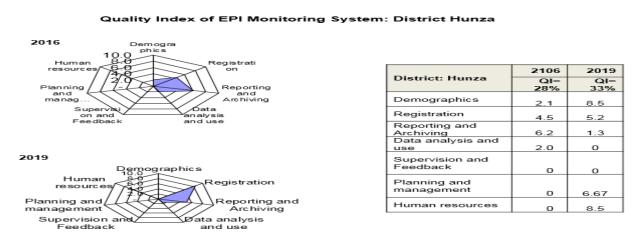
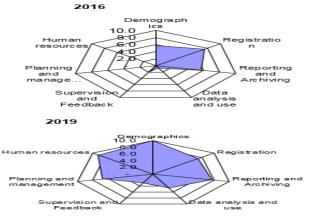


Figure 3: Hunza Quality Index

11.4 District Diamer Quality Index:

The quality index of district Diamer was 65%. Significant improvement in QI was observed when compared to 2016 results. All domains showed improvement with maximum improvement in Human Resource and Registration.

Quality Index of EPI Monitoring System: District Diamer



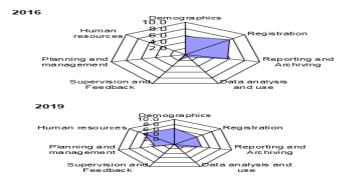
	2016	2019
Diamer	QI- 43%	QI- 65%
Demographics	9.3	10.0
Registration	3.9	7.4
Reporting and Archiving	10.0	7.7
Data analysis and use	1.3	4.7
Supervision and Feedback	4.0	3.0
Planning and management	О	6.67
Human resources	0	9.00

Figure 4: Diamer Quality Index

11.5 District Ghanche Quality Index:

The quality index of district Diamer was 34% and there is a drop of 5% from the QI of 2016. Major deterioration occurred in reporting and archiving domain. Supervision and feedback and Data analysis were the weakest domains.

Quality Index of EPI Monitoring System: District Ghanche



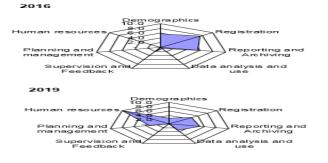
Ghanche	2016 QI- 39%	2019 QI- 34%
Demographics	6.4	6.4
Registration	3.0	4.8
Reporting and Archiving	7.9	4.6
Data analysis and use	1.3	1.3
Supervision and Feedback	-	-
Planning and management	3.33	3.33
Human resources	6.0	7.00

Figure 5: Ghanche Quality Index

11.6 District Skardu Quality Index:

The quality index of district Skardu was 43% and there is a drop of 12% from the QI of 2016. Major deterioration occurred in Demographics, Reporting and Archiving and Planning and Management. Weakest area was supervision and feedback and data analysis.

Quality Index of EPI Monitoring System: District Skardu



	2016	2019
Skardu	QI= 55%	QI= 43%
Demographics	9.3	2.7
Registration	2.6	4.8
Reporting and Archiving	9.0	5.2
Data analysis and use	3.8	3.3
Supervision and Feedback	5.0	0
Planning and management	6.67	3.33
Human resources	4.0	10.00

Figure 6: Skardu Quality Index

11.7 Aggregated Quality Index at district level:

The aggregated quality index of all districts was 48% and there is an improvement of 10% when compared to 2016 results. Weakest areas were Data analysis and use, supervision and feedback and planning and management.

District Quality Chart Demographics 2016 All 10 districts a 60 QI= 38% Registration e:00 5.93 Demographics 4:00 Registration 4.25 Reporting and Archiving 7.56 Data analysis and use 1.69

Quality Aggregated Index of EPI Monitoring System: Districts 2016 & 2019

1.90 2019 All assessed districts QI= 48% Demographics 5.16 Registration Reporting and Archiving Data analysis and use 3.03 Supervision and

Feedback Planning and

management

Human resources

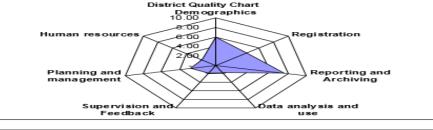




Figure 7: Aggregated Quality Index at district level

11.8 Aggregated Quality Index at health facility level:

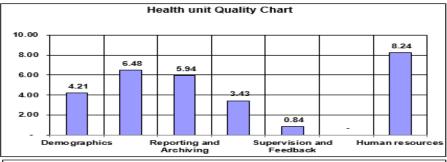
1.80

2.76

The aggregated quality index of all health facilities was 56% and there is an improvement of 6% when compared to 2016 results. Weakest areas were supervision and feedback, demographics and data analysis use.

Quality Aggregated Index of EPI Monitoring System: HF levels

All selected Health	2016
Facilities (HF)	QI= 50%
Demographics	4.21
Registration	6.48
Reporting and Archiving	5.94
Data analysis and use	3.43
Supervision and Feedback	0.84
Planning and management	-
Human resources	8.24



All selected Health	2019
Facilities (HF)	QI= 56%
Demographics	4.65
Registration	7.12
Reporting and Archiving	6.44
Data analysis and use	4.60
Supervision and Feedback	1.20
Planning and management	
Human resources	6.00



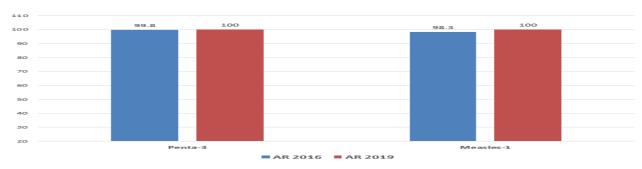
Figure 8: Aggregated Quality Index at health facility level

11.9 Accuracy Ratio:

Records were reviewed and verification was done from records that were maintained at levels where it was generated and tallied from the reports that were forwarded to higher tier.

Findings of the exercise are depicted in the following graphs.

Accuracy Ratio (%), number of Penta-3 and Measles-1 reported by all the Districts and tabulated at the Provincial EPI Office during 2016- 2019



11.10 District wise Accuracy Ratio for Penta-3 and Measles-1:

Records were reviewed and verification was done from records that were maintained at levels where it was generated and tallied from the reports that were forwarded to higher tier. Findings of the exercise are depicted in the following graphs.

Accuracy Ratio (%) of Penta-3 at district level / 2016 -2019

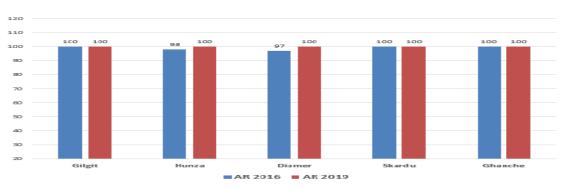


Figure 9: District wise Penta-3 Accuracy Ratio

Accuracy Ratio (%) of Measles - 1 at district level / 2016-19

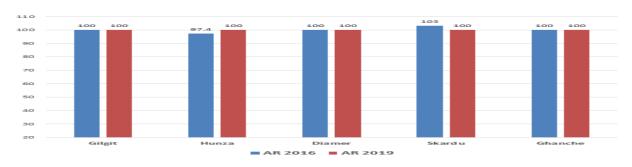


Figure 10: District wise Measles-1 Accuracy Ratio

11.11 Health Facility wise Accuracy Ratio for Penta-3 and Measles-1:

The following table represents the AR of Penta-3 and Measles-1 at health facility level. There is only one health facility with 100% AR for both antigens. There is one health facility that under reported for Penta-3 and over reported for Measles-1. 70% health facilities over reported for Penta-3 and 80% health facilities over reported for Measles-1.

Health facilities	Accuracy Ratio Penta-3	Interpretation	Accuracy Ratio MCV-1	Interpretation
Jageer Baseen	105.5	Under Reporting	110.0	Under Reporting
CD Danyor	77.0	Over Reporting	62.7	Over Reporting
CH Aliabad	73.3	Over Reporting	98.4	Over Reporting
BHCGulmit	100.0	Accurate reporting	100.0	Accurate reporting
DHQ Challas	113.1	Under Reporting	84.1	Over Reporting
ACD Goharabad	87.8	Over Reporting	93.6	Over Reporting
CD Sermic	68.4	Over Reporting	86.7	Over Reporting
CD Astana	96.8	Over Reporting	92.2	Over Reporting
CD Kudus	82.9	Over Reporting	72.5	Over Reporting
BHU Thallay	94.4	Over Reporting	93.3	Over Reporting

11.12 Completeness and Timeliness of Coverage Reports

Completeness and timeliness of immunization coverage reports is given below. Timeliness and completeness of immunization reports should be enhanced to 100%. The areas in GB are far flung and have internet and cellular connectivity issues. District Skardu had the lowest timeliness followed by Gilgit and Ghanche districts.

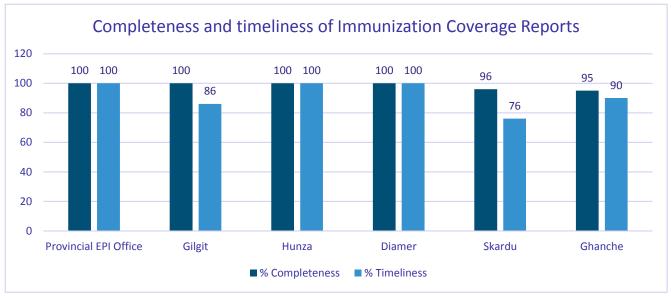


Figure 11: Completeness and timeliness of coverage reports

13. RECOMMENDATIONS:

Following efficient data collection and analysis, strengths and weaknesses of the Provincial Program were mapped and focused recommendations were proposed against all ambits.

Ambit	Strength	Weakness	Recommendation
Demographics	The targets were found at most of the HFs.	 No maps at all levels Weak coverage analysis at district level Birth registration system not in place 1-2 years target was not available and also the CBAs targets not available in some districts 	 Comprehensive computerized maps for Routine EPI should be prepared All the maps and targets should be displayed Comprehensive Micro plans for Routine EPI should be prepared for all districts Establish and strengthen the birth registration process
Registration	Availability of EPI registration documents at Ucs and districts (tally sheets, daily and permanent registers, vaccine and syringes stock registers, cards, monthly reportsetc.) All EPI manuals / guidelines were available at provincial office.	 The vaccine stock register missed information about the batch number and expiry date No use of daily tally sheets No proper registration for all vaccine and logistics stocks vLMIS was not being used at district level 	 The vaccine and synergies stock register should be properly filled and updated Use of vLMIS at district level for vaccine issue and receipt and should replace the manual registers
Reporting and Archiving	Availability of monthly EPI reports in hard copies at district and UC level	 Archiving was not up to the standard No soft copy of the tabulation done by the province and district for the UC reports VPD and AEFI surveillance is very weak, reports were not available in all Ucs (they don't know about it) At the province there is no proper system of 	 Archiving needs to be strengthen by on-job training on proper archiving Creation of back up files All hard copies reports should be properly placed, year wise, in a designated place Timeliness and completeness of all reports should be vigorously followed

		computerized archiving	
Monitoring, Data Analysis and Use Planning and Management	1. Monthly EPI reports were available at All level. All the tiers for planning and management available at All levels.	of reports 1. No routine EPI Coverage monitoring chart, dropout rates at all levels.	 Display the provincial /district coverage tabulation/ chart per month/ quarter. Province should play their role in technically supporting districts in solving their problems and attend EDO meetings and technically support them in further analysis, discussion of their problems and involved in planning for improvement Special training on data managements is highly needed for Province, district and UC level Feedback on data analysis should be provided to all levels through official letters or emails whichever is applicable Availability of vehicles and POL for monitoring purposes Comprehensive annual work plan / micro-plan for routine EPI(data management, monitoring, evaluation, Supervision, training, logistics) should be prepared at Province and district level. Micro-plans for routine EPI should be prepared by UCs and keep copies at the district.
Human Resource	Availability of enough HR for EPI at district and UC level	1. No specific full time person for EPI data management (data verification, entry,	

	analysis) at provincial level	
	2. No dedicated and trained Surveillance officer at provincial and district levels	Comprehensive regular good quality capacity building plan should be prepared with basic and refresher training for all
	3. Poor accountability at all levels	staff. • Ensure meaningful
	4. No proper / quality training conducted on regular basis for staff (new)	accountability at all the levels

14. Conclusion:

The average data quality index for all levels in GB province is 59% which has improved from 41% in 2016, but it still means a struggling data management system. Data a issues at district and health facility level due to lack of ownership, capacity and frequent turn-over of staff and weak supportive supervision. There is an urgent need for comprehensive training program for capacity building for district and UCs staff on data management.

EPI-Management Information System is being used but only for data entry purposes and not for data analysis. Data, no matter how efficiently generated, remains useless until properly analyzed and utilized for decision making.

The most useful and power tool to solve all the data accuracy issues is the frequent supportive supervision and on job training during the monthly/quarterly review meetings

15. Annexure

MONHSRC, Pakistan Expanded Programme on Immunization

Assessment of the quality of EPI monitoring system at Province levels for the period January-June, 2019

Province:	Name and position of respondent
(s):	•••••
` '	
Name of the interviewer/s:	
	•••••••••••••••••••••••••••••••••••••••

Date of the visit:/.....

Serial	Questions	Explanation	Yes/No/NA	Comments
	Demographic data			
1.	Is there a detailed map for the province?	With districts' boundaries		
2.	Are the numbers of the following target groups available for year 2019? Target population 0-11 months Target population 1-2 years Target population <5 years	All the targets should be available (if anyone is missing answer "No")		
3.	 Are the numbers of the following target groups available for year 2019? Target population of women in child bearing age Target population of pregnant women 	All the targets should be available (if anyone is missing answer "No")		
	What is the source of the data related to the target?	Write the source of data (no score)		
	Are these targets for 2019 consistent with the cMYP?	Compare with the provincial cMYP provincial. Check the concordance of sources of information and the number of estimated populations. If copy of the cMYP is not available, indicate in the comment and copy the figures of the targets		
4.	Is the same denominator used for all coverage analysis (tabulations, charts, reports,)	Check the charts and tables (if anyone is missing answer "No")		
5.	Are these target groups different from previous year?	To see if the target groups are updated. Compare target groups of year 2018 and year 2019		
6.	Is the target < 1 year used at the provincial level the same at national level?	Ask and compare the data from the 2 levels (prior information is required)		

Ī		EPI monthly report			
f		Are copies of the provincial monthly	All the reports (6) should be		
		reports of EPI data sent to the	available		
		Federal level available for the period	If any one of the report not		
		Jan - June 2019?	available the answer should be		
	7.	our our 2017.	NO.		
			If electronic reporting is used,		
			check the availability of		
			archived e mails		
-		Are monthly reports received from	All the reports should be		
		district level available for the period	available		
		Jan - June 2019?	Number of reports = number of		
		Jan - June 2019:	months verified X number of		
			districts)		
	0		If any one of the report not		
	8.		available the answer should be		
			NO.		
			If electronic reporting is used,		
			check the availability of		
-			archived e mails (3 e mails)		
		Are the copies (hard or electronic) of	Check the files and if they are		
		monthly reports received from the	hard copies, compare if they		
	9.	districts available and stamped/duly	have stamp/signature with		
		signed with dates of receiving if they	dates in all reports		
		are in paper?	If electronic reporting is used,		
-			the answer is "NA"		
	10	Are copies of the district reports on	Check the reports		
	10.	AEFI reported to the provinces			
_		available?	Charlette and and		
		Are reports on investigation of the	Check the reports		
	11.	most recent severe/serious AEFI			
-		available?	m 11 e 14 / 1		
		Are tables representing analysis of	Table of completeness (number		
		completeness of monthly reports	of reports) and timeliness (date		
	12.	available?	of receiving the report) for all		
			districts available.		
ŀ		A we to blog worms conting and leading	Toble of time alim and (3-4		
		Are tables representing analysis of	Table of timeliness (date of		
	13.	timeliness of monthly reports available?	receiving the report) for all districts available.		
		avanabie:	uistricts available.		
}		Does theEPI person responsible for	Ask for calculating the 2 rates.		
		monitoring and evaluation of EPI	If one of them is not correct,		
	14.	know the following calculations:	the answer should be no		
	14.	(coverage rate – drop-out rate of	vic answer should be no		
		any 2 doses)			
L			<u> </u>		
ſ		Computerized data management			
		system			
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15.	Does the province have computerised data management system/ software?	Check the software and describe it here	
16.	If yes, is the last date of backup within one week?	Check the presence of back-up file on another computer or on external desk and date of creating the file	
17.	Can the official immunization tabulations for the previous year be reproduced from an archived electronic file for the previous year?	Ask the responsible officer to get the previous year's data table, if the system was not computerized in the previous year put NA	
18.	Is there specific staff member assigned for the computerised data management?	Meet him and discuss his work	
19.	Is there back-up staff assigned for computerised data management?	Name of the person	
	Supervision		
20.	Is there current plan for supportive	Check the plan (at least quarterly plan should be available)	
21.	Has the provincial EPI team conducted field supportive supervision during the period Jan - June 2019? according to the plan?	Check the no of reports to be consistent with the plan	
22.	Feedback Is there a process of feedback for the monthly report from the provincial level to the districts?	Check documentation of the feedback provided (e.g. written feedback report, minutes of meetings for providing the feedbacks etc)	
23.	Is there a action taken to deal with late or non-reporting	Provide the action they take	
	Data analysis and data use for action		
24.	•	Look for a displayed monitoring chart/table and check if it is updated	
25.	Is dropout rate monitored?	Check availability of monthly analysis of at least one drop-out rate	

26.	Is there any report on any planned	Look for any documentation		
	activity based on data analysis during	(e.g report of activities		
	the past year?	implemented or any plan for		
		activities to address any		
		identified problem based on		
		analyzed data.)		
27.	Are district of low coverage identified	Check availability of list low		
	based on data analysis?	performing districts that's		
		based on analysis of coverage		
		data		
28.	Have reasons of high or negative	Check the reports with high		
	dropout rates been identified?	(+10%) or negative dropout		
		rates		
29.	Have plans to address reasons of high	Check the reports or discuss to		
	or negative dropout rates been	get clear information. If reports		
	developed?	or information is not available,		
		the answer is "no"		
30.	0	Check the reports or discuss to		
	been triangulated to identify	get clear information. If reports		
	inconsistencies between coverage data	or information is not available,		
	and disease incidence?	the answer is "no"		
			ı	T
	Planning and management			
	Is there annual work-plan at	See the plan		
	Provincial level that includes activities			
31.	related to EPI monitoring and			
	evaluation? (Supervision, training,			
	logistic)	Charle availability of districts		
32.	Are copies of the districts micro-plans of all districts available?	Check availability of districts micro plans for all districts		
	Is there at least one senior staff and	Get information on the staff. If		
33.	one assistant responsible for	there is no qualified senior staff,		
33.	monitoring and evaluation of EPI?	the answer is "no"		
	Have these staff received specific	Any type of training course on		
	training course on EPI monitoring	EPI monitoring and evaluation,		
34.	and evaluation since they joined this	including data analysis and		
54.	position/during the past 5 years	interpretation. Ask for the date		
	(whichever shorter)	and name of the course		
	Does the province conduct regular	Check meetings' minutes		
35.	periodic EPI review meetings with the	8		
	districts?			
	ı	1	ı	ı
	Documents			
	Is there EPI guidelines/manual	See the EPI guidelines/manual		
25	available for EPI staff that includes a			
36.	section on EPI reporting system and			
	data quality?			
<u></u>				

	Is there enough stock of the	Observe the stock of each. If any	
	requirement for at least 3 months of	one is absent, the answer will be	
37.	the following:	"no". if this is the responsibility	
37.	• Vaccination cards	of the district, the answer is	
	• Daily/permanent registers	"NA"	
	• reporting forms		
	Archiving		
38.	Is files keeping & archiving	Arranged & kept according to	
30.	optimum	the years.	
39.	Are files updated?	Up-to-date reports and	
		communication	
40.	Are there separate files/sub files for	Check availability, if not for any,	
	archiving the different reports for:	the answer should be "No"	
	• Monthly data		
	• Supervision (to districts and from national)		
	• Feedback (to districts and from		
	national)		
	Huttonut)		
	Cold chain and vaccine management		
	Is there registration of temperature	See the registration paper.	
41.	twice daily?	Go to the ware house	
	Is there vaccine stock register	Check the stock register.	
42.	(arrival, dispatch, lot number,		
	expiry date)?		
	Is the vaccine stock register updated?	Check if it is updated. If there is	
43.	· · · · · · · · · · · · · · · · · · ·	no vaccine store, the answer	
13.		should be 'NA"	
	Is the vaccine batch number	Check the information in the	
	registered in the vaccine stock	stock register. If there is no	
44.	register?	vaccine store, the answer	
		should be 'NA"	
	Is there a concordance between the	Check and calculate.	
	number of measles doses and		
45.	measles diluent in the registration		
	book and the stock?		
	Is there stock register for syringes	Review the stock register	
46.	receipt and release?	Review the stock register	
40.	receipt and receipt.		
C			
Comr	<u>nents</u>		

Comments			

Field editor:	Signature:	
Date:/		
Assessment of the quality of the EPI mo	onitoring system at the	District levels period January-June, 2019
District:		Name and position of
respondent(s)		
Interviewer:		Date of the visit:/

Serial	First : Demographic data			Comment
	Questions	Explanation	Yes/No/NA	
47.	Is there a detailed map for the district?	With districts' boundaries and health facilities or services		
48.	Are the numbers of the following target groups available for year 2019? Target population 0-11 months Target population 1-2 years	All the targets should be available (if anyone is missing answer "No")		
49.	 Target population <5 years Are the numbers of the following target groups available for year 2019? Target population of women in child bearing age Target population of pregnant women 	All the targets should be available (if anyone is missing answer "No")		
	What is the source of the data related to the target?	Descriptive data (no score)		
50.	Is the same figures of target population used for all coverage analysis (tabulations, charts, reports,)	Check the charts and tables (if anyone is missing answer NO)		
51.	Are these target groups different from previous year?	To see if the target groups are updated		
52.	Is the target < 1 year used at the district level the same at provincial level?	Ask and compare the data from the 2 levels (prior information is required). If the source of this target figures is the province, the answer is "NA"		

	EPI monthly report		
	Questions	Explanation	Yes/No/NA
53.	Are copies of the District monthly reports of EPI data sent to the provincial level available for the period Jan-June 2019?	All the reports (6) should be available If any one of the report not available the answer should be NO. If electronic reporting is used, check the availability of archived e mails	
54.	Are monthly reports received from HUs/UCs level available for the period Jan-June 2019?	All the reports should be available Number of reports =number of months verified X number of districts) If any one of the report not available the answer should be NO.	

		If electronic reporting is used, check the completeness of archived e mails	
55.	Are monthly reports received from the private units available for the period Jan-June 2019?	All the reports should be available. Number of reports=Number of private unit X 6 If one of the report not available, the answer should be no. If electronic reporting is used, check completeness as above If private sector is not active/shouldn't report to this level, the answer is "NA"	
56.	Are tables representing analysis of completeness of monthly reports available?	Table of completeness (number of reports) and timeliness (date of receiving the report) for all districts available.	
57.	Are tables representing analysis of timeliness of monthly reports available?	Table of timeliness (date of receiving the report) for all districts available.	
58.	Does the responsible person know the following calculations: (coverage rate – drop-out rate of any 2 doses)	Ask for calculating the 2 rates. If one of them is not correct, the answer should be no	
59.	Are copies of the district reports on AEFI reported to the provinces available?	Check the reports	
60.	Are reports on investigation of the most recent severe/serious AEFI available?	Check the reports	

	Computerized data management system			
	Questions	Explanation	Yes/No/NA	
61.	Does the District have computerised data management system/software?	Check the system and describe it here		
62.	If yes, is the last date of backup within one week?	Check the back-up file and date of creating the file		
63.	Can the official immunization tabulations for the previous yearbe reproduced from an archived electronic file for the previous year?	Ask the responsible officer to get the previous year's data table, if the system was not computerized in the previous year put NA		

64.	Is there specific staff member	Meet him and discuss his work	
	assigned for the computerised		
	data management?		
65.	Is there back-up staff assigned for		
	computerised data management?		

	Supervision		
	Questions	Explanation	Yes/No/NA
((Is there a current plan for	Check the plan (at least quarterly)	
66.	supportive supervision?		
	Has the District EPI team	Check the no of reports to be	
	conducted field supportive	consistent with the plan	
67.	supervision to the lower level		
	during the period Jan-June 2019		
	according to the plan?		
68.	Are the recommendations of	Check availability of any	
00.	supervisory visits followed up?	documentation	
	Feedback		
	Questions	Explanation	Yes/No/NA
69.	Is there a process of feedback for	Check documentation of the	
	the monthly report from the	feedback provided (e.g. written	
	district level to the health facilities?	feedback report, minutes of meetings	
		for providing the feedbacks etc)	
70.	Is there a system or mechanism for	Check documentation of related	
	dealing with late or non-reporting	action	
	Data analysis and data use for		
	action		
	Questions	Explanation	Yes/No/NA
71.	Is there updated District	Look for a displayed monitoring	
	immunization monitoring chart/	chart/table	
	table?		
72.	Is dropout rate monitored?	Check availability of monthly	
		analysis of at least one drop-out rate	
73.	Is there any report on any planned	Look for any documentation (e.g	
	activity based on data analysis	report of activities implemented or	
	during the past year?	any plan for activities to address any	
		identified problem based on	
		analyzed data.)	
74.	Are HUs of low coverage identified	Check availability of list low	
	based on data analysis	performing districts that's based on	
		analysis of coverage data	
75.	Have reasons of high or negative	Check the reports	
	dropout rate been identified?		
76.	Have plans to address reasons of	Check the reports	
	high or negative dropout rates been		
	developed?		

77.	Have surveillance and coverage data been triangulated to identify inconsistencies between coverage data and disease incidence?	Check reports	
78.	Is there a table or graph showing the number of reported VPDs by HU or Hospital?	Check graph or table	
79.	Was action taken based on VPDs	Check documentation of action	
	data analysis?	taken	
80.	Is there any monitoring of vaccine	Check monitoring and action taken	
	wastage per HU and action taken?	for vaccine wastage	
81.	Is there a monitoring of HU vaccine	Check monitoring and action taken	
	stock out?	for Vaccine stock out	

	Planning and management			
	Questions	Explanation	Yes/No/NA	
	Is there annual work-plan at	See the plan		
	District level that includes activities			
82.	related to EPI monitoring and			
	evaluation? (Supervision, training,			
	logistic)			
83.	Are copies of the micro-plans of all	Check availability of HU micro plans		
65.	HUs/UCs available?			
	Is there at least one senior staff and	Get information on the staff		
84.	one assistant responsible for			
04.	monitoring and evaluation of EPI?			
	Have these staff received specific	Training course on EPI monitoring		
	training course on EPI monitoring	and evaluation, including data		
85.	and evaluation since they joined	analysis and interpretation		
	this position/ during the past 5			
	years (whichever shorter)			
	Does the District conduct regular	Check meetings' minutes		
86.	periodic EPI review meetings with			
	the HUs?			

	Documents			
	Questions	Explanation	Yes/No/NA	
	Is there EPI guidelines/manual	See the EPI guidelines/manual		
87.	available for EPI staff that			
87.	includes a section on EPI reporting			
	system and data quality?			
	Is there enough stock of the	Observe the stock of each. If anyone		
	requirement for 6 months of the	is absent, the answer will be "no"		
88.	following:			
	Vaccination cards			
	• registers,			
	• reporting forms			

	Archiving		
	Questions	Explanation	Yes/No/NA
89.	Is Files keeping & archiving optimum	Arranged & kept according to the years.	
90.	Are Files updated?	Up-to-date reports and communication	
91.	Are there separate files/sub files for archiving the different reports for: • Monthly data • Supervision (to districts and from national) • Feedback (to districts and from national)	Check availability, if not for any, the answer should be "No"	

	Cold chain and vaccine			
	management			
	Questions	Explanation	Yes/No/NA	
92.	Is there registration of temperature twice daily seven days a week?	See the registration paper. If there is no vaccine store, the answer should be 'NA"		
93.	Is there registration for vaccine stock register (arrival, dispatch, lot number, expiry date)?	Check the registry book. If there is no vaccine store, the answer should be 'NA"		
94.	Is the vaccine batch number registered in the vaccine stock registry?	Check the information in the registry book. If there is no vaccine store, the answer should be 'NA"		
95.	Is the vaccine stock register book updated?	Check if it is updated. If there is no vaccine store, the answer should be 'NA"		
96.	Is there a concordance between the number of measles doses and measles diluent in the registration book and the refrigerator stock?	Check and calculate. If there is no vaccine store, the answer should be 'NA"		
97.	Is there stock register for syringes receipt and release?	Review the stock register		

Comments		

Field edi	tor:Sign	ature:	_ Date:/	
Assess	ment of the Quality of EPI	•	ealth unit level fo	or the period January
		June 2019		
Health u	nitUC:	TehsilDistri	ct	.Province:H
Туре:	•••••			
Name/s a	and position/s of respondent/s:			
	-			
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• • • • • • • • • •			•••••	•••••
Name of	the			
interview	ver/s		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
	he visit:/			
Serial	Questions	Explanation	Yes/No/NA	Comments
	Demographic data	I		
1.	Is there a map for the	Map with the catchment		
1.	catchment area of this	area boundaries		
	health unit?	area boundaries		
2.	If the map is available,			
2.	dose the map include all			
	the household /villages			
	related to the area (if			
	applicable; hard to reach			
	areas, and special			
	population link to this			
2	area).			
3.	Does the map include a			
	target by type of strategy:			
	fixed/outreach/mobile,			
	with outreach villages?	ATTAL		
4.	Are the numbers of the	All the targets should be		
I	following target groups	available (if anyone is	i J	

missing answer "No")

available for year 2019?

	Target populations:		
	• Target population 0-		
	11 months		
	• Target population 1-2		
	years		
	Target population <5 years		
	Are the numbers of the	All the targets should be	
	following target	available (if anyone is	
	populations available for	missing answer "No")	
_	year 2019?		
5.	• Target population of		
	women in child		
	bearing age		
	• Target population of pregnant women		
6.	Is the same figures of the	Check the charts and	
0.	target population used for	reports	
	all coverage analysis	Терогия	
	(charts, reports,)		
7.	Does the HU have a	This may include	
/.	system/mechanism which	community health workers,	
	allow the collection of	LHW, traditional birth	
	information about new	attendants, outreach clinics	
	births in the community?	etc. A system/mechanism	
	bir this in the community:	means (a) organized way to	
		collect the information in	
		every village/community	
		and (b) a written track	
		available at the HU.	
	Monthly reports of EPI	available at the 110.	
	Worlding reports of ETT		
8.	Do you have copies of the	All reports (6 reports)	
	monthly reports sent from	should be available). If	
	the HU to the UC/district	there is any missing report,	
	for Jan- June 2019?	the answer should be "No".	
9.	Do you have copies of the	All reports (6 reports)	
	vaccine wastage reports for	should be available). If	
	Jan- June 2019?	there is any missing report,	
		the answer should be "No"	
10.	Do you have copies of the	All reports (6 reports)	
	severe AEFIs reports for	should be available). If	
	Jan- June 2019?	there is any missing report,	
		the answer should be "No"	
11.	Are the HU reports	Select a number of fields to	
	correctly filled in?	be checked in all HU	
		reports and check whether	
		these have been filled in	
		correctly.	
12.	Are the monthly reports	Check, if 2/3 reports are	
	for the period Jan- June	signed score "Yes"	
	2019? signed by the person		
	•	•	

	authorized to submit the		
	HU report??		
13.	for preparing the immunization data know	At least he/she should know correctly how to calculate vaccination coverage to	
	how to calculate vaccination coverage, dropout rate, and wastage?	answer "Yes"	
	How many health staff are providing immunization at this facility?	Write the number of all health staff assigned to provide vaccination service at this HU for both fixed service and outreach (no score)	
14.	Has the EPI staff at this HU received formal training on EPI monitoring and evaluation, including data quality improvement, during the past 2 years? Any type of training that include EPI data recording, reporting, archiving, data analysis and using data for action) (basic or refresher, NVetc.) Using data for action	Check documentation (e.g. certificate, training materials), or get training details e.g. the type of training, duration, content, who conduct it, when etc. Ask for the date and name of the course	
15.		Look for tables or graphs	
16.	Is the coverage data used for action?	Ask about examples of using the data for action like tracing defaulters by phone/letter/ home visit, increasing outreach/mobile team, conducting campaigns, etc.	
	Supervision		
17.	Is there any documentation of the supervisory visits by the governmental/ Partners staff (if there are supervisory visits) in the period Jan-June 2019?	If there is supervisory book with technical comments/recommendation or technical report, the answer is "yes". If there was no documentation of the visit, the answer is "no". if there was no supervisory	

		visit, the answer is "not	
		applicable"	
18.	Is there any follow up for	Look for any	
10.	implementation of	documentation of the	
	recommendation of the	implemented	
	supervisory visits?	recommendation in the next	
	The state of the s	visits. If there is no	
		documentation, the answer	
		is "no". if there was no	
		supervisory visit, the	
		answer is "NA"	
	Feed-back		
19.	Is there feedback from the	Check availability of	
	upper level to this health	documented feedback. If	
	unit regarding the	copies of the feedback are	
	reported data (coverage,	not retained, the answer is	
	drop out, wastage,)	"No"	
		If the officer indicated that	
		no written feedback was	
		received, the answer is	
		"NA"	
	Cold chain and vaccine manag	gement	
20.	Is there a vaccine stock	Check availability of the	
	register for vaccine and	stock register	
	supply registration?		
21.	Is the vaccine register up	Compare the amount one	
	to date?	vaccine available and	
		amount registered in the	
22.	Is the batch number and	Stock record Chack the stock register	
22.	expiry date of each vaccine	Check the stock register	
	registered?		
23.	Is there a stock register for	Check the stock register	
	receipt/issuing of syringes	0.10011 0.110 0.00011 1 0 g .0001	
	(AD/		
	disposal/reconstitution		
	syringes)?		
24.	Is the cold chain	Check the charts for the	
	temperature monitoring	period Jan- June 2019? if	
	chart completed twice	one is not complete answer	
	daily seven days a week?	"No"	
	Please comment on how		
	they solve the problem		
	during the weekend and		
	official holidays?		
	Registration		
L	<u> </u>		<u> </u>

25.	Are registers used for	Each health center should	
	recording individual	have a book or register	
	information about child	where each immunization	
	immunizations?	history can be registered	
		and traced back.	
		(Permanent register, Daily	
		register,)	
26.	Can a child's vaccination	A new dose should not be	
	history be easily and	entered as a complete new	
	rapidly retrieved in the	entry but entered in the	
	permanent registers for the	location where previous	
	period Jan- June 2019?	doses have been entered.	
27.	Are registers used for	There may be registers or	
27.	recording individual	health cards if cards kept in	
	information about	HU.	
	women's TT		
	immunizations?		
	Observe at least five vaccination	one and answer the following	
	Observe at least five vaccination	ons and answer the following	
28.	Is the vaccination card well	All records should be filled	
20.	filled out?	in	
	inica out.		
29.	Does the vaccinator record	Check the daily records	
27.	each vaccination dose in	oncer the daily records	
	the daily register		
	immediately?		
30.	Were all vaccinations well	Check the daily tally sheet	
50.	registered on the tally	Check the daily tally sheet	
	sheet?		
	Siect.		
	Defaulters tracing		
31.	Is there form/sheet for	Check availability of	
	listing defaulters?	defaulter list (tool)	
32.	Are the defaulters	Check the date of list of	
	identified at least monthly?	defaulters	
33.	Is there a defined system	Home visits, phone call,	
	for reaching defaulters?	letter	
	Please describe the system?		
34.	Were action taken to cover	Check action taken and the	
	defaulters?	notes on how many	
		defaulters were covered/	
		vaccinated?	
	Printed materials		
35.	Is there EPI manual?	Check availability of the	
		immunization manual	
36.	Is there enough stock of	Check availability for at	
	tally sheets?	least 3 months	
37.	Is there enough stock of	Check availability for at	
	daily register?	least 3 months	
	V 0 177 1	<u> </u>	

38.	Is there enough stock of permanent register?	Check availability for at least 3 months	
39.	Is there enough stock of child immunization card?	Check availability for at least 3 months	
40.	Is there stock of Temperature recording sheets?	Check availability for at least 3 months	
41.	Is there enough stock of monthly reporting forms? Archiving	Check availability for at least 3 months	
42.	Are all the reports /records related to monitoring and evaluation of the period Jan- December 2018? well archived?	Filed and arranged in order (by year or month) and in save and clean place	
43.	Is there one location where the immunization reports and recording forms for the period Jan- December 2018 are stored?	Inside the HU. If any record/register is missing, the answer is "no"	
44.	Can all tally sheets / reports/ registers covering child immunization for the period Jan-Dec 2018 be found easily?	Check archiving	
45.	Are registers for TT vaccinations to pregnant women available for the period Jan-Dec 2018?	Should be well archived	

Fie	eld editor:				S	Signature:						
Da	nte:/	<i>'</i>										
A	ccuracy Shee	t										
]		heet for acc	-		2019	•			-	d January-June, i <u>t</u>		
of	alth unit:the visit:/spondent/respon	./						P ollected by		Date		
health faciliti include		Name of health facilities included under the UC	Age group	Jan	Feb	Mar	Apr	May	June	Comments		
1	Number of children vaccinated with Penta 3 recounted from daily register		All ages 0-11 months									
2	Number of children vaccinated with Measles 1 recounted from daily register		All ages 0-11 months									
3	Number of children		All ages									

	vaccinated with Penta 3 as reported in the monthly report sent to the	0-11 months				
4	Number of children	All ages				
	vaccinated with Measles 1 as reported in the monthly report sent to the district level	0-11 months				
5	Target children aged less than is not known, please get numb vaccinations provided to child than 1 year.	er of penta1				

• In case of missing information/reports, record the missed information and reason in the comments

From the register to the community

Health unit:	UC:	District:
Province:		
Date of the visit: //		Data collected by:

•••••

		Data collected from the HU records								Data verified in the community				
Se r.	Chil d's Nam	s Fathe r's	Date of birth		Addr	Child vaccinat ion	vaccinat	Penta3 Vaccinat ed		Date of vaccinat ion	Source o	f data	Comme nts	
	e nai	name	D D	M M	Y Y	ess	registrat ion No.	ion	Ye s	No		Vaccinat ion card	Histo ry	
1														
2														
3														
4														
5														
6														
7														
8														
9														
10										_				
11								_						_
12										_				
13														
14														
15														

- Please collect the data from the Health center for 15 children. In the community, please do your best to get maximum of 10 children
- Please collect the data from the daily register for children vaccinated in 2019
- Selection should be in systematic random technique (get every 10th child in the daily register of the same assessment period

Record your observation in the comment column

Data collection sheet for accuracy of vaccination data for children 0-11 months for January-June, 2019 Data to be copied from the reports received from the UC/health units

Respondent/responsible officer

District:	Pro	ovince:	Respo	ndent/re	esponsib	le officer:	
ate of the vi	sit://	• •		0	ata colle	ected by:	
Health unit/UC	January	February	March	April	May	June	Comments

Total				

Data collection sheet for accuracy of vaccination data for children 0-11 months for January-June, 2019

Verification of Penta vaccinations at the Districts

Data to be copied from the tabulation at the district

District:	Province: Respondent/responsible officer:
Date of the visit://	Data collected by:

Health unit/UC	January	February	March	April	May	June	Comments

T-4-1				
Total				i l

- Please use additional sheets if the number of rows is not sufficient for the number of HU/UCs
- Please ask about the age group of the data collected: Total children vaccinated () 0-11 months () If electronic data is available, please get electronic copy and no need to copy the data on the hard copy