

**Assessment of Quality of Data collected under ICDS at Angawadi
Centers**

**Internship Training
at
Integrated Child Development Services (ICDS) Women and
Child Department, Gujarat (February 3, 2014–May 10, 2014)**

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TO WHOMSOEVER IT MAY CONCERN

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The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her success in all her future endeavours.



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He comes across as a committed, sincere and diligent person who has a

Strong drive and zeal for learning

We wish him all the best for future endeavours

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CERTIFICATE BY SCHOLAR

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Signature

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GLOSSARY

ABBREVIATIONS	FULL FORMS
ACDPOs	Assistant Child Development Project Officers
ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
AWCs	Anganwadi Centres
AWH	Anganwadi Helper
AWTCs	Anganwadi Training centers
AWWs	Anganwadi Workers
CDPOs	Child Development Project Officers
CMTC	Child Malnutrition Treatment Center
DDOs	District Development Officers
DH	District Hospital
DPOs	District Programme Officer
ECCE	Early Childhood Care and Education
FHW	Female Health Worker
GIS	Geographical Information System
GoG	Government of Gujarat
GoI	Government of India
ICDS-POs	Integrated Child Development Society- Project Officers
IFA	Iron Folic Acid
IGMSY	Indira Gandhi Matratva Sahyog Yojana
KSY	Kishori Shakti Yojana
KVK	Kaushal Vardhan Kendra
LBW	Low birth weight
MIS	Management Information System
MLTCs	Middle Level Training Centers
MO	Medical Officer
MPR	Monthly Progress Report
MUAC	Mid Upper Arm Circumference
MUW	Moderately Underweight Children
MWCD	Ministry of Women & Child Development
NCV	Nutrition Counseling Volunteers
SNP	Supplementary Nutrition Programme
THR	Take Home Ration
VCNC	Village Child Nutrition Center
VHND	Village Health and Nutrition Day
WCD	Women and Child Development
WHO	World Health Organization

1.0 INTRODUCTION

The Integrated Child Development Services (ICDS) Scheme today is the World's largest Programme aimed at enhancing the health, nutrition and learning opportunities of infants, young children (0-6 years) and their mothers

For realization of objectives of ICDS and widely approved consensus on accurate, timely and regular information systems, great emphasis has been laid on data capturing at each facility, block and district level which is further collated at state and National level.

For this, a continuous flow of good quality information on inputs, outputs and outcome indicators was needed along with a strong Monitoring and Evaluation system which is essential for tracking programme performance and designing new interventions.

At the heart of the M & E system is the *Management Information System* (MIS), focussed on improving the collection and use of data related to core programmes.

MIS was thus, introduced as a tool for using the data for effective programme management.

MIS may be defined as ***“A tool which helps in gathering, aggregating, analyzing and then using the information generated for taking actions to improve performance of health systems.”***(GOI, 2008: 2).

However, despite the potentials the MIS have; the collection, compilation, analysis and utilization of health data remains to be practically major problems in this system.

Quality improvement and the timely dissemination of quality data are thus, essential if the health care authorities wish to maintain health care at an optimal level.

In order to make effective use of MIS data it is important that all reporting units provide complete data without leaving any of the relevant data elements blank and ensure that the reports are submitted timely to provide immediate feedback.

Last, but not the least, reporting of correct data is essential to make any meaningful inferences. The assessment of each of these dimensions of data quality is based on the analysis based primarily on observation.

2.0 LITERATURE REVIEW

- In the recent past, data quality has become an important issue not only because of its importance in promoting high standards of patient care but also because of its impact on government budgets for maintenance of health services(*WHO ,2003*)
- Quality as defined by *Donabedian(1998)* consists of the ability to achieve desirable objectives using legitimate means. Quality data represents what was intended or defined by their official source, are objective, unbiased with known standards (*Abdelhak et al,1996*) . Data quality includes :
 - ✓ Reliability-data are consistent and information generated is understandable.
 - ✓ Completeness-all required data are present
 - ✓ Timeliness-data are recorded at the time of observation among others(*WHO ,2003*).
- Manual for Strengthening HMIS data Quality released by the Ministry of Health Uganda defines Completeness if all the data elements in the columns of registers and database tables are filled. In addition for HSD and district levels, completeness means all health units and Health sub districts respectively are reporting. If the registers are not filled properly then it will be difficult to count the record in them, leading to failure to fill the data base and reporting forms for the district

On the other hand Timeliness reflects that data is collected, transmitted and processed according to prescribed time and available for making timely decisions.

The definition of accuracy in HMIS procedural manual states The data is compiled in databases and reporting forms is accurate and reflect no inconsistency between what is in registers and what is in databases/reporting forms at facility level similarly, when data entered in the computers, there is no inconsistency between reporting forms and computer files.

- The term data quality as presented in the IS-literature is mostly characterized as a multidimensional conception of the properties and conditions of data(*Abate et al,1998,Fox et al ,1994,Huh et al 1990,Redman 1996,Wand & Wand 1996*).
- Use of technology-oriented data quality improvement efforts are commendable and definitely, a step forward in the right direction, however, technology alone cannot eradicate the root causes of poor quality data because poor quality data is not as much an IT problem but rather a business problem. Therefore because data quality improvement is a process not an event the following enterprise –wide disciplines be emphasized in and improved upon over time

- ✓ A stronger personal involvement of management
 - ✓ High level leadership for data quality
 - ✓ New incentives
 - ✓ New performance evaluation measures
 - ✓ Data quality enforcement policies
 - ✓ Data quality audits
 - ✓ Additional training for data owners and data stewards about their responsibilities
 - ✓ Data standardization rule . (*Larisse Terpeluk Moss et al,2005*)
- The international journal of public health(WHO ,2005) also cites duplications and inconsistencies between sectors in the collection, reporting, storage and analysis of social economic data and that statistics offices give higher priority to economic data than other social statistics. The report recommends that there is need for a long-term commitment to improve training and career structures of statisticians and information technicians working in the health and other social sectors.(*Macfarlane et al, 2005*)
 - Research has also shown that the Causes of data inaccuracy are double counting, counting ineligible patients, poor record keeping, incorrect data compilation procedures, and staff rotation and lack of teamwork. Other problems identified are with reporting data in a timely manner. (*Semakula R et al,2011*)

3.0 PROBLEM STATEMENT

Presently, ICDS has an in-built monitoring system through which regular reports and returns (MPRs) flow upwards from AWC to blocks, district HQs, State Directorates. However, the current monitoring system is geared towards coverage rather than outcome indicators. Also due to large number of registers to be filled the quality of the data is being compromised. There is no proper monitoring to check the quality in terms of completeness, consistency and timeliness of data being reported.

4.0 RESEARCH QUESTION

What is the quality of data collected under ICDS in an Anganwadi Center?

5.0 OBJECTIVES

- To assess the different registers at Anganwadi Center for completeness, timeliness and consistency of data
- To identify the causes of incompleteness, inconsistency and untimeliness of data reported by AWCs.

6.0 METHODOLOGY

Study Design: Cross-sectional descriptive study.

Study Area: 5 blocks (Navsari, Gandevi1, Jalalpore 1, Chikhli 1, Vansda 1) of Navsari district.

Sample size: 20 AWCs (Total 100 AWCs) selected from each block

Study Respondents: Anganwadi Worker, Supervisor, Child Development Program Officer (CDPO/ACDPO), DPO.

Study Variables:

Completeness of data, Timeliness of submission of reports, Consistency in filling the data, Different registers maintained at the AWC.

Data Collection Tools: Semi-structured questionnaire

Data Collection Technique: Face to face interview with the respondents

7.0 RESULTS

Twenty AWCs have been selected through random sampling in each of 5 blocks and total 100 Anganwadi centers have been visited over a period of 3 months. The registers have been personally checked for completeness and consistency and the Anganwadi worker along with the supervisor were interviewed face to face with the help of semi structured questionnaire. As the revised MIS has not been implemented completely, the old registers were still being used and the number of the registers varied from one centre to another. On an average a worker was being found to maintain about 22 registers.

Table 2: The list AWCs under study with number of Registers maintained are

S. No	Anganwadi Center	Block	No. Of Registers
1	Mahuvas-1	Vansda 1	22
2	Mahuvas-2	Vansda 1	23
3	Charanvada-1	Vansda 1	22
4	Charanvada-2	Vansda 1	22
5	Charanvada-3	Vansda 1	22
6	Hanumanbari-1	Vansda 1	21
7	Hanumanbari-2	Vansda 1	20
8	Ranifaliya-1	Vansda 1	25
9	Ranifaliya-2	Vansda 1	24
10	Ranifaliya-3	Vansda 1	22
11	Vansda-1	Vansda 1	22
12	Vansda-2	Vansda 1	22
13	Vansda-3	Vansda 1	22
14	Vansda-4	Vansda 1	23
15	Vansda-5	Vansda 1	25
16	Vansda-6	Vansda 1	23
17	Vansda-7	Vansda 1	22
18	Vansda-8	Vansda 1	22
19	Vansda-9	Vansda 1	21
20	Vansda-10	Vansda 1	20
21	Dipala - 1	Jalalpore 1	19
22	Dipala - 2	Jalalpore 1	25
23	Dipala - 3	Jalalpore 1	24
24	Umbharat - 1	Jalalpore 1	22
25	Umbharat - 2	Jalalpore 1	22
26	Danti - 1	Jalalpore 1	22
27	Danti - 2	Jalalpore 1	22
28	Danti - 3	Jalalpore 1	23
29	Danti - 4	Jalalpore 1	22
30	Danti - 5	Jalalpore 1	22
31	Borasi - 1	Jalalpore 1	22
32	Borasi - 2	Jalalpore 1	21
33	Borasi - 3	Jalalpore 1	20
34	Borasi - 4	Jalalpore 1	25
35	Borasi - 5	Jalalpore 1	24
36	Borasi - 6	Jalalpore 1	22
37	Vansi	Jalalpore 1	22
38	Mangrol	Jalalpore 1	22
39	Parujan - 1	Jalalpore 1	22
40	Parujan - 2	Jalalpore 1	23
41	Hond Zandachok	Chikhli 1	22

42	Hond Navanagar	Chikhli 1	23
43	Malwada Gamtal	Chikhli 1	22
44	Malwada Mandir faliya	Chikhli 1	22
45	Balvada Chimala faliya	Chikhli 1	22
46	Balvada Bhuri faliya	Chikhli 1	21
47	Balvada Gamtal	Chikhli 1	20
48	Balvada Navanagar	Chikhli 1	25
49	Vankal Mokha	Chikhli 1	24
50	Vankal sandhyavad	Chikhli 1	22
51	Vankal Pahad	Chikhli 1	22
52	Vankal Madhya	Chikhli 1	22
53	Vankal Vaniyatalav	Chikhli 1	22
54	Vankal Sundar	Chikhli 1	23
55	Vankal Vajifa	Chikhli 1	22
56	Ghekti Nishal	Chikhli 1	22
57	Ghekti Pahad	Chikhli 1	22
58	Hond Talavpal	Chikhli 1	21
59	Balvada Amlimora	Chikhli 1	20
60	Majigam Dehra	Chikhli 1	19
61	Thakkarbapa vas	Navsari	24
62	Ghelkhadi 1	Navsari	24
63	Ghelkhadi 2	Navsari	23
64	Ghelkhadi 3	Navsari	22
65	Ghelkhadi 4	Navsari	23
66	Patel soc Ghelkhdi	Navsari	22
67	Gourisankar Mahhalo	Navsari	22
68	Patrani chal	Navsari	22
69	Netal nagar	Navsari	21
70	Navo Mahhalo	Navsari	20
71	Ram nagar Ghelkhdi	Navsari	22
72	Kasivadi	Navsari	22
73	Matiya patidar	Navsari	22
74	Rel rahat colony	Navsari	22
75	Dati Mahhalo	Navsari	20
76	Sai chok	Navsari	21
77	Talavdi Dasera Tekari	Navsari	22
78	Tidhara navi vasahat1	Navsari	22
79	Tidhara navi vasahat2	Navsari	22
80	Kagdi vad	Navsari	23
81	Antaliya Ramla Ghol	Gandevi 1	24
82	Antaliya, Koli vad	Gandevi 1	22
83	Antaliya,GIDC	Gandevi 1	23
84	Antaliya,Mangaldas	Gandevi 1	22
85	Antaliya,Shanti nagar	Gandevi 1	23

86	Antaliya, Sonini Chal	Gandevi 1	25
87	Torangam, Gamtal	Gandevi 1	24
88	Torangam, Kalyari	Gandevi 1	22
89	Torangam, Kothi F.	Gandevi 1	22
90	Undach, Iuhar F.	Gandevi 1	22
91	Undach, Mali F.	Gandevi 1	22
92	Undach, Amratnagar	Gandevi 1	22
93	Undach, Dhodiyavad	Gandevi 1	22
94	Undach, Raghav F.	Gandevi 1	23
95	Undach, KaChhal	Gandevi 1	24
96	Undach, Vaniya F.	Gandevi 1	22
97	Valoti, Bhrahmdev	Gandevi 1	23
98	Valoti, Karanjdevi	Gandevi 1	21
99	Valoti, Nisal F.	Gandevi 1	22
100	Valoti, Talav F.	Gandevi 1	22

Table 3: The list of registers being used in the Anganwadi centers are

S.No	Register
1	Survey Register
2	Pregnant, Lactating Mother
3	Pregnant, Lactating and Adolescent Girls Register
4	Sabla Register (Personal)
5	Sabla Register (Sector)
6	Vaccination Register
7	Stock Register (Sukhdi, Shiro, Upma)
8	Stock Register (BalBhog)
9	Empty Vessels and Utensils Register
10	Nutrition Register
11	Masala Stock Register
12	Growth Chart Register
13	Annaprashan Register
14	Demonstrative Feeding Register
15	Desk Stock Register
16	Home Visit Register
17	Third Meal Register
18	Adolescent Meeting Register
19	Vatsalya Register
20	Baldin Register
21	Pre School Education
22	Medicine Distribution Register
23	Daily Diary
24	Referral Register

As can be seen from table 3, most of the registers are being repeated which produce duplicate data and also consume more time. In addition to these AWW were seen to be maintaining additional note books for recording data. They are more concerned in just filling the registers timely ignoring the importance of the correct data and at the same time their main job of taking care of the children in the AWC.

Table 4: List of main registers present in the AWCs under survey

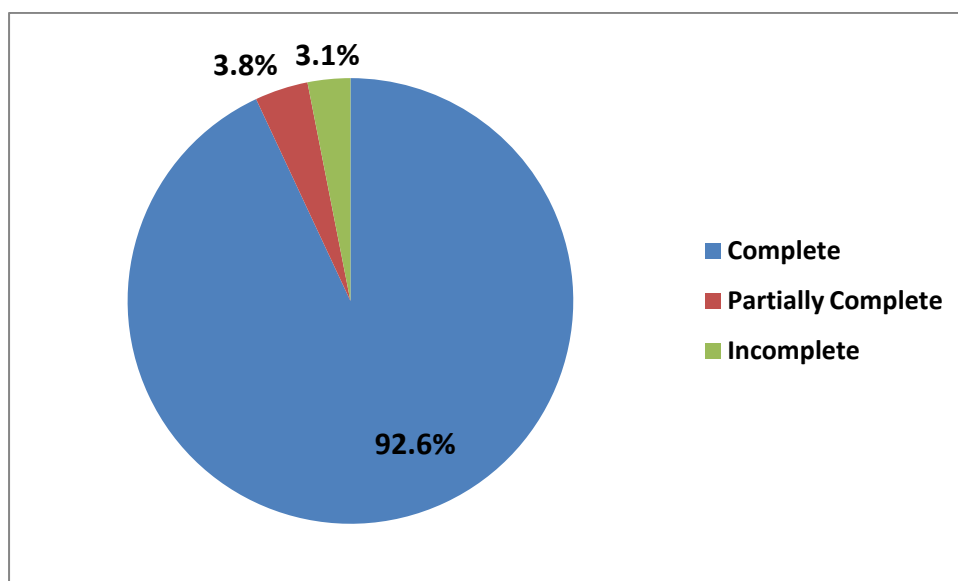
S.No.	Name of Register at Anganwadi	No. Of Anganwadi at which register present
1	Survey Register	100
2	Services for Adolescent Girls	90
3	Immunization register	100
4	Service for Pregnant and Lactating Mother	100
5	Growth Card	100
6	Medicine Distribution	20
7	Referral	66
8	Village Health	90
9	Supplementary Nutrition	95
10	Stock Register	90
11	Daily Diary	80

Table 4 shows the list of registers to be maintained at an Anganwadi Center along with the number of AWCs maintaining these registers. Four registers (Immunization, Growth card, Maternal Registers, Survey Register) were found to be maintained in all the AWCs under survey while Medicine Distribution register was only found in only 20 AWCs. Referral registers, village health registers and daily diaries were also not found in all AWCs.

Table 5: Quality of data in terms of completeness reviewed for Immunization register, register of services for pregnant and lactating women, SNP register and growth monitoring register

Anganwadi Registers reviewed	Registers available at Anganwadis (No.)	Quality of Recording Data		
		Complete	Partially complete	Incomplete
Immunization	100	94	2	2
Services for Pregnant and Lactating Mothers	100	95	5	0
SNP	90	78	3	9
Growth Card Register	100	94	5	1

Figure 5: Percentage of the registers based on their completeness.



Out of 100 AWCs visited it was found that only 92.6% of registers were completely filled, 3.8% partially complete and the remaining being incomplete due to the large number of registers to be filled daily as they consume more time and also unawareness of worker in some AWCs.

Table 6: Quality of data in terms of timeliness reviewed for Form 6 sent to higher authorities

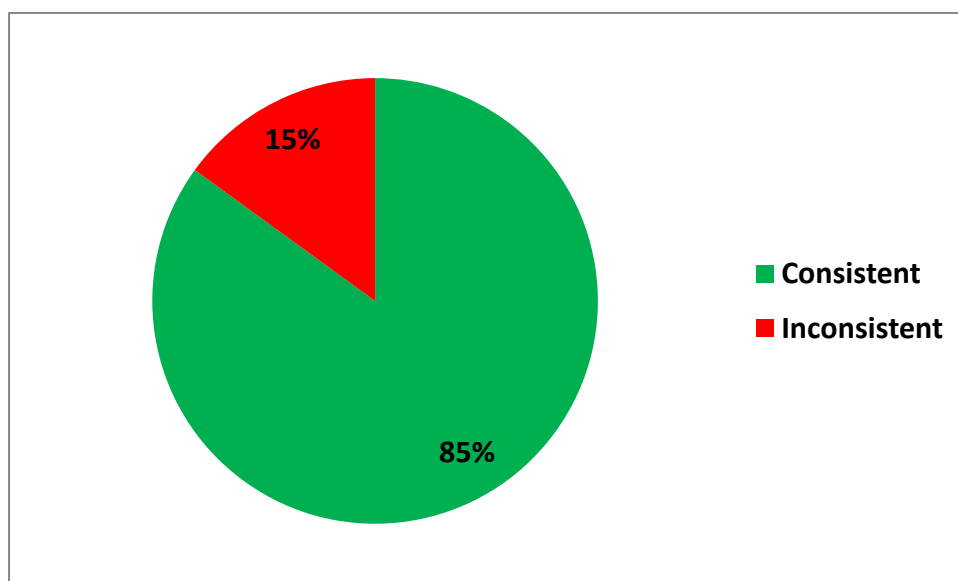
Report submission	Sent on Due date	Sent after due date	Don't know
No. Of registers	100	0	0

As can be seen from table 6, all the data is being submitted to the higher level timely. The reason being continuous reminders by the supervisors.

Table 7: Quality of data in terms of consistency, reviewed Immunization register, register of services for pregnant and lactating women.

Anganwadi Registers	Consistent	Inconsistent
Immunization Register	86	14
Services for pregnant and lactating mothers	84	16

Figure 6: Percentage of Consistency in filling the Registers.



The main part of the quality i.e consistency of data being recorded. Only 85% of the data was found to be consistent and the rest 15% being inconsistent.

8.0 DISCUSSION

Although previous literatures reviewed on MIS/HMIS put emphasis on the importance of quality of data, little has been proved or shown regarding following the same. Though MIS was proposed in ICDS to focus on improving the collection and use of data related to core programmes, it has shown little positive results in the AWCs under study. Most of the AWCs were observed to be maintaining incomplete data i.e, majority of registers observed were partially filled, some important columns were found to be lacking any inputs. Growth registers, which are an important aspect of recording the growth of child in order to tackle any discrepancies arising or any illnesses arising as a cause of malnourishment, were not being filled properly in most of the AWCs. Also most of the AWCs had no records of referrals showing a hitch in the system of records. The immunization registers along with maternal registers were well maintained at all AWCs. In fact most of the AWCs conducted immunization on a regular basis. The ANC and PNC data in some AWCs was also not maintained properly. Also in few AWCs the quality of maintenance of demonstrative feeding registers was not up to the standard. These observations suggest the lack of training and enthusiasm of those responsible for data inputs.

In all the 100 AWCs however data were sent to the block on a timely basis i.e, monthly on a fixed date, thus they are able to maintain the timeliness of data.

In few AWCs under study, the data inputs were found to be inconsistent. Since for this study only two registers were considered (immunization and maternal registers) for checking the consistency of data, it is advisable not to assume that the same pattern goes for rest of the registers. But it can also be mentioned that since these are the registers which reported standard quality of data in terms of completeness, it can be assumed that the data so entered may be erroneous in nature again indicating the lack on the part of the persons responsible for filling the data

According to WHO standards and the objective of MIS, failure of registers in maintaining quality of data in terms of completeness, timely submission of reports and maintaining consistency of data leads to difficulty in recording and interpreting the data at higher levels thus leading to delay or failure in decision making in critical situations. This in turn will lead to late addressing of issues and thus providing effective preventive measures. This can also explain the nature and number of curative services being high in the district.

9.0 CONCLUSION

From the survey conducted among the 100 AWCs in five blocks i.e, Navsari, Jalapore 1, Gandevi 1, Vandsa 1, Chikhli 2 of Navsari district, it has been observed that though some important registers were maintained properly at the AWCs, a close insight into them made us realise the flaws in the data inputs, the inconsistency in the registers, the lack on the part of AWWs to enter correct standard data which may be due to lack in capacity or plain unenthusiasm. All these indicate the low priority given to nutritional statistics in these AWCs and thus delimiting the scope for which MIS was primarily enforced into ICDS. Thus this can be a reason for the poor statistics across the country. This in turn has negative impacts on the efforts of the government which tries to improve the statistics of India to come and reach at par with the Millennium Development Goals. Unavailability of registers suggests lack of resources on part of government or negligence on part of workers which should be looked into. Thus to improve the scenario and increase the effectiveness of MIS, strong management and supervision is required at the AWC for both data and workforce. There is a need to move from ***reporting undernutrition*** to ***preventing undernutrition*** by proactive using of MIS System.

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11.0 ANNEXURE

Survey for Assessment of quality of data collected at Anganwadi Centers

Questionnaire Schedule

(Strictly confidential for academic purpose only)

I, Srikanth R Eritem, pursuing Post Graduate Diploma in Health Management at IIHMR, Jaipur, conducting a survey to assess the quality of reporting and recording data collected through Monitoring information system at Anganwadi Center. The objective of the survey is to assess the quality of data in terms of completeness of the registers maintained by the institution, timeliness of recording and reporting of data and consistency of data recorded.

Informed consent: I would like to thank you for taking the time to meet me. I would like to talk to you about the primary registers maintained by you. The interview should take about 20 minutes. The responses will be kept confidential. This means that the interview responses will be shared only with the research team and I will ensure that any information that I include in my report does not identify you as the respondent. Remember, you don't have to talk about anything that you don't want to and you can end the interview at any time.

Do you have any questions about what I just explained? Yes/No

Are you willing to participate in the interview? Yes/No

Interviewee Signature

Name of the Block		
Name of the Anganwadi	1)	2)
Designation of the respondent		
Sub-center it reports to		

Section 1: For completeness of data

Q1. How many registers do you maintain?

Anganwadi 1 Anganwadi 2

Q2. Please specify which all registers you maintain:

S. No	Name of Register at Anganwadi 1	S. No	Name of the register at Anganwadi 2
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	
10		10	
11		11	
12		12	
13		13	
14		14	
15		15	
16		16	
17		17	
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	

Instructions: Please ask for the registers mentioned in the table above and tick the column 1 if register is present. To check for the completeness of the data, please ask the respondent about the following (mention the dates):

S. No	Sessions	Anganwadi 1	Anganwadi 2
1	Last immunization		
2	Last SNP		
3	Last date when the children were weighed		
4	Last ANC session held		

Then ask to show the registers and look for the entries on these specific dates mentioned by the respondent. If all the entries are made for those dates in registers then mark as complete, if any entry, name of the Anganwadi or signatures of the concerned personnel are missing, then mark partially complete; if no entry is present mark incomplete.

S. No	Anganwadi Registers to be reviewed	Please tick if present		Quality of Recording Data					
				Anganwadi 1			Anganwadi 2		
		AWC 1	AWC 2	Complete	Partially complete	In-complete	Complete	Partially complete	In-complete
1	Immunization								
2	Services for Pregnant and Lactating Mothers								
3	SNP								
4	Growth Card Register								

Section 2: For Timeliness of data

Q3. Do you send the reports to Block Office (CDPO)? Please tick either

Response	Anganwadi 1	Anganwadi 2
Yes		
No		

If yes, then ask the respondent to show the monthly reports for the above mentioned registers and ask for the dates when the concerned person is supposed to send and the last date of reports sent for:

S No.	Reports	Anganwadi 1		Anganwadi 2	
		Supposed date	Previous Report sent on	Supposed date	Previous Report sent on
1	Immunization				
2	ANC				
3	SNP				
4	Growth monitoring				

And check the registers for entries made on those specific dates

S. No	Anganwadi Registers to be reviewed for monthly reporting	Quality of Reporting Data			
		AWC1		AWC 2	
		Sent on time	Sent after due date	Sent on time	Sent after due date
1	Immunization Register				
2	Services for Pregnant and Lactating Mothers Register				
3	SNP				
4	Growth Card Register				

Section 3: For Consistency of Data

Instructions: To check for consistency ask the respondent to show the below mentioned registers. In the registers check for the following:

Immunization register: Column 5 to Column 19 and match the age and the dose of vaccine given. If the age and dose of vaccine doesn't match, data is inconsistent

Services for Pregnant and Lactating mothers Registers: Look for No. of ANCs, No. of deliveries, Outcome of Pregnancy

(For example: No of registered ANC is 20, No of deliveries are 12, Outcome of Pregnancy is mentioned as 4 Live Births and 3 Still Births- **Data is Inconsistent or else it is consistent**)

S.No	Anganwadi registers to be reviewed	Quality of data			
		AWC1		AWC 2	
		Consistent	Inconsistent	Consistent	Inconsistent
1	Immunization Register				
2	Services for Pregnant and Lactating Mothers				

Name of the Investigator

Signatures of the investigator