THE REPUBLIC OF UGANDA

Ministry of Health

A MANUAL FOR STRENGTHENING HMIS DATA QUALITY

- **Self Monitoring**
- **Information Use**
- **Feedback Mechanism**

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UPHOLD
UGANDA PROGRAM FOR HUMAN AND HOLISTIC DEVELOPMENT

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Training Schedule

Day I	Topic	Objectives	Activities
15 Minutes	Inauguration		Welcome address
Session I 1HR 45 Minutes	1 Hour	Introduction, expectations Share participants' positive experiences	
	15 Minutes	Understand and compare existing HMIS information	Exercise for listing
	30 Minutes	List benefits of HMIS	Exercise for listing
	Break Tea		
Session II 2 HRS 30Minutes	1 HR Importance of data quality	List reasons for emphasizing data quality Define data quality in quantitative terms	Exercise for listing Discussion
	45 Minutes Causes of gaps in data quality	List causes of gaps in data quality	Exercise on five why
	45 Minutes	Develop priority criteria for selecting causes	Exercise on priority selection criteria
45 Minutes	Lunch		
Session III 1HR 15 Minutes	30 Minutes Solutions	Develop solutions for improving data quality	Exercise: Brainstorming on solutions for improving data quality
	15 Minutes	Develop priority criteria for selecting solution	Exercise on priority selection criteria
	30 Minutes	Select solution	Exercise
15 Minutes	Break Tea		
Session IV 2 HRS	15 Minutes Check data quality exercise	Understand what is required for data quality check	Discuss: Explain LQAS table
	30 Minutes	Learn to use LQAS table for checking data quality	
	45 Minutes	Check data quality	Exercise:
	4:30–5:00		Share results, lesson learned

Day II	Topic	Objectives	Activities
30 Minutes			Overview of previous day's activities, today's schedule
Session I 1 HR 30 Minutes	30 Minutes Motivation for improving data quality	Learn to use goal setting as motivation activity Learn criteria for goal setting	Discuss: Importance of goal as motivating force Relate to participants' experience Exercise: Develop goal
	30 Minutes Technique for monitoring goal	Use LQAS for monitoring	Exercise:
	1 HR	Develop action plan	Exercise:
15 Minutes	Tea Break		
Session II 2 HRS	15 Minutes Importance of self-assessment using HMIS data	Understand the value of taking responsibility Understand the utility of self-assessment	Discuss: Responsibility for coverage, disease surveillance, quality of care, data collection Exercise: Use a table and collect responses
	15 Minutes	Learn to use self-assessment for improving data quality, service coverage. quality	Exercise: Provide guideline for self-assessment by using various scenarios Presentation on using data for improving coverage
	11:00-12:45		
45 Minutes	Lunch		
Session III 1HR 15 Minutes	15 Minutes Feedback report	Identify strengths and weaknesses of the current feedback report	Discuss: Strengths and weakness of current feedback report
	45 Minutes	List the variables available in the monthly data file, including population data for use as denominator for calculating indicators	What data are available in monthly report file Material: Monthly data for three months Computer: EpiInfo software
	15 Minutes	Learn to check data quality by finding errors in data entry	How to check data quality?
15 Minutes	Tea		
Session IV 2 HRS	1 HR	Learn to develop indicators	Exercise: Conversion of data into information, i.e., indicators How to check data quality?
	1 HR	Learn to describe existing situation by using frequency tabulation	What indicators tell me? Exercise: Interpret and suggest for action Group feedback on results

Day III	Topic	Objectives	Activities
30 Minutes	Inauguration		Overview of previous day's activities, today's schedule
Session I 1HR 30 Minutes	15 Minutes	Learn comparative analysis	Presentation
	30 Minutes		Exercise: Conduct comparative analysis
	45 Minutes		Interpretation Suggestions for actions
15 Minutes	Tea		
Session II 2 HRS	30 Minutes		Exercise: Group work to develop table, charts Write feedback report
	1HR 30 Minutes	Learn to write feedback report	Presentation by groups Feedback by groups (provide guide on how to deliver feedback on report)
45 Minutes		Concluding session Vote of thanks	
	Lunch		

INTRODUCTION

This manual is based on the situation analysis conducted by the Ministry of Health in January 2004, with assistance from UPHOLD Project. The situation analysis, like previous studies, found major gaps in Health Management Information System (HMIS) performance, which were low data quality and use of information. This training manual aims at improving data quality and use of information at facility and district levels, by upgrading knowledge and skills related to HMIS tasks. However, this manual is based on the assumption that organizational members are thinking beings, who can make choices that can make differences for better situations. These assumptions are in turn translated into skills that make this manual unique and worthy, reinforcing the principle promoted in HMIS Procedure Manuals for facilities and districts.

Rational and Added Value of This Training Manual

- HMIS performance (Data quality and information use) is conceptualized as function of individual (knowledge, skills, and motivation) and contextual (Management commitment, culture of information, supervision, availability of resources etc.) factors. The participants will learn how to make changes at both levels.
- The training is based on problem-solving process that will enable health workers to identify issues of concern and how to deal with them
- The training improves motivation by high-lighting positive consequences of HMIS tasks as well as target setting. It is empowering by teaching advocacy skills
- The training is geared towards learning performance improvement tools such as cause and effect analysis, control charts, facilitating problem solving etc.
- The training emphasizes values such as taking initiative, responsibility, and being accountable that are essential for promoting a culture of information.
- The training emphasizes self-regulation for continuous improvement.

Target Group

- Facility In-charge and Staff
- District Managers and HMIS staff

Learning Objectives

By the end of the training, participants would be able to:

- Review HMIS principles and benefits
- Define data quality, measure data quality using Lot Quality Assurance Sampling (LQAS); identify causes of gaps using the cause and effect diagram; feel empowered and conduct advocacy addressing gap in data quality; motivate by setting targets for data quality; and making changes in data quality using control charts and LQAS
- Conduct Self-regulation for improving HMIS performance – data quality and use of information

Inauguration Session

Purpose: The opening session of the training introduces the training and the overall and daily schedules; introduces the trainers and participants; and describe logistics.

Time: 60 minutes

Objectives

- Learn about the purpose of the training;
- Participants themselves to each other, share experiences about related topics;
- Review overall and daily schedules for the training

Preparation before the training:

- Overhead 1: Knowing each other
- Overhead 2: Purpose, skills statement
- Overhead 3: Overall and daily schedules
- Overhead 4: Logistics statement

Delivery:

Introduction - Who's who?	Time: 15 minutes
Purpose, skills statement	Time: 15 minutes
• Overall and daily schedules	Time: 15 minutes
• Logistics statement	Time: 5 minutes
• Speeches	Time: 10 minutes

Step 1: Ask participants to introduce themselves.

Step 2: Ask participants about their training expectations.

Step 3: Ask participants to share one positive experience of HMIS tasks.

Ask someone to write them on flipchart and post list on wall for future reference.

MODULE I: REVIEW OF HMIS PRINCIPLES, ASSUMPTIONS & BENEFITS

Session 1: List, Categorize, and Compare Knowledge

Related to Monthly Reporting Form

Time: 30 minutes

Materials: 3- x 5-inch sticky cards
Markers
Category cards on data available on monthly reporting form

Objectives

By end of session, participants will be able to:

- List the information available on the monthly reporting form and compare it with their own knowledge; and
- Describe benefits of the information at different levels–personal, management, community, policy, advocacy, others.

Step 1: Ask participants to write on one sticky card one item of information available on the monthly reporting form. Encourage participants to write more than one item of information on an appropriate number of cards. Advise participants that the task should be completed in five minutes.

Step 2: Ask participants to post the cards on the wall or flip chart.

Step 3: After the cards are posted, put the category cards on the wall.
Ask participants to group the information written on the sticky cards into the categories below. Advise participants that the task should be completed in five to 10 minutes.

1) Out-patient attendance
2) Laboratory tests, diseases
3) MCH and family planning activities
4) Essential drugs and contraceptives
5) Other outreach activities
6) Financial summary
7) Comments
8) List of staff members not receiving salary and/or allowance last month
9) Monthly monitoring.

Step 4: Compare categories with the lowest and highest number of responses and note whether some categories have no responses.

Step 5: Discuss with participants the reasons for low and high responses and their implications.

MODULE II: IMPROVING HMIS DATA QUALITY

Session 2: Defining Data Quality

Objectives

By end of session, participants will be able to:

- Define data quality quantitatively;
- Identify causes of gaps in data quality, including their responsibility;
- Develop solution(s) for closing gaps in data quality, including what participants should do;
- Measure data quality using LQAS tables
- Develop plan to check gaps in data quality by using LQAS; and
- Develop monitoring plan, chart, and display.

Activity I: Defining Data Quality

Time: 30 minutes
Materials: Flip chart, markers

Step 1: Ask participants what they understand by data quality and record their responses.

Check whether someone defined data quality in the following terms:

- Completeness
- Timeliness
- Relevance
- Accurate numbers
- Poor or good records about a thing, situation, or service.

Activity II: Importance of Data Quality

Step 1: Ask participants, why timeliness is part of data quality?

Some responses could be:

- Data available when needed
- If the data is not provided on time for decision making then it is of no use

Step 2: Ask participants, what is the definition of timeliness in HMIS procedural manual

The forms are submitted according to the prescribed schedule

After discussing the participants' responses **conclude**:

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

Step 3: Ask participants, **why completeness is part of data quality**?

Some responses could be:

- If the required data is missing, then appropriate actions cannot be taken
- To monitor the all services provided
- To track what proportion of geographical areas and population is covered
- To provide resources needed to provide the services
- To monitor both public and private sector for getting a total picture of the health system

Step 4: Ask participants what is the definition of completeness in HMIS procedural manual

All the data elements in the columns of registers and database tables should be filled. In addition for HSD and district levels, completeness means all health units and Health Sub-districts respectively are reporting

After discussing the participants' responses **conclude**:

If the registers are not filled properly then it will be difficult to count the record in them, leading to failure to fill the databases and reporting forms for the district.

Step 5: Ask participants, **why relevance is part of data quality**?

Some responses could be:

- Data collected should reflect government priorities
- Data collected should be in relation to the management information need of the organization
- Data collected should reflect what services are provided
- Data collected should reflect types of resources – human, capital, logistics etc.

Conclude that relevance of data means that data is appropriate for meeting an information need based on services or management functions.

Step 6: Ask participants what is the definition of relevance in HMIS procedural manual (Refer to page 1 of the Health Unit Procedure Manual)

→ "*To ensure **relevance**, the HMIS information and indicators were developed with consideration of the goals and objectives of the major health policies and programmes. At the same time, the management needs of the District have been explicitly included in the system"* [1].

After discussing the participants' responses **conclude**:

> *Information system is about monitoring the services provided and strengthening the management of health system. Thus, relevant data meeting these needs are essential and part of the definition of the data quality*

Step 7: Ask participants, **why accuracy is part of data quality**?

Some responses could be:

1. Accuracy reflect data is reliable
2. Accuracy indicates data is valid.
3. Data display reality and it measure what it intends to measure
4. Data show that data will be the same when measured on repeated times
5. Accuracy shows that there are no mistakes made in collecting data or mistakes made are within a specified range.

Explain

- Response three (3) explains what data validity is and thus is not different from response two (2).
- Response four (4) explains what data reliability is and thus is not different from response one (1).

Step 8: Ask participants what is the definition of accuracy in HMIS procedural manual

> *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 file*

After discussing the participants' responses **conclude**:

> *Data accuracy indicates whether mistakes are made while counting entries in the registers and transferring them to database and reporting forms. It could also occur when transferring data in reporting form(s) into district database.*

Step 9: Ask participants to list reasons for emphasizing data accuracy and conclude that if the data is inaccurate then

- **Analysis will yield incorrect conclusion**
- **Errors that seems small at facility level can become very large when aggregated at district or other levels**

Step 10: Ask participants, how could timely and complete data still be of undesirable quality?

Yes, if the data accuracy is low then data quality will be undesirable despite the data are submitted on time and all date elements are filled.

[1] District /HSD Procedures Manual, (2004) Chapter Introduction; page 2; Vol. 3, HMIS, Ministry of Health, Uganda

Describing Standards of Data Quality

Now that consensus has been reached on criteria for defining data quality, we need to define our expectations, standard or targets of timeliness, completeness, and accuracy. These standards, target should be defined in such a way that they are measurable.

Step 11: Ask participants why it's inappropriate to use such terms as "poor" or "good" to define quality, and then take a few minutes to discuss why it is not enough to define data quality as good or poor.

Some possible answers could be:

- "Poor" and "good" lack specificity and could have different meanings for different people.
- Need a reference point for agreement.
- Need to specify magnitude of the problem.
- No time period.
- No location.
- No opportunity for improvement.

Step 12: Discuss why we need to define the problem in quantitative terms.

Some possible answers could be:

- Helps to know magnitude/size of problem;
- Need to know how much could be changed, i.e., setting targets, testing hypotheses of correlates of problem, testing intervention success. HMIS is based on quantitative data, other?

Step 13: Ask participants to define problem of data quality in quantitative terms.

Step 14: Conclude with the following definition examples:
Standards at district level
90% of the facilities should submit the monthly reporting forms on time on monthly basis in district AA
90% of the facilities should submit monthly reporting forms where 80% of the data elements are filled in district AA
90% of the facilities should have 80% data accuracy in district AA

Standards at facility level
90% of the monthly reporting forms were submitted on time in quarter 1 in facility A
90% of the data elements in monthly reporting forms were filled in facility A in each month
80% of the reported data is accurate in monthly report in Facility A in each month

Data accuracy reached 40 percent in facility ABC in July 2003, indicating a gap of 60 percent for achieving 100 percent accuracy in facility ABC.

Activity III: Causes of Gaps in Data Quality

Time: 1hr 25 minutes
Materials: Flip chart, markers
Handout #1: Cause-and-Effect Diagram

Objectives

By end of activity, participants will be able to:

- Identify causes of gaps in data quality;
- Learn to develop a cause-and-effect diagram; and
- Differentiate between individual and contextual causes.

Step 1: Describe Situational Analysis and audit report results.

Situation analysis showed:

- That 38 percent of facilities have both a register and a monthly report;
- That data accuracy reached only 30 percent;
- That 40 percent of participants were not able to calculate the percentage/rate of accuracy while their confidence level exceeded 80 percent, indicating a gap between perception and actual performance;
- That 40 percent of participants were able to plot data while their confidence level exceeded 80 percent, indicating a gap between perception and actual performance;
- That 78 percent of facilities received at least one supervisory visit the last year; and
- That 43 percent of facilities reported receiving district feedback.

Step 2: Implementing a Causal-effect Analysis

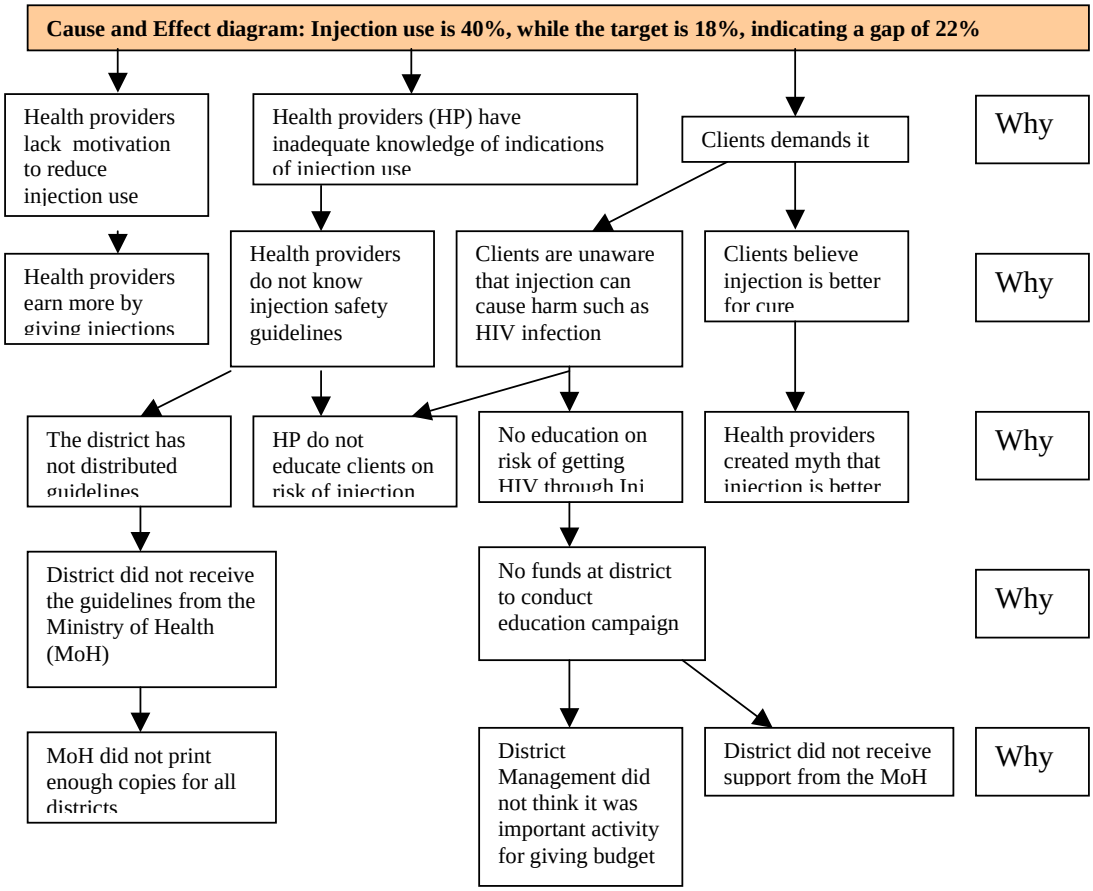
Re-emphasize that this training is about empowering staff to do better, empowering them to articulate what is required to improve your performance related to HMIS tasks. The causes could be related to personal improvement in knowledge and skills as well as working conditions and resources required to improve data quality and information use.

Understanding causes of the problem is a step towards identifying opportunities for solving a problem. We want you to learn the skill to identify causes in a systemic way. The method for doing that is called cause and effect analysis. The identified problem is labeled as an effect and we want to know what causes that effect. We start with what are immediate causes of the problem. Then, we further explore causes of the causes. After identifying second level of causes, we repeat the same process till we reach a saturation point where we could not find any further causes. Other reason to stop is that we have identified sufficient causes which could help us in better understanding of the problem. The rule of thumb is that we should have five rounds of asking why that provides enough causes to understand the problem better and think about the solutions.

Let's take an example of why injection use is 40%, while the target/standard is to keep it at 18% level. We ask question why injection use is high and get the answer that probable cause could be clients demand it, inadequate knowledge of the indications of injection and lastly, health providers have less

motivation to reduce injection use. These are the immediate causes affecting health provider behavior of giving more injections than required. We want to know more why health providers have inadequate knowledge, why clients demand injection and why there is lack of motivation.

Exploring why clients demands it, we come to know that it is because of the clients' beliefs in injection efficacy for cure or clients are unaware of the risk of contracting HIV. Why clients believe that injection is effective because health providers tell them so for justifying their use of injections. We stop here as we know the main reason of clients' belief. Similarly, we end our exploration when we know the reason that lack of motivation is due to the incentive for earning more by giving injections. However, we still are unclear why clients are unaware of the injection use as risk factor for HIV.



Exploring further we find the probable cause could be either there is no education campaign by the district health department or the health providers do not educate clients on risk of HIV infection through injection. The district health department did not conduct an education campaign because its management team did not consider it an important activity, and therefore did not allocate any funds for it. The district also did not receive any support to carry out education campaign because it received no support from the Ministry of Health. "We stopped going further when we reached that point when we could not find cause for action. For example, if health providers earn more money, or why did the district allocate no budget?

Some responses could be

- List of causes
- Identify causal relationship
- Location of causes
- Opportunities for interventions

Step 3: What do we learn from developing a cause & effect diagram?

List of causes: We have developed a diagram which provides us with a comprehensive picture of what is causing what, and ultimately effecting the problem. Is it due to lack of knowledge and skills of staff? Is it because of materials like resources, equipment, forms, registers, etc., are not available? Is it because the responsibilities are not distributed properly? Is it because the process of carrying out a task is not clear?

Identify causal relationship: It provides us information what are the direct or immediate causes and what are the indirect causes affecting the problem. What is the inter-relationship between direct and indirect causes?

Location of the causes: The diagram is useful in locating where the cause lies. Is it at facility, district or national levels?

Opportunities for intervention(s): Since we know the causes, their inter-relationship, and their locations, opportunities exit to develop where to intervene and what types of interventions would be feasible.

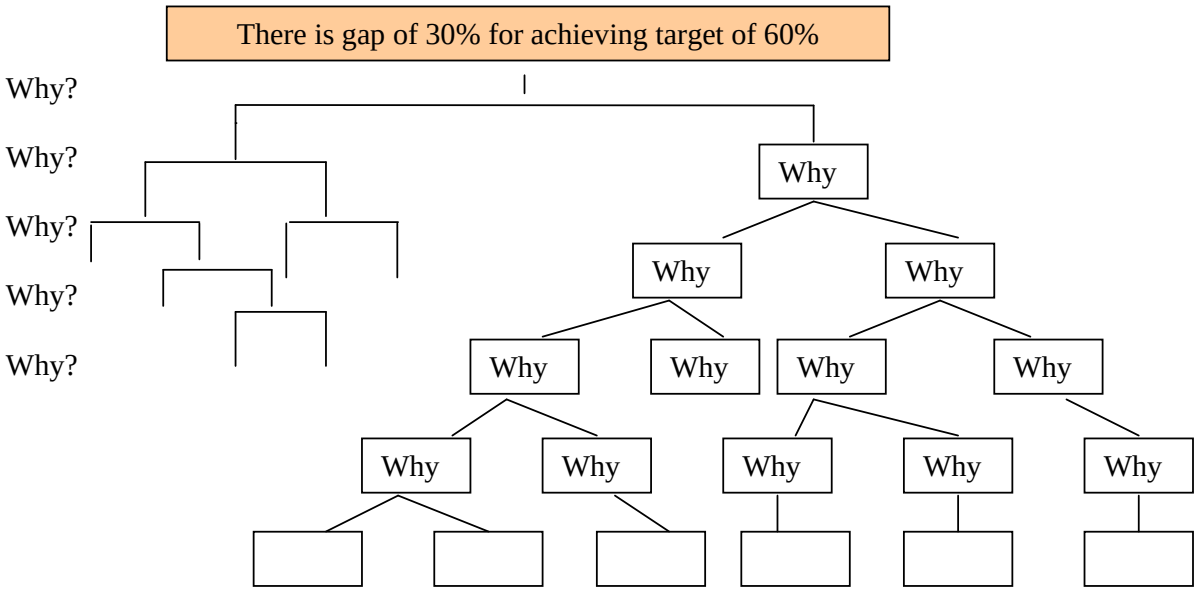
Now we would like you to carry out the exercise and learn how to develop a cause and effect diagram for quality data.

Step 3: Exercise:
Work in groups of five to brainstorm on causes of gaps in data quality (incompleteness, inaccuracy and un-timeliness) and develop a cause-and-effect diagram.

Instructions for developing cause-and-effect diagram:

1. Write the problem at the facility level at the top of the diagram.
2. Brainstorm to identify the immediate causes contributing to the problem and list them under the problem.
3. Consider causes and effects and what causes them and write them down.
4. Repeat the process three times in order to chart major causes of the problem and their effects and root cause(s).

Step 4: Ask why each effect exists. Ask "why" five times to identify the root cause for several causes. After five circles of asking "why," we assume that we have enough causes to understand the problem fully and do not need to go further.



Step 5: Ask participants to look at their hand-outs and diagrams. The cause-and-effect diagram helps identify immediate and distant causes of poor data quality. Other factors or causes influence the immediate cause(s). **So** the cause becomes an effect.

Step 6: Ask participants to share their cause-and-effect diagram for gaps in data quality.

Activity IV: Criteria for Priority Setting for Causes

Time: 30 minutes
Materials: Flip chart, markers, handouts

Objectives

By end of activity, participants will be able to:

- Develop selection criteria for choosing causes to be addressed; and
- Apply criteria to select one or two cause(s) for developing a solution for improving data quality

Step 1: (10 minutes) Ask participants to list criteria for setting priorities for choosing causes of the problem.

Possible criteria could be:

- Impact of cause–level of impact might determine degree to which problem is resolved.
- Immediacy of cause
- Individual versus contextual factors
- Confidence to address the cause
- Simple versus complex cause
- Easy versus difficult to address
- Urgency of cause
- Interest in addressing cause
- Other

Step 2: (5 minutes) Check whether participants mentioned causes related to their own responsibilities.

Emphasize causes related to participants' responsibilities at health facility. Explain that causes related to individuals' responsibilities are important as they immediately affect the problem. Moreover, individuals may have the power to eliminate the causes.

Step 3: (15 minutes) Based on selection criteria, select two problems that relate to insufficient skills in checking data quality and motivation to carry out HMIS tasks.

Session 3: Skills for Checking Data Quality

Objectives

By end of session, participants will be able to:

- Describe means of checking data quality;
- Check data quality;
- Use LQAS table for checking level of data accuracy

Activity I: Means of Checking Data Quality

Objectives

By end of activity, participants will be able to:

- Identify means of checking data quality;
- Differentiate between census and sample;

Step 1: Discuss means of checking data quality.

Note that some ways of checking data quality include:

- Observation of the service provider for correct diagnosis and documentation;
- Comparison of monthly report with registers;
- Comparison of generated data with other source of data;
- Data entry problems– numbers which are unusually high or low raise concern and need to be checked
- Internal consistency–comparison of number of patients and medicine use; and
- Historical comparison.

Step 2: Inform participants that we will concentrate on developing skills for checking transfer of data from registers to monthly reporting form.

This is where each one among us can easily identify

Step 3: Point out to participants that they are responsible for making sure that the transfer of data from register to monthly reporting form is accurate.

Who among the participants has ever signed on the summary forms for transfer to a higher office?

Please note that you have tally sheets in your procedure manual for aggregating data from registers. We urge you to use them.

Step 4: Ask participants what is not provided for checking data accuracy.

> **Ask HMIS focal persons if they have ever witnessed the boss signing the forms? How long does it take?**
>
> **What is not provided:**
> - How to know that mistakes were made in transferring data from registers to the monthly reporting form;
> - How many mistakes were made; and
> - How much confidence we have that the assessment of mistakes is correct.

Step 5: Ask participants how they might know that mistakes were made.

By comparing what is in the registers and what is in the monthly reporting form.

Step 6: Ask participants how they might know how many mistakes were made.

The simple answer is. . . .

Check all data points to know how many mistakes are made (or other answer as appropriate).

This is what is called census audit of all forms. It will also take care of question of level of confidence, as all data points are included.

Note that the monthly reporting form has more than 200 data points. It will be time-consuming and inefficient to check all of them. What therefore is the next step? One possibility is to check a percentage of data points to draw conclusion about the whole.

Activity II: Using Lot Quality Assurance Sampling (LQAS) to Measure Data Quality

Time: 30 minutes
Materials: Hand-outs on LQAS table

> **Objectives**
>
> By end of activity, participants will be able to:
> - Use an LQAS table for checking the level of data quality.

Step 1: Describe characteristics of LQAS.

Based on random sampling;

- Requires a small sample that is easy to collect at low cost;
- Provides information on whether a target is met;
- Provides an estimate with statistical precision or an error rate;
- Helps in setting target; and
- Helps in monitoring and assessing progress toward target or making comparison over time.

Decision Rule–A number that provides the limit for making mistakes, allowing an assessment of whether a target is achieved.

Step 2: Ask participants to look at the LQAS table and discuss how it may be interpreted (see Hand-out #3).

Step 3: Ask participants to look at the table and describe what is in the extreme left column.

Answer:. It describes sample sizes for LQAS from 12 to 30.

Step 4: Ask participants to look at the table and describe what is in the top row of the table.

Answer: It describes the target ranges from 10 to 95 percent (data quality targets)

Step 5: Ask participants what the numbers between the top row and extreme left column stand for.

Answer: These numbers are decision rules.

For each sample size and target level, there is a decision rule. A decision rule tells you how many correct answers you need to reach a certain target based on a certain sample size. The numbers in the table are decision rules and provide information about where you stand regarding a specific target.

> For example, if you decide that your data accuracy should be 70 percent and you use a sample size of 12, the decision rule is seven; that is, seven or more matches between registers and monthly report are needed to say that 70 percent of the data accuracy target is achieved or that only six mistakes occurred from 12 randomly selected data points.
>
> However, if the sample size increases to 15 while the target of 70 percent remains unchanged, then decision rule would be nine, indicating. . . .
>
> Similarly, if the sample size is reduced to 12 while target increases to 80 percent, then the decision rule would be 8, indicating. . . .
>
> If the sample size increases to 15 while the target of 80 percent remains unchanged, then decision rule would be10, indicating. . . .

Now that you have learned how to determine the decision rule, let’s do an exercise on checking data quality.

Activity III: Checking Data Quality

Time: 45 minutes
Materials: Hand-outs on registers
Monthly report
Data quality checklist
Instructions for participants

Objectives

By end of activity, participants will be able to:

- Check data quality.

Step 1: Conduct data quality check at facility level. We are checking how many mistakes are made during the transfer of data from registers to monthly reporting forms. Thus, you need various registers, a monthly reporting form, and a data quality checklist.

For this exercise, we have provided you with:

Copies of outpatient, child, antenatal/postnatal, and family planning registers;
A monthly reporting form; and
A data quality checklist.

Step 2: Explain the data quality checklist (Hand-out #3).

Ask participants to look at the data quality checklist (Hand-out #3). It has four columns as follows:

The first column is for entering 12 randomly selected data items that may include total number of patients under age five, DPT III immunizations for birth to 11 months, number of women receiving condoms, and so forth.

The second column is for copying numbers from the monthly report for the selected data items.

The third column is for entering calculated numbers from the registers on selected items.

The fourth column is for checking whether the monthly report number matches the calculated number. If it matches, enter “yes”; if it does not match, enter “no.”

Look at the last row, which provides the total number of matches and mismatches.

Step 3: Explain the monthly report form with numbers (Hand-out #4).

You submit report with some numbers and that is how it looks

Step 4: Explain registers (Hand-out 5).

Please look at the outpatient register to see how you enter information on patients. We have provided some numbers under the columns headed:
Age;
Sex (M/F);
New attendance;
Re-attendance; and
New diagnosis–diarrhea, malaria, pneumonia, tuberculosis suspected, urinary tract infection.

Please look at the child register to see how you enter information on children. We have provided some numbers under the columns headed:
Sex (M/F);
Age–please note that rather than providing date of birth, we have entered the age in months in order to eliminate the need for age calculations;
DPT doses–1, 2, 3; and
Receiving Vitamin A.

Please look at the antenatal register to see how you enter information on the women visiting your clinic. We have provided some numbers under the columns headed:
Age; and
Tetanus doses–1, 2.

Please look at the family planning register to see how you enter information on clients. We have provided some numbers under the columns headed:
Age;
New users;
Re-attendance;
Other oral;
Condom; and
IUD.

Checking Data Quality

Hand-out #6
Tasks

Select randomly any 12 data points—with numbers-- from the monthly report form. Enter them into the first column of the data quality check.

Copy the number from the monthly report form into the second column of the data quality checklist under the heading of monthly report.

Calculate the total number of selected data items and enter that number into the third column of the data quality checklist, under the heading register.

If the numbers are same in columns 2 and 3, enter “yes” in column 4, otherwise “no.”

Calculate total matched and mismatched numbers and write under row of total. Total matched numbers are the accurate number.

Check on the LQAS table on a sample size of 12 and total correct answers. What level of accuracy was reached?

Share with others the number of mistakes made and the level of accuracy based on the LQAS table.

Session 4: Solution Development for Improving Data Quality

Activity I: Solution Development

Time: 30 minutes
Materials: Flip chart, markers, hand-outs

Objectives

By end of activity, participants will be able to:

- Develop selection criteria for choosing solution(s), and
- Apply criteria to select one or two solution(s) for implementing data quality improvement.

Step 1: Ask participants to work in five groups. Take 15 minutes to develop solutions for checking data quality and improving motivation, write them on flip chart, and present them to the group.

Participants probably will not offer many solutions for improving skills for checking data quality, thus eliminating the need for further discussion. It is, however, useful to spend time developing [D32]solutions for improving motivation for data quality. Therefore, focus on individual motivation to improve data quality.

Exercise:

Brainstorm to develop solutions for improving knowledge, skills, and motivation. Encourage creativity and explain that it is important to develop ideas; there are no right and wrong ideas.

Step 2: (10 minutes total, 2 minutes per group) Group Presentation.

If participants have not presented goal setting as an option for motivation, explain that goal setting provides focus and motivates people to achieve their goals—whether those goals involve completing a degree, maintaining weight, keeping blood pressure in check, managing stress, flossing teeth every day, consistently using a condom with one's partner, and so forth.

Activity II: Selection Criteria for Prioritizing Solutions

Time: 15 minutes
Material: Flip chart, markers

Step 1: Ask participants to list selection criteria for choosing which solution to implement.

Possible criteria could be:

- Importance;
- Interesting and different;
- Ability to implement the solution; and
- Resources available to implement the solution.

Activity III: Selecting Solution for Implementation—Applying Criteria

Time: 30 minutes
Materials: Hand-out #2

Hand-out #2: Instructions for exercise

1. Enter criteria in first column.
2. List solutions.
3. Ask participants to vote for every solution and criterion on a scale of 1 to 3.
4. Add the total in each cell.
5. Add the total for each column.
6. Select the solution with the highest score under the column.

Criterion	**Solutions for Improving Motivation for Data Quality at Facility Level**			
	Solution 1: Goal Setting	**Solution 2:**	**Solution 3:**	**Solution 4:**
Important				
Ability to implement solution				
Resources available to implement solution				
Total				

Summarize: You have selected skills for checking data quality at the facility level and for motivating people to improve data quality. We will now work on those two problems.

MODULE III: IMPROVING INFORMATION USE

Session 1: Goal Setting – A Tool for Improving Data Quality

Activity 1: Goal Setting as a Motivating Tool for Improving Data Quality

Time: 15 minutes
Materials: Flip chart, markers

Objectives

By the end of activity, participants will be able to:

- Use goal setting as motivation tool;
- Learn criteria for setting goals;
- Use LQAS for monitoring achievement of goals;
- Develop monitoring chart by using LQAS; and
- Prepare action plan for monitoring solution activities.

Step 1: Introduce goal setting.

Everyone has some ideals or a goal in life. An ideal is a reference point to judge whether you making progress in achieving your goal. It helps foster motivation for taking action or developing strategies to achieve a goal. It helps people focus their energies and resources. Achieving a goal improves confidence and is a prerequisite for setting and achieving other goals.

Ask participants if they develop a goal for achieving something. Yes or no.

Discuss with participants the reasons for not developing goals and write them on the flip chart.

Provide counter arguments by asking those who said that goal setting is important.

Emphasize the role of goal setting in the workplace.

Take five minutes to discuss and create consensus on the importance of goals in the workplace and the importance of taking responsibility for achieving those goals.

Summarize how goal setting is important for improving data quality by stressing that maintaining data quality is the individual's responsibility. Thus, data quality as a goal is a prerequisite to maintaining it.

Activity II: Criteria for Setting Goals

Time: 15 minutes
Material: Flip chart, markers

Step 1: Ask participants about the appropriate criteria for goal setting—not too high, not too low, but enough to motivate change and instill confidence to achieve change.

Step 2: Let's set a goal for improving data quality. Data accuracy at my facility would improve from 30 to 60 percent by the end of three months. As rule, use a 30 percent difference from baseline as a target or goal, as such change is easy to detect with a small sample such as LQAS.

Activity III: Monitoring Achievement toward Goal

Time: 30 minutes
Material: LQAS table, graph paper, pencil

Step 1: How do you know that you are improving data quality from 30 to 60 percent in three months?

Compare current data quality with target.
Compare data quality from previous month.

Exercise:
Develop a monitoring chart that displays targets and a decision rule for achieving targets on an LQAS sample of 12 by the end of three months. Ask each participant to do the exercise on his or her own.

Share the answer sheet (graph appears later) and ask participants to indicate whether their answer was correct. Collect the participants' work and use it for evaluating how many participants did it correctly.

Step 2: End the session by asking how frequently participants would like to conduct a quality check when they return to their workplace and why.

Suggestion: Keep in mind that data quality is only 30 percent. The frequency of data checks should be monthly for three months following the training, bimonthly for four months, and then every three months thereafter. Provide appropriate guidelines.

Hand-out #7–Develop Monitoring Chart

Write your name –

Exercise: Develop a monitoring chart displaying targets and decision rules for achieving a target on an LQAS sample size of 12 by the end of three months.

Ask each participant to do the exercise on his or her own.

Instructions:

1. Divide target for each month.

2. Select a sample size of 12 to check data quality at facility level.

3. Use LQAS table to locate decision rule for attaining target for each month for a sample size of 12.

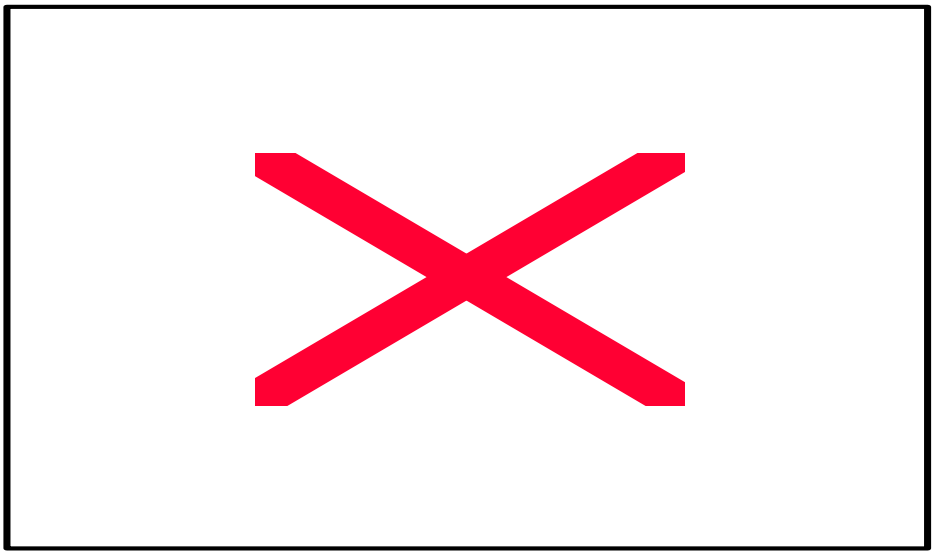
4. Plot the target and decision rule on the graph provided.

100									
90									
80									
70									
60									
50									
40									
30									
20									
10									
0									

Module II Improving HMIS Data Quality

Hand-out #7–Develop Monitoring Chart

Answer sheet



Activity IV: Developing Action Plan for Achievement of Goal

Time: **30 minutes**
Material: **Action Plan Hand-out**

Ask participants to develop an action plan for achieving the goal for improving data quality.

Hand-out #8

Instructions:

1. Use the following table for developing action plan.

2. Write in major activities to be carried out for implementing solutions.

3. Write in the date for completion of activities.

4. Indicate who will be responsible for carrying out each activity.

5. Enter results.

Major Activities	Date Completed	Responsible Person	Results Achieved: Yes/No

Module III: Improving Information Use

Session 2: Self Assessment to Improve Information Use[H43]

Objectives

By end of session, participants will be able to:

- Articulate their responsibility;
- Set performance standards;
- Conduct self-assessment; and
- Develop and action plan.

Activity I: Explain Self-assessment

Time: 30 minutes
Materials: Flip chart, markers, hand-outs
[D44]
Step 1:(10 minutes) Discuss the following questions and write responses on the flip chart:

What is my facility team responsible for in relation to health services?
Responses could be utilization, coverage, quality, disease surveillance, data collection.

Are the responsibilities considered criteria for your performance appraisal?
Responses should be yes/no; should be or should not be. Discuss reasons.

Does the monthly HMIS report tell you about your performance?
Responses should be yes/no; discuss.

What should be the reference standard for my facility team performance
Responses could be against country, district, county, or self.

Step 2: Explain the steps of self-assessment by citing an example.
Ask participants to read the case study and to note some of the important concepts: She took the use of HMIS data as a serious responsibility. She felt accountable. In the absence of guidelines from the district office, she took it upon herself to do something. She showed initiative. She used problem-solving techniques to look at the cause, develop a solution, set a goal, develop an action plan, implement the plan, and monitor her progress for achieving the target.

Thus, self-assessment is about knowing where you stand in relation to your given goal or target. Nobody has to tell you what you need to do. You take responsibility for the task given to you and carry it out diligently. You need to devise means to know that you are doing the job according to expectations, especially your own.

Module III Self-Assessment Using HMIS Data

Activity I: Explain Self-Assessment

Materi[D45]al: Hand-out #9

Dr. Sarah was recently transferred to Kumali Health Center. Looking at the HMIS monthly report, Dr. Sarah noticed that only 10 pregnant women had come to the health center for delivery in the last month. Using the population chart, she calculated that (total population 10,000 x 0.04 in the quarterly report) 400 women should be expected to be pregnant in any year. Accordingly, every month she should see (400/12=33.3) 33 pregnant women. However, only the aforementioned 10 pregnant women presented for delivery, indicating coverage of 30 percent.

Dr. Sarah was not sure about whether her facility coverage was good or bad. She did not receive any guidance from the district office as to her coverage for pregnant women delivering at the facility. She did not know if she should be content with the number of women coming to the health center for deliveries or should make an attempt to improve the number. She also thought that women whose deliveries are assisted by an untrained attendant have a high risk of developing complications or dying. She felt a great sense of responsibility to motivate pregnant women to come to the clinic for delivery.

She decided that she could not make 100 percent of pregnant women come to the clinic but recognized that doubling the number of pregnant women seemed an achievable goal. First, she defined the problem of pregnant women coming for deliveries as a gap of 30 percent from achieving coverage of 60 percent. Second, she tried to identify the reasons (causes) why more women were not coming to the clinic for delivery. She knew that the antenatal/postnatal register provided information about the residence of the women. She found that a majority of the women were coming from closer villages but discovered no evidence that distance was the only reason that women were not coming to the clinic for delivery. She decided to hold a meeting of staff and community leaders to identify more reasons.
The staff thought that:
Women are illiterate;
Women do not understand the benefits of delivering at a health center;
Mothers-in-law are opposed to health centers for delivery;
The traditional practice of delivering at home ruled out clinic deliveries; and
The cost of delivery at a health center was beyond the means of many women.

Community leaders thought that:
Staff are too proud and do not behave properly;
Waiting time is long;
Staff are absent or inadequate; and
Medicines are not available.

Dr. Sarah decided that she could not change everything. She urged her staff and community leaders to help her prioritize causes that they could address. Using criteria that first focus on the reasons within the facility and focus next on the community, the group decided to work with the clinic staff to improve their attitude toward clients. Second, the group decided that Dr. Sarah would conduct community awareness meeting with mothers and community leaders. She would collect IEC material from the district to use for community awareness**.**

Dr. Sarah set a goal of receiving 20 pregnant women for delivery each month and using a monthly report to monitor whether she met her target. In addition, Dr. Sarah and her staff developed an action plan and distributed responsibilities to various staff members. After two months, Dr. Sarah noticed that 15 women delivered in her clinic. She was pleased that her efforts made a difference. She appreciated the staff's efforts and congratulated community leaders for their assistance. She reviewed with staff and the community what was working and what needed to be changed. This is the success story of Dr. Sarah. We would like you to become an example for others as well.

Activity II: Self-Assessment–Doing It Yourself

Time: 60 minutes
Materials: Flip chart, markers

Step 1: Divide participants into three groups (six participants in each group).

Step 2: Distribute a problem scenario and ask the groups to solve the problem. The exercise takes one hour. The groups make 10-minute presentation and evaluate the presentations with an observation checklist.

Clue: Use knowledge and skills learned in earlier sessions.

Hand-out #10

Scenario 1: Dr. Mogambe received a feedback report from the district office that his immunization coverage for DPT3 was below the district average of 50 percent. He was asked to take action to improve immunization coverage within his target population. Please discuss what steps Dr. Mogambe needs to take for improving immunization coverage within his target population.

Scenario 2: Ms. Flavia received the HMIS monthly report from her staff. She noticed that only 20 pregnant women came to the health center in the last month for antenatal check-ups. Using the population chart, she calculated that (total population 10,000 x 0.06 in quarterly report) 600 women should be expected to be pregnant in a year. Accordingly, she should expect to see (600/12=50) 50 pregnant women every month. However, she received only 20 pregnant women for delivery, indicating coverage of 40 percent. Please discuss what Ms. Flavia should do to improve her coverage to 60 percent in three months.

Scenario 3: Dr. Moreen observed in her monthly report that 100 cases of malaria presented at the clinic last month. She thought that she had never before seen so many cases of malaria. She thought that she might be dealing with a typing error. She was not sure how many other mistakes were in the monthly report. By using an LQAS table, she conducted a data audit and found that her monthly data accuracy was below 50 percent. Please discuss what steps she should take to conduct data quality checks and how she could improve data quality to above 60 percent in one month.

Activity III: Presentation by Groups and Feedback by Audience
Time: 30 minutes
Material: Hand-out

Hand-out #11

Distribute the following checklist to participants for providing feedback to the presenters. What is the total score, and which steps were missed?

Did they:	Yes	No
1. Define the problem quantitatively?		
2. Discuss causes?		
3. Prioritize causes for developing a solution?		
4. Develop a solution(s)?		
5. Prioritize solutions by using criteria?		
6. Develop a goal/target for monitoring?		
7. Describe use of HMIS data for monitoring?		
8. Describe the use of LQAS for measuring progress?		
9. Develop an action plan for implementation?		
10. Describe use of HMIS data for monitoring?		
Total		

Module IV: District Feedback Report

Session 1: Feedback, Strengths, and Weaknesses

Objectives

By end of session participants will be able to:

- Identify the strengths and weaknesses of the current feedback report;
- Understand and use comparison as a means of motivation/ behavioral change;
- List what variables are available in the monthly data file, including population data for use as denominator for calculating indicators;
- Check data quality by finding errors in data entry;
- Develop indicators;
- Describe existing situation by using frequency tabulation;
- Conduct comparative analysis among facilities and across time; and
- Learn to write a feedback report.

Objectives

By end of session, participants will be able to:

- List what should be in a feedback report;
- Identify the strengths and weaknesses of the current feedback report; and
- Understand and use comparison as a means of motivation/ behavioral change.

Activity 1: What Should Be in District Feedback Report? District and Facility Perspective

Time: 30 minutes
Material: Flip chart, markers, 3 x 5 sticky cards

Inform participants that they should discuss all the information that they, as district focal persons, would like to include in the district feedback report. What would the facility in charge like to see in the feedback report? Divide participants into two groups: district group and facility group.

Step 1: Ask participants in the district group to answer the following: What specific information does the district want to convey in a feedback report to facilities?

Ask participants in the facility group to answer the following: What specific information does the facility want to see in a feedback report?

Ask both groups to write on a sticky card one topic that they think the feedback report should cover.

Ask both groups to post their responses under the district and facility cards that the facilitator has posted on the wall. Give participants five minutes to write their responses.

Some responses could be:
Information tells me where my facility stands in comparison to other facilities with respect to various indicators (participants might provide details of indicators).
Information tells me where my facility stands in comparison to district targets/standards.
Information tells me whether my performance has improved over time.
Information tells me that I need to improve my performance.

Step 2: Ask participants what information is common in both groups and post it in a separate list. Discuss the importance of the information as criteria for a good feedback report. Discuss why it is not enough to talk only about timeliness and completeness.

Step 3: Discuss differences in groups and conclude that it is important that both groups share their expectations with each other. Ask participants if they could agree on some information to be shifted to a common information group.

Step 4: Emphasize social comparison as means for motivation/change. What could be its repercussions? How could they [D50]be resolved?

Step 5: Ask participants how they can use the information as criteria for assessing the strengths and weaknesses of the existing feedback report.

Activity II: Strengths and Weaknesses of the District Feedback Report

Time: 30 minutes
Material: Flip chart
Markers
3 x 5 sticky cards

Inform participants that they will first identify strengths and weakness of the existing feedback report and then make comparisons with the criteria listed in the first activity.

Step 1: Ask participants to write one strength and one weakness on a sticky card and post each card on the wall under the strengths and weaknesses cards.

Step 2: Ask participants to group similar responses.

Step 3: Ask participants if they can categorize groups of responses.

Step 4: Ask participants to compare their own categories with the commonly agreed-upon information that is part of the feedback report as specified in an earlier activity.

Step 5: Conclude that weaknesses need to be addressed. Lead to the next activity based on participants' suggestions for improving the feedback report.

Activity III: Suggestions for Improving District Feedback Report

Time: 15 minutes
Material:

Step 1: Ask participants to list their suggestions for improving the feedback report, focusing on weaknesses and ideal standards.

Step 2: Create consensus that the following should be part of the feedback report:
Information on completeness and timeliness;
Information on data quality and error rate;
Information telling me where my facility stands in comparison to other facilities on various indicators (participants might provide details about indicators);
Information telling me where my facility stands in comparison to
TT2 than the other.

It does not tell whether the facility reached its monthly target of TT2.

It does not tell whether TT2 coverage increased from the previous month

We will answer the first two questions and will tackle the other questions during comparative analysis.

The frequency table of raw numbers could tell you something about data quality when numbers are not in accord with your expectations, such as TT2 given to 50,000 pregnant women and you know that there not 50,000 pregnant women in the district. This method depends on your knowledge and is thus subject to error.

Step 7: Ask participants what other objective ways we could check data quality.

After taking responses, conclude that the raw data should be converted into indicators.

Example:
For converting raw numbers into an indicator, you have to create a new variable. You need the following:

- The variable with a raw number-- for example, DOSE2; and
- The variable for the target group--for example, all pregnant women in a specified geographic area, which is the target population for the health facilities. Usually, such a variable represents pregnant women in one year. Thus, for calculating pregnant women by month, the variable has to be divided by 12.

Note that many districts do not include a variable in their monthly data file on denominators such as:

- Total pregnant women;
- Children under age one;
- Children under age two;
- Children under age five; and
- Women age 15 to 49.

Therefore, districts were unable to calculate indicators. We discussed that weakness earlier. We take this opportunity to suggest that you enter that variable into the data file for calculating indicators.

- District targets;
- Information telling me whether my performance has improved over time; and
- Information suggesting where my performance needs improvement.

Activity IV: Writing about Health Situation Using Tables Created Earlier

Time: 30 minutes
Material: Computer

Step 1: Write two paragraphs discussing the following:
Level of data quality for each indicator; and
Coverage level of each indicator.

Step 2: Before writing the report, summarize the information in a table. The following provides a model:

Table: Coverage of Selected Services by Facilities and Overall District Average					
Name of Facility	**TT2CR**	**DPT3 under 2**	**Malaria under Age Five**	**New User of Family Planning**	**Deliveries in Health Facility**
Total for District					

Module IV: District Feedback Report

Session 2: What is Comparative Analysis?

Time: 90 minutes
Material: Computer W/EPIINFO
Data File, Code Sheet
Commands for Accessing and Analyzing Data

Objectives

By the end of session, participants will be able to:

- Conduct comparative analysis among facilities;
- Conduct comparative analysis across time; and
- Provide feedback to improve performance.

Activity 1: What Is Comparative Analysis?

Time: 30 minutes
Materials: Flip chart, markers

Step 1: Ask participants to note some of the benefits of comparison and list responses.

Step 2: Can comparison be used as a motivation for improving HMIS practices?

Step 3: Summarize participants' responses and conclude by saying that we arrived at a consensus earlier indicating that the following information is essential for feedback:
Information telling me where my facility stands in comparison to other facilities with respect to various indicators (participants might provide details on the indicators);
Information telling me where my facility stands in comparison to district targets;
Information telling me whether my performance has improved over time; and
Information to improve my performance.

Step 4: To have an objective and transparent comparison, we need to have criteria/standards against which a comparison should be made. Do we agree on that?
What, therefore, should be the standards for comparing facilities and across time? Some responses could be:
Standards set by central government;
Standards set by district;
Historical standards--using past performance as a standard; and
Overall average or median--using overall average or median for the district as a standard.

State if other standards do not exist, it is better to use overall average or median as the standard for comparison. Nonetheless, an overall average is weak because it could be affected by extremely high or extremely low values while the median is robust, as it is not affected by extremes, and divides the total into below and above 50 percent.

Last evening, we prepared a table that provided information on different indicators and comparisons among facilities. What is the major weakness of those comparisons?
We did not have a standard against which to compare our indicators.

Activity 2: Where Do Facilities Stand in Comparison to the District Average?
(comparing coverage among facilities)

Time: 10 minutes
Material: Hand-out

Step 1: The cross table between facilities and a specific indicator provided us with an overall average for the district (all children immunized for DPT3 or all pregnant women delivering in health facilities divided by, respectively, all children under age two or all pregnant women in the district). We will use that overall average for comparing where each facility stands in comparison to all other facilities in the district.

However, we need our data. We will carry out the same steps that we completed yesterday to access our data files and program files.

Step 2: Run your program file. It will provide you with the same tables generated earlier.

If you did not enter the district averages yesterday, use this opportunity to enter them.

Step 3: *Exercise:* Enter the district average below each indicator and compare facilities that were below and above average. Circle those that were below average.

HAND-OUT

Table: Facilities above Average on Selected Services by Facilities and Overall District Average					
Name of Facility	**TT2CRR (standard)**	**DPT3 under Age Two**	**Malaria under Age Five**	**New User of Family Planning**	**Deliveries in Health Facility**
Total for District					

Activity II: Where Do Facilities Stand in Comparison to District Standard?
(comparing coverage among facilities)

Time: 10 minutes
Material: Computer w/EpiInfo
Data file, code sheet
Commands for accessing and analyzing data

Step 1: If you want to use a standard set by the district or central government, then you could use that as a criterion for assessing facilities above and below that standard.

Example:
We will take the example of pregnant women who received TT2. Can you recall the name of that variable?

Yes, the name of the variable was TT2CR. Now we want the variable to be divided into below and above the district average. We therefore must create a new variable to show how many facilities are above and below the average.

Let's say that the name of the new variable is TT2CRR. The variable should be able to divide facilities into two categories of above average and below average. Let's give them a code as follows:
Above district average=1
Below district average=2

To create categories of above and below average and assign codes to them, we must do the following:
Click on If to bring up the screen as in If condition--fill it by selecting ATT2CR.
Click on <= (which means equal or less than) and enter the district standard.
Click on then.
Click on assign.
Click on available variable and select ATT2CR.
Under = expression, enter 1.
Click add to take you back to the assign screen.
The screen under If condition will show ATT2CR<=70, and
under THEN will show ATT2CR=1.
Click on else.
Click on assign.
Select ATT2CR.
Under =expression, enter 2
(it means that all other numbers above standard (70) will become 2).
Click add.
Under else, the screen will show ATT2CR=2.
Click ok.

The program file will show the following command:
Click Freq and select ATT2CR.

att2cr	Frequency	Percent	Cum Percent	
1	20	31.3%	31.3%	
2	44	68.8%	100.0%	
Total	64	100.0%	100.0%	

It will display categories 1 and 2, numbers, and percentages. Category 2 will represent all those facilities above district standard and Category 1 those below the standard.

The frequency table does not specify facility names. For that, we have to cross tabulate between facility variable and the newly created variable of below and above standard (ATT2CR) as follows:

Click on table.
Under exposure variable, select facility.
Under outcome variable, select ATT2CR.

The table will look as follows:

HEALTH	1	2	TOTAL
BUGAYA	0	1	1
Row %	0.0	100.0	100.0
Col %	0.0	2.3	1.6
BUKAYA	0	3	3
Row %	0.0	100.0	100.0
Col %	0.0	6.8	4.7
BULIKA	0	1	1
Row %	0.0	100.0	100.0
Col %	0.0	2.3	1.6
BUSABAGA	1	0	1
Row %	100.0	0.0	100.0
Col %	5.0	0.0	1.6
BUVUMA	1	2	3
Row %	33.3	66.7	100.0
Col %	5.0	4.5	4.7
BUWAGAJJO	2	0	2
Row %	100.0	0.0	100.0
Col %	10.0	0.0	3.1
CHRIST THE KING	0	1	1
Row %	0.0	100.0	100.0
Col %	0.0	2.3	1.6
DDAMBA	0	1	1
Row %	0.0	100.0	100.0
Col %	0.0	2.3	1.6
GOMA	1	1	2
Row %	50.0	50.0	100.0
Col %	5.0	2.3	3.1
KASANA	0	3	3
Row %	0.0	100.0	100.0
Col %	0.0	6.8	4.7
KASAWO	1	1	2
Row %	50.0	50.0	100.0
Col %	5.0	2.3	3.1
KATOOGO	1	0	1
Row %	100.0	0.0	100.0
Col %	5.0	0.0	1.6
KAVULE	1	0	1
Row %	100.0	0.0	100.0
Col %	5.0	0.0	1.6

Ask participants to name the facilities above and below district standard.

Practice:
Ask participants to do the same for other variables and to create a table.

Activity III: Is Facility Coverage Improving over Time (comparing coverage over time)?

Time:
Materials:

Step 1: Now that we know where facilities stand in comparison to the district standard and each other, we would like to know whether facilities have improved their performance over time. This means we need data from earlier months.

For this exercise, we have presented data from three months.

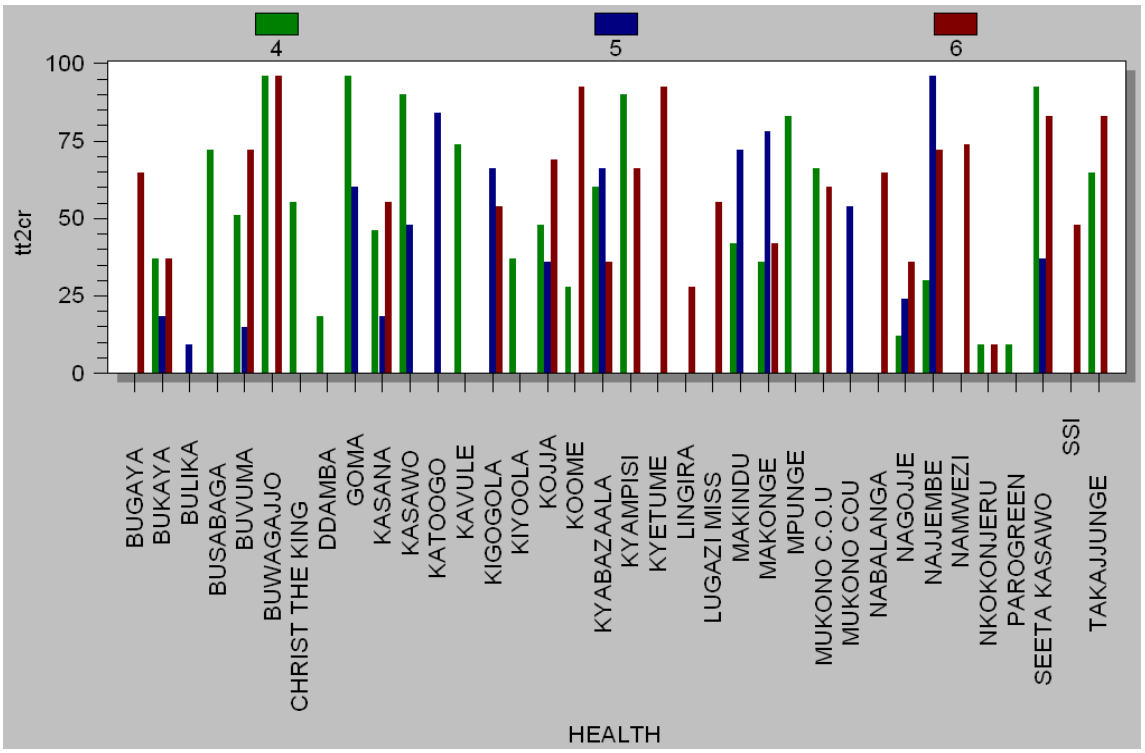
Now we have to select data for months five and six.

The command remains the same as for month four:
Select month=5.
Select month=6.

Step 2: We develop a graph showing whether facilities' TT2 coverage improved over time by graphing health facilities and each month.
Click on graph.
Select type of graph–bar.
Select under X-axis health (for facility).
Select under Y-axis count.
Select under weight variable tt2cr.
Select under series month.
Click ok.

The command under program file will read as follows:
Graph health*month graph type="bar" weight var=tt2cr

The output will show the following graph:



Step 3: Ask participants to describe the graph.
TT2 coverage is presented along Y-axis.
Facility is presented along X-axis.

Month 4 is green.
Month 5 is purple.
Month 6 is red.

Each facility has these three colors showing TT2 coverage in months four, five, and six.

Step 4: Ask participants to interpret graph.
Are facilities improving their TT2 coverage over time?
Which are moving up?
Which are moving down?
Which are maintaining themselves?

Step 5: Time for practice

Activity IV: Practice for Comparing Performance over Time

Hand-out

Instructions:

You already created variables for DPT3, malaria under age five, new family user, and pregnant women delivered at facilities.

Follow the steps for creating a graph between facilities and month (as learned earlier).

2. Develop a graph for other variables over months.

4. Print the result.

Exercise 1: Create graph between DPT3 indicator and facilities by month. List facilities.

Which are moving up?
Which are moving down?
Which are maintaining themselves?

Exercise 2: Create graph for incidence of new cases of malaria under age five for malaria indicator and facilities by month. List facilities.

Which are moving up?
Which are moving down?
Which are maintaining themselves?

Exercise 3: Create a graph for new users of family planning indicator and facilities by month. List facilities.

Which are moving up?
Which are moving down?
Which are maintaining themselves?

Exercise 4: Create a graph for pregnant women delivered in health facilities indicator and facilities by month. List facilities.

Which are moving up?
Which are moving down?
Which are maintaining themselves?

MODULE IV: WRITE A FEEDBACK REPORT YOURSELF

Time: 120 minutes
Material:

Objectives

By end of session, participants will be able to:

- Write a feedback report.

Activity 1: Explain What Should Be in Feedback Report

Time: 15 minutes
Material:

Step 1: There are different ways of writing a feedback report. First, a standardized format facilitates understanding and meeting users' expectations. Second, the purpose of feedback is to support people, improve motivation, and provide guidelines for action. The feedback should be transparent and based on objective criteria so that people are aware of what is expected of them. The feedback should emphasize performance/action. However, before commenting on performance, you should identify strengths and communicate appreciation for efforts to improve performance. Thus, we present a sample format for writing a feedback report.

Step 2: Introduction–Describes what follows in the report and outlines district's perspective on HMIS.

Step 3: Present findings– Performance for the month per selected indicators by facilities.
The selected indicators could be:
Completeness
Timeliness
Error rate
Selected indicators--at least one from
Utilization rate;
HIV/AIDS;
Maternal service;
Contraception; and
Child services.

Step 4: Performance for the month per selected indicators by facilities over previous months

Step 5: Demonstrate appreciation of facilities that performed well

Step 6: Provide guidelines for action
What do facilities below average on certain indicators need to do?
What do facilities below on average on all indicators need to do?

Activity II: Write Feedback Report

Time: 60 minutes
Material:

Based on the format provided, please write the feedback report.

Activity 3: Presentations by Groups

Time: 30 minutes
Material: Overhead projector, transparencies

Concluding Session

Objectives

- Vote of thanks;
- Remarks by participants;
- Remarks by facilitators; and
- Concluding remarks by chair.

Hand-out No.4
With Thanks to- The Authors of Training Manual on LQAS

MODULE V: TRANING MANUAL ON LQAS

LQAS Table: **Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%**

Sample Size*	**Average Coverage (Baselines) / Annual Coverage Target (Monitoring and Evaluation)**																	
	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12
15	N/A	N/A	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13
16	N/A	N/A	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14
17	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	N/A	N/A	1	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16
19	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	N/A	N/A	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
21	N/A	N/A	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18
22	N/A	N/A	1	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19
23	N/A	N/A	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20
24	N/A	N/A	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26

N/A: *Not Applicable*, meaning LQAS cannot be used in this assessment because the coverage is either too low or too high to assess an SA. This table assumes the lower threshold of 30 percentage points below the upper one.

: Shaded cells indicate where *alpha* or *beta* errors are 10%.
: Hashed cells indicate where *alpha* or *beta* errors are 15%.

Hand-out #6

HMSI 031: OUTPATIENT REGISTER HEADINGS AND COLUMN WIDTHS: LEFT-HAND SIDE

USER NUM.	NAME OF PATIENT	RESIDENCE		AGE	SEX M/F	WEIGHT	TICK CLASSIFCATION			DRUG /TREATMENT		
		Village	Parish				New Attendance Case	Re-Attendance	New Diagnosis		Ref. in Num	Ref out Num
1				4m	M		Y		Diarrhea P			
2				1	F		Y		Diarrhea P			
3				25	M		Y		UTI			
4				35	F			Y	TB			
5				3	F		Y		Malaria			
6				12	F		Y		Malaria			
7				4	M		Y		Pneumonia			
8				60	M			Y	TB/ Diarrhea P			
9				45	F		Y		TB/ Diarrhea P			
10				3	M			Y	Diarrhea P			
11				2	M		Y		Diarrhea P			
12				1	F		Y		Pneumonia			
13				4	F		Y		Pneumonia			
14				6	F			Y	Malaria			
15				17	F			Y	TB			
16				22	F		Y		Diarrhea P			
17				18	M			Y	TB			
18				3	F		Y		Pneumonia			
19				4	M			Y	Malaria			
20				3m	M		Y		Malaria			
21				5m	M		Y		Pneumonia			
22				6m	F		Y		Diarrhea P			
23				19	F			Y	UTI			
24				2	F		Y		Pneumonia		Y	
25				21	F		Y		Diarrhea P		Y	

Hand-out #6

HMSI 073: CHILD REGISTER

HEADINGS AND COLUMN WIDTHS: LEFT-HAND SIDE

(1)	(2)	(3)	(4)	(5)	(6)	(7)				(8)		
CHILD NO.	**NAME**	**VILLAGE AND PARISH**	**SEX**	**DATE OF BIRTH**	**DATE BCG**	**DATES POLIO**				**DATES DPT**		
	Child (mother's name):									**1**	**2**	**3**
2 cm	5 cm	4 cm	1 cm	2 cm	2 cm	.5	.5	.5	.5	.5	.5	.5
1			M	1						Y		
2			F	3							Y	
3			F	6								Y
4			M	8								Y
5			M	2							Y	
6			F	1						Y		
7			F	3							Y	
8			F	7								Y
9			M	8								Y
10			F	4							Y	
11			F	1						Y		
12			M	6								Y
13			M	6								Y
14			F	5								Y
15			M	5							Y	

Right-Hand Side

(9)	(10)		(11)			(12)
DATE AND WEIGHT AT MEASLES VACCINATION			**VITAMIN A ADMINISTRATION DATES**			**REMARKS**
DATE OF VACCINATION	**WEIGHT BELOW BOTTOM LINE (2 SD)**	**WEIGHT ABOVE BOTTOM LINE (2SD)**	**6–11 Months**	**12–17 Months**	**18–23 Months**	
2 cm	2 cm		2 cm	2 cm	2 cm	9 cm
1						
2						
3			Y			
4			Y			
5						
6						
7						
8			Y			
9			Y			
10						
11						
12			Y			
13			Y			
14						
15						

Hand-out No.6

HMIS 071: ANTENATAL/POSTNATAL REGISTER
HEADINGS AND COLUMN WIDTHS: LEFT-HAND SIDE

CLIENT NO.	NAME OF CLIENT	VILLAGE AND PARISH	AGE	PARA	LNMP	EDD	TETANUS DOSES					S-P		IRON		FOLIC ACID	
							1	2	3	4	5	1	2	1	2	1	2
1			18				Y										
2			22					Y									
3			25					Y									
4			18					Y									
5			30				Y										
6			32				Y										
7			28				Y										
8			22					Y									
9			23					Y									
10			25					Y									
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

HMIS Form 074 : FAMILY PLANNING REGISTER--HEADINGS AND COLUMN WIDTHS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
CLIENT INFORMATION										AMOUNT OF CONTRACEPTIVE DISPENSED							
SERIAL NUM	CLIENT NUM	NEW USER	RE-ATT	AGE	Lofeminal	Overette	Microgynon	Other Oral	Condom	Foam Tables	IUD	Injectable	Other	Natural	RH Counseling	Other Service	Reasons For Ref
1		Y		35							Y						
2			Y	29				Y									
3		Y		25					Y								
4		Y		20					Y								
5		Y		30							Y						
6			Y	26				Y									
7			Y	27				Y									
8		Y		32							Y						
9			Y	30				Y									
10		Y		28							Y						
11		Y		29							Y						
12			Y	32				Y									
13		Y		20					Y								
14			Y	30				Y									
15		Y		18					Y								
16																	
17																	
18																	
19																	
20																	

Hand-out # 5 HMIS 105
HEALTH UNIT MONTHLY REPORT Page 1

Health Unit
_____ Level

_____ Code _____

District _____ HSD

_____ Month _____,

20 ____

1. OPD ATTENDANCE & LABORATORY TESTS TOTALS FOR THE MONTH

OUTPATIENT ATTENDANCE

Category	0–4years	5 and Over
New attendance		
Re-attendance		
Total attendance	17	10
Referral to unit (all ages)		
Referrals from unit (all ages)		

LABORATORY TESTS

Category	Number of Tests	Number Positive
Malaria blood smear		
TB sputum		
HIV serology		
Syphilis screening		
Pap smear		

2. **OUTPATIENT DIAGNOSES**

Diagnosis	0–4 Years	5 and Over
Notifiable Diseases		
01 Acute Flaccid Paralysis		
02 Cholera		
03 Diarrhoea-Dysentery		
04 Guinea Worm		
05 Measles		
06 Meningitis		
07 Neonatal Tetanus		
08 Plague		
09 Rabies		
10 Viral Haemorrhagic Fever		
11 Yellow Fever		
Noncommunicable Diseases		
33 Anemia		
34 Dental Diseases and Conditions		
35 Diabetes Mellitus		
36 Gastrointestinal Diseases		
37 Hypertension		
38 Mental Illnesses		
39 Epilepsy		
40 Other Cardiovascular Diseases		
41 Severe Malnutrition (W/A <3 SD)		
42 Severe Malnutrition (kwash.,)		
43 Trauma--Domestic Violence		
44 Trauma–Other Intentional		
45Trauma–Road Traffic Accidents		
46 Trauma–Other Nonintentional		
Maternal and Perinatal Diseases		
47 Abortions		
48 Other Complications of Pregnancy		
49 Perinatal Conditions		

Diagnosis	0–4 Years	5 and Over
Other Infectious/Communicable Diseases		
12 AIDS		
13 Diarrhoea–Not bloody		
14 Diarrhoea–Persistent	5	4
15 Ear infection		
16 Eye infection		
17 Genital infection--Urethral discharge		
18 Genital infection–Vaginal discharge		
19 Genital infection–Ulcerative		
20 Intestinal worms		
21 Leprosy		
22 Malaria	6	1
23 No pneumonia--cold or cough		
24 Onchocerciasis		
25 Pneumonia	10	6
26 Skin diseases		
27 Tuberculosis (suspected)	0	7
28 Tuberculosis (confirmed)		
29 Typhoid fever		
30 Urinary tract infections (not sexually transmitted)	0	4

31 Others (nonspecific)		

32 All other diseases (specify)		
Total		

HMIS 105: HEALTH UNIT MONTHLY REPORT - Page 2

3. MCH AND FP ACTIVITIES
ANTENANTAL/POSTNATAL CLINIC

Category	Number
New ANC attendance	
ANC re-attendance	
Referrals from unit	
First dose with S-P (IPT 1)	
Second dose with S-P (IPT2)	
Postnatal visits	
Vitamin supplementation (postnatal)	

MATERNITY

Category	Number
Referrals to unit	
Deliveries in unit	
Live births in unit	
Still births in unit	
Newborn deaths	
Maternal deaths	
Deliveries with TBA	

TETANUS IMMUNISATION

Category	Number
Pregnant women TT Vaccine	
Dose 1	4
Dose 2	4
Dose 3	
Dose 4	
Dose 5	
Total Doses 2–5	
Nonpregnant women TT Vaccine	Number
Dose 1	
Dose 2	
Dose 3	
Dose 4	
Dose 5	
Total Doses 2– 5	

CHILD IMMUNISATIONS

Category	Under 1	1–4 Years
BCG		
Polio 0		
Polio 1		
Polio 2		
Polio 3		
DPT 1	5	
DPT 2	5	
DPT 3	8	
Measles		

CHILD HEALTH

Category	Number
Vitamin A supplementation under 2 years	5
Collected at measles immunization	
Weight below bottom line (<2SD)	
Total weighed	

FAMILY PLANNING USERS

Category	New Users	Revisits
Oral: Lo-Femenal		
Oral: Microgynon		
Oral: Ovrette		
Oral: Others		8
Condoms	4	
Foam tablets		
IUDs (Copper T)	3	
Injectable		
Natural		
Others		
Total	7	8

CONTRACEPTIVES DISPENSED

Category	Number Dispensed at Unit	Number Dispensed by CBDA
Oral: Lo-Femenal		
Oral: Microgynon		
Oral: Ovrette		
Oral: Others		
Condoms		
Foam tablets		
IUDs (Copper T)		
Injectable		
Total		

FROM THE OPERATING THEATER

Category	Number
Female sterilization (tubal ligation)	
Male sterilization (vasectomy)	
Norplant new users	
Norplant revisits	
Norplant removals	

4. ESSENTIAL DRUGS, VACCINES, AND CONTRACEPTIVES

Tick if the drug, vaccine, or contraceptive was out of stock at the health facility at any time during the previous month. Out of stock means that item was not available anywhere in your health unit.

Item	Number
Chloroquine tabs	
Cotrimozazole tabs	
ORS sachets	
Measles vaccine	
Fansidar	
Depo-Provera	

5. OUTRACH ACTIVITIES

Category	Number
Outreach activities planned for the month	
Outreach activities conducted in the month	

6. FINANCIAL SUMMARY

	Income Categories	Amount
1		
2		
3		
4		
5		
6		
7		
8	Debt recovery	
9	Total income	

	Income Categories	Amount
19	Balance of the month	
20	**Previous month overall balance**	
21	**Overall balance**	
	Cash balance	
	Bank balance	

Add the name of other drugs, vaccines, contraceptives, or supplies that suffered a stock out during the month.			
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

	Expenditure Categories	Amount
10		
11		
12		
13		
14		
15		
16		
17		
18	Total expenditure	

Debt accepted	Amount
Estimate of unrecovered debts **[2]	
Number of exemptions	

** Debt accepted–debt recovery.

[2] Required of NGO and private health units if stocks are received or funded through the district or HSD office.

7. Comments

Item	Last Month	Planned This Month
Date of senior staff meeting		
Date(s) of meeting of Health Unit Management Committee		
Parish name(s) and date(s) of Village Health Committee meeting attended by representative of health unit		
Date(s) of LC III or LC V committee meeting attended by a representative of health unit		
Date of support supervision visits of District Health Team		

8. List of staff members not receiving salary and/or allowances last month.

9. MONTHLY MONITORING

Remember to plot cumulative graphs for the indicators listed below. Graphs are found in the Health Unit Database. Copies should be displayed in the health unit.

Category	Is graph on target? (tick)		Is graph on target? (tick)
BCG vaccination <1		FP new acceptors	
DPT 3 vaccination <1		OPD total new cases	
Measles vaccination < 1		New malaria cases (channel graph)	
New antenatal attendance		New diarrhea cases (channel graph)	
Deliveries in health unit			

Use these graphs to document your answers to the questions asked in the Quarterly Report.

Date of Report: _____ Title _____ Signature _____

In-charge Name: _____ Title _____ Signature _____

Witness Name: _____ Title _____ Signature _____

(for Financial Section)

…(HSD use below this line) ….

Date Received	
Received by 7th of next month	Yes No
Checked by (signature)	
Date processed	

Hand-out #4

Table: Checking Data Quality Sheet, Sample Size 12, Target --------; Decision Rule -------				
	Monthly Report Form	**Cases in Registers**	**Same**	
			Yes	**No**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
		Total		
Has achieved target?				

HAND-OUT–CODE SHEET

Formn	float %8.0f	HMIS Form 105 Identification Number
health	str38 %38s	Name of Health Unit
level	float %8.0f	Level of Health Unit
POPU	Catchment population for the facility	
Popuu1	Population under 1 year	
Popuu5	Population under 5 years	
Wo15to49	Women age 15 to 49 years	
Pregwom	Number of pregnant women	
code	float %8.0f	Health Unit Code
typeheal	float %8.0f	TYPEHEALTH
district	str20 %20s	District
hsd	float %8.0f	Health Sub District Number
hsdn	str24 %24s	Health Sub District Name
date	str12 %12s	Date: Month Reported
year	float %8.0f	Year Identification
month	float %8.0f	Month identification code
quarter	float %8.0f	Quarter
na0to4t	float %8.0f	New attendances 0-4 years
na5upt	float %8.0f	New attendances 5 years and over
re0to4t	float %8.0f	Re-attendances 0-4 years
re5upt	float %8.0f	Re-attendances 5 years and over
ta0to4t	float %8.0f	Total attendances 0-4 years
ta5upt	float %8.0f	Total attendances 5 years and over
reftou	float %8.0f	Referals to unit (all ages)
refrmu	float %8.0f	Referrals from unit (all ages)
mbstd	float %8.0f	Malaria blood smear: Number of tests done
mbsnpo	float %8.0f	Malaria blood smear: Number positive
tbtd	float %8.0f	TB sputum: Number of tests done
tbnpo	float %8.0f	TB sputum: Number positive
hivtd	float %8.0f	HIV serology: Number of tests done
hivnpo	float %8.0f	HIV serology: Number positive
sytd	float %8.0f	Syphilis screening: Number of tests done
synpo	float %8.0f	Syphilis screening: Number positive
paptd	float %8.0f	Pap smear: Number of tests done
papnpo	float %8.0f	Pap smear: Number positive
afp0t4	float %8.0f	Acute Flaccid Paralysis 0-4 years
afp5up	float %8.0f	Acute Flaccid Paralysis 5 years and over
cho0t4	float %8.0f	Cholera 0-4 years
cho5up	float %8.0f	Cholera 5 years and over
dys0t4	float %8.0f	Diarrhoea Dysentery 0-4 years
dys5up	float %8.0f	Diarrhoea Dysentery 5 years and over
gw0t4	float %8.0f	Guinea Worm 0-4 years
gw5up	float %8.0f	Guinea Worm 5 years and over
mea0t4	float %8.0f	Measles 0-4 years
mea5up	float %8.0f	Measles 5 years and over
men0t4	float %8.0f	Meningitis 0-4 years
men5up	float %8.0f	Meningitis 5 years and over
ntt0t4	float %8.0f	Neonatal tetanus 0-4 years
ntt5up	float %8.0f	Neonatal tetanus 5 years and over
pl0t4	float %8.0f	Plague: 0-4 years
pl5up	float %8.0f	Plague: 5 years and over
rab0t4	float %8.0f	Animal bites: Rabies 0-4 years
rab5up	float %8.0f	Animal bites: Rabies 5 years and over
vhf0t4	float %8.0f	Viral Haemorrhagic Fever: 0-4 years
vhf5up	float %8.0f	Viral Haemorrhagic Fever: 5 years and over
yf0t4	float %8.0f	Yellow Fever: 0- 4 years

yf5up	float %8.0f	Yellow Fever: 5 years and over
ana0t4	float %8.0f	Noncommunicable Diseases: Anaemia 0-4 years
ana5up	float %8.0f	Noncommunicable Diseases: Anaemia 5 years and over
ddc0t4	float %8.0f	Noncommunicable Diseases: Dental diseases and conditions 0-4 years
ddc5up	float %8.0f	Noncommunicable Diseases: Dental diseases 5 years and over
dm0t4	float %8.0f	Noncommunicable Diseases: Diabetes Mellitus 0-4 years
dm5up	float %8.0f	Noncommunicable Diseases: Diabetes Mellitus 5 years and over
gi0t4	float %8.0f	Noncommunicable Diseases: Gastrointestinal diseases 0-4 years
gi5up	float %8.0f	Noncommunicable Diseases: Gastrointestinal diseases 5 years and over
hyp0t4	float %8.0f	Noncommunicable Diseases: Hypertension 0-4 years
hyp5up	float %8.0f	Noncommunicable Diseases: Hypertension 5 years and over
mi0t4	float %8.0f	Noncommunicable Diseases: Mental illness 0-4 years
mi5up	float %8.0f	Noncommunicable Diseases: Mental illness 5 years and over
epil0t4	float %8.0f	Noncommunicable Diseases: Epilepsy 0-4 years
epil5up	float %8.0f	Noncommunicable Diseases: Epilepsy 5 years and over
cvd0t4	float %8.0f	Noncommunicable Diseases: Other cardiovascular diseases 0-4 years
cvd5up	float %8.0f	Noncommunicable Diseases: Other Cardiovascular diseases 5+ years
smw0t4	float %8.0f	Noncommunicable Diseases: Sev.malnutrition (WA <3 SD) 0-4 years
smw5up	float %8.0f	Noncommunicable Diseases: Sev.malnutrition (WA <3 SD) 5 years and over
smk0t4	float %8.0f	Noncommunicable Diseases: Sev.malnutrition Kwash'kor/ marasmus 0-4 yrs
smk5up	float %8.0f	Noncommunicable Diseases: Sev.malnutrition Kwash'kor/marasmus 5+ yrs
tdv0t4	float %8.0f	Noncommunicable Diseases: Trauma—Domestic violence 0-4 years
tdv5up	float %8.0f	Noncommunicable Diseases: Trauma—Domestic violence 5+ years
toi0t4	float %8.0f	Noncommunicable Diseases: Trauma—Other intentional 0-4 years
toi5up	float %8.0f	Noncommunicable Diseases: Trauma—Other intentional 5+ years
rta0t4	float %8.0f	Noncommunicable Diseases: Trauma--Road traffic accidents 0-4 years
rta5up	float %8.0f	Noncommunicable Diseases: Trauma--Road traffic accidents 5+ years
tai0t4	float %8.0f	Noncommunicable Diseases: Trauma--Other nonintentional 0-4 years
tai5up	float %8.0f	Noncommunicable Diseases: Trauma—Other intentional 5 years and over
abortion	float %8.0f	Maternal and Perinatal Diseases: Abortions
comppreg	float %8.0f	Maternal and Perinatal Diseases: Other Complications of Pregnancy
perco	float %8.0f	Maternal and Perinatal Diseases: Perinatal Conditions
aid0t4	float %8.0f	AIDS: 0 to 4 years
aid5up	float %8.0f	AIDS: 5 years and over
dnb0t4	float %8.0f	Diarrhoea--Not bloody: 0-4 years
dnb5up	float %8.0f	Diarrhoea--Not bloody: 5 years and over
dpo0t4	float %8.0f	Diarrhoea--Persistent: 0-4 years
dpo5up	float %8.0f	Diarrhoea--Persistent: 5 years and over
ei0t4	float %8.0f	Ear Infection: 0-4 years
ei5up	float %8.0f	Ear Infection: 5 years and over
ey0t4	float %8.0f	Eye Infection: 0-4 years
ey5up	float %8.0f	Eye Infection: 5 years and over
gud0t4	float %8.0f	Genital Infection—Urethral discharge 0-4 years
gud5up	float %8.0f	Genital Infection—Urethral discharge 5 years and over
gvd0t4	float %8.0f	Genital Infection—Vaginal discharge 0-4 years
gvd5up	float %8.0f	Genital Infection—Vaginal discharge 5 years and over
giu0t4	float %8.0f	Genital Infection—Ulcerative 0-4 years
giu5up	float %8.0f	Genital Infection--Ulcerative 5 years and over
iw0t4	float %8.0f	Intestinal worms: 0-4 years
iw5up	float %8.0f	Intestinal worms: 5 years and over
lep0t4	float %8.0f	Leprosy: 0-4 years
lep5up	float %8.0f	Leprosy: 5 years and over
mal0t4	float %8.0f	Malaria: 0-4 years
mal5up	float %8.0f	Malaria: 5 years and over
pcc0t4	float %8.0f	No pneumonia--cold or cough: 0-4 years
pcc5up	float %8.0f	No pneumonia--cold or cough: 5 years and over
onc0t4	float %8.0f	Onchocerciasis: 0-4 years
onc5up	float %8.0f	Onchocerciasis: 5 years and over
pne0t4	float %8.0f	Pneumonia: 0-4 years
pne5up	float %8.0f	Pneumonia: 5 years and over

sk0t4	float	%8.0f	Skin diseases: 0-4 years
sk5up	float	%8.0f	Skin diseases: 5 years and over
goto2	float	%8.0f	Go to part2 of 2 (part2of2.rec)
tbc0to4	float	%8.0f	Tuberculosis (suspected or confirmed): 0-4 years
tbc5upt	float	%8.0f	Tuberculosis (suspected or confirmed): 5 years and over
tbcc0to4	float	%8.0f	Communicable diseases tuberculosis confirmed: 0-4 yrs
tbcc5up	float	%8.0f	Communicable diseases tuberculosis confirmed: 5+ years
typ0to4	float	%8.0f	Typhoid fever: 0-4 years
typ5upt	float	%8.0f	Typhoid fever: 5 years and over
uti0to4	float	%8.0f	Urinary Tract Infection (not sexually transmitted): 0–4 years
uti5upt	float	%8.0f	Urinary Tract Infection (not sexually transmitted): 5+ years
oti0to4	float	%8.0f	Other (nonspecified): 0-4 years
oti5upt	float	%8.0f	Other (nonspecified): 5 years and over
tot0to4	float	%8.0f	TOTAL Outpatient diagnoses 0-4 years
tot5upt	float	%8.0f	TOTAL: Outpatient diagnoses 5 years and over
other1	str36	%36s	Other1 diseases: Specify
o1d0to4	float	%8.0f	Number: Other1 diseases (specify) 0-4 years
o1d5upt	float	%8.0f	Number: Other diseases (specify) 5 years and over
other2	str44	%44s	Other2 diseases: Specify
o2d0to4	float	%8.0f	Number: Other2 diseases (specify): 0-4 years
o2d5upt	float	%8.0f	Number: Other2 diseases (specify): 5 years and over
other3	str48	%48s	Other3 diseases: Specify
o3d0to4	float	%8.0f	Number: Other3 diseases (specify): 0-4 years
o3d5upt	float	%8.0f	Number: Other3 diseases specify): 5 years and over
other4sp	str46	%46s	Other4 diseases: Specify
o4d0to4	float	%8.0f	Number: Other4 diseases (specify): 0-4 years
o4d5upt	float	%8.0f	Number: Other4 diseases (specify): 5 years and over
newanc	float	%8.0f	New antenatal attendances
ancre	float	%8.0f	Antenatal re-attendances
refromu	float	%8.0f	Referrals from unit
firtfa	float	%8.0f	First treatment with Fansidar(IPT1)
sectfa	float	%8.0f	Second treatment with Fansidar (IPT2)
postvis	float	%8.0f	Postnatal visits
vitap	float	%8.0f	Vitamin A supplementation (postnatal)
vita2	float	%8.0f	Vitamin A supplementation less than 2 years
webo	float	%8.0f	Weight below bottom line (less than 2 SD)
totalwe	float	%8.0f	Total weighed: Child health
adm	float	%8.0f	MATERNITY: Admissions
ref	float	%8.0f	MATERNITY: Referral to unit
delunit	float	%8.0f	MATERNITY: Deliveries in unit
lbirth	float	%8.0f	MATERNITY: Live births in unit
sbirth	float	%8.0f	MATERNITY: Still births in unit
ndeaths	float	%8.0f	MATERNITY: Newborn deaths
matdeath	float	%8.0f	MATERNITY: Maternal deaths
deltba	float	%8.0f	MATERNITY: Deliveries with TBAs
lofne	float	%8.0f	FAMILY PLANNING USERS: Oral: Lofeminal new users
lofrev	float	%8.0f	FAMILY PLANNING USERS: Oral: Lofeminal revisits
micronew	float	%8.0f	FAMILY PLANNING USERS: Oral: Microgynon new users
microrev	float	%8.0f	FAMILY PLANNING USERS: Oral: Microgynon revisits
ovnew	float	%8.0f	FAMILY PLANNING USERS: Oral: Ovrette new users
ovrev	float	%8.0f	FAMILY PLANNING USERS: Oral: Ovrette revisits
othnew	float	%8.0f	FAMILY PLANNING USERS: Oral: Others new users
othrev	float	%8.0f	FAMILY PLANNING USERS: Oral: Others revisits
condnew	float	%8.0f	FAMILY PLANNING USERS: Condoms new users
condrev	float	%8.0f	FAMILY PLANNING USERS: Condoms revisits
foamnew	float	%8.0f	FAMILY PLANNING USERS: Foam tablets new users
foamrev	float	%8.0f	FAMILY PLANNING USERS: Foam tablets revisits
iudnew	float	%8.0f	FAMILY PLANNING USERS: IUDs (Copper T) new users
iudrev	float	%8.0f	FAMILY PLANNING USERS: IUDs (Copper T) revisits
injnew	float	%8.0f	FAMILY PLANNING USERS: Injectable new users

injrev	float	%8.0f	FAMILY PLANNING USERS: Injectable revisits
natnew	float	%8.0f	FAMILY PLANNING USERS: Natural new users
natrev	float	%8.0f	FAMILY PLANNING USERS: Natural revisits
othnew01	float	%8.0f	FAMILY PLANNING USERS: Others new users
othrev01	float	%8.0f	FAMILY PLANNING USERS: Others revisits
totnew	float	%8.0f	FAMILY PLANNING USERS: Total new users
totrev	float	%8.0f	FAMILY PLANNING USERS: Total revisits
dose1	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Dose 1
dose2	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Dose 2
dose3	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Dose 3
dose4	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Dose 4
dose5	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Dose 5
tot2to5	float	%8.0f	TETANUS IMMUNISATION: Pregnant women: Total Doses 2-5
nonprett	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant women: All doses
nondose1	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant: Dose 1
nondose2	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant Dose 2
nondose3	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant: Dose 3
nondose4	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant Dose 4
nondose5	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant: Dose 5
nonpreg2	float	%8.0f	TETANUS IMMUNISATION: Nonpregnant: doses 2-5
lofunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Lo-feminal dispensed at unit
lofcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Lo-feminal dispensed by CBDA
micunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Microgynon dispensed at unit
miccbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Microgynon dispensed by CBDA
ovunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Ovrette dispensed at unit
ovcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Oral Ovrettel dispensed by CBDA
condunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Condoms dispensed at unit
condcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Condoms dispensed by CBDA
foamunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Foam tablets dispensed at unit
foamcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Foam tablets dispensed by CBDA
iudunit	float	%8.0f	CONTRACEPTIVES DISPENSED: IUDs (Copper T) dispensed at unit
iudcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: IUDs (Copper T) dispensed by CBDA
injunit	float	%8.0f	CONTRACEPTIVES DISPENSED: Injectable dispensed at unit
injcbda	float	%8.0f	CONTRACEPTIVES DISPENSED: Injectable dispensed by CBDA
bcgless1	float	%8.0f	CHILD IMMUNISATIONS: BCG under 1 year
bcg1to4	float	%8.0f	CHILD IMMUNISATIONS: BCG 1-4 years
polio0	float	%8.0f	CHILD IMMUNISATIONS: Polio 0
piless1	float	%8.0f	CHILD IMMUNISATIONS: Polio 1 (under 1 year)
pi1to4	float	%8.0f	CHILD IMMUNISATIONS: Polio 1 (1-4 years)
piiless1	float	%8.0f	CHILD IMMUNISATIONS: Polio 2 (under 1 year)
pii1to4	float	%8.0f	CHILD IMMUNISATIONS: Polio 2 (1-4 years)
piiiles1	float	%8.0f	CHILD IMMUNISATIONS: Polio 3 (under 1 year)
piiito4	float	%8.0f	CHILD IMMUNISATIONS: Polio 3 (1-4 years)
dptiles1	float	%8.0f	CHILD IMMUNISATIONS: DPT 1-HepB+Hib1(under 1 year)
dptito4	float	%8.0f	CHILD IMMUNISATIONS: DPT 1-HepB+Hib1(1-4 years)
dptiile1	float	%8.0f	CHILD IMMUNISATIONS: DPT 2- HepB + Hib1(under 1 year)
dptii1t4	float	%8.0f	CHILD IMMUNISATIONS: DPT 2 - HepB + Hib1(1-4 years)
dpt3les1	float	%8.0f	CHILD IMMUNISATIONS: DPT 3-HepB + Hib1(under 1 year)
dpt3ito4	float	%8.0f	CHILD IMMUNISATIONS: DPT 3 -HepB + Hib1(1-4 years)
mealess1	float	%8.0f	CHILD IMMUNISATIONS: Measles (under 1 year)
mea1to4	float	%8.0f	CHILD IMMUNISATIONS: Measles (1-4 years)
femster	float	%8.0f	FROM THE OPERATING THEATER: Female sterilisation (tubal ligation)
malester	float	%8.0f	FROM THE OPERATING THEATER: Male sterilisation (vasectomy)
nornew	float	%8.0f	FROM THE OPERATING THEATER: Norplant new users
norrev	float	%8.0f	FROM THE OPERATING THEATER: Norplant revisits
norrem	float	%8.0f	FROM THE OPERATING THEATER: Norplant removals
chlo	str2	%2s	ESSENTIAL DRUGS, VACCINES. & CONTRACEPTIVES: Chloroquine
cotrim	str2	%2s	ESSENTIAL DRUGS, VACCINES, & CONTRACEPTIVES: Cotrimoxazole tabs
ors	str2	%2s	ESSENTIAL DRUGS, VACCINES, & CONTRACEPTIVES: ORS sachets
meavac	str2	%2s	ESSENTIAL DRUGS, VACCINES, & CONTRACEPTIVES: Measles vaccines

fansidar	str2	%2s	ESSENTIAL DRUGS, VACCINES, & CONTRACEPTIVES: Fansidar
depo	str2	%2s	ESSENTIAL DRUGS, VACCINES, & CONTRACEPTIVES: Depo-Provera
drug1	str46	%46s	Drug1
drug2	str46	%46s	Drug2
drug3	str46	%46s	Drug3
drug4	str46	%46s	Drug4
drug5	str46	%46s	Drug5
drug6	str46	%46s	Drug6
drug7	str46	%46s	Drug7
drug8	str46	%46s	Drug8
drug9	str46	%46s	Drug9
drug10	str46	%46s	Drug10
drug11	str46	%46s	Drug11
drug12	str46	%46s	Drug12
outplan	float	%8.0f	OUTREACH ACTIVITIES: Planned
outcond	float	%8.0f	OUTREACH ACTIVITIES:Conducted
income1	float	%8.0f	FINANCIAL SUMMARY: Income 1
income2	float	%8.0f	FINANCIAL SUMMARY: Income 2
income3	float	%8.0f	FINANCIAL SUMMARY: Income 3
income4	float	%8.0f	FINANCIAL SUMMARY: Income 4
income5	float	%8.0f	FINANCIAL SUMMARY: Income 5
income6	float	%8.0f	FINANCIAL SUMMARY: Income 6
income7	float	%8.0f	FINANCIAL SUMMARY: Income 7
debtrec	float	%8.0f	FINANCIAL SUMMARY: Debt recovery
totalinc	float	%8.0f	FINANCIAL SUMMARY: Total income
expcat10	float	%8.0f	FINANCIAL SUMMARY: Expenditure 10
expcat11	float	%8.0f	FINANCIAL SUMMARY: Expenditure 11
expcat12	float	%8.0f	FINANCIAL SUMMARY: Expenditure 12
expcat13	float	%8.0f	FINANCIAL SUMMARY: Expenditure 13
expcat14	float	%8.0f	FINANCIAL SUMMARY: Expenditure 14
expcat15	float	%8.0f	FINANCIAL SUMMARY: Expenditure 15
expcat16	float	%8.0f	FINANCIAL SUMMARY: Expenditure 16
expcat17	float	%8.0f	FINANCIAL SUMMARY: Expenditure 17
totexp	float	%8.0f	FINANCIAL SUMMARY: Total expenditure
balmonth	float	%8.0f	FINANCIAL SUMMARY: Balance of the month
prevbal	float	%8.0f	FINANCIAL SUMMARY: Previous month overall balance
allbal	float	%8.0f	FINANCIAL SUMMARY: Overall balance
cashbal	float	%8.0f	FINANCIAL SUMMARY: Cash balance
bankbal	float	%8.0f	FINANCIAL SUMMARY: Bank balance
debtacc	float	%8.0f	FINANCIAL SUMMARY: Debt accepted
unrecdeb	float	%8.0f	FINANCIAL SUMMARY: Estimate of unrecovered debts
nexempt	float	%8.0f	FINANCIAL SUMMARY: Number of exemptions
comment1	str50	%50s	COMMENT1
comment2	str50	%50s	COMMENT2
comment3	str50	%50s	COMMENT3
comment4	str50	%50s	COMMENT4
bcgvacle	str2	%2s	MONTHLY MONITORING: BCG vaccination under 1
fpnew	str2	%2s	MONTHLY MONITORING: Family planning: New acceptors
dpt3le1	str2	%2s	MONTHLY MONITORING: DPT3 vaccination under 1
opdtotn	str2	%2s	MONTHLY MONITORING: OPD total new cases
meale1	str2	%2s	MONTHLY MONITORING: Measles vaccination under 1
newmal	str2	%2s	MONTHLY MONITORING: New malaria cases
newant	str2	%2s	MONTHLY MONITORING: New antenatal attendances
newdia	str2	%2s	MONTHLY MONITORING: New diarrhoea cases
delhunit	str2	%2s	MONTHLY MONITORING: Deliveries in health units
daterep	str12	%12s	Date of report
incharge	str22	%22s	In-charge name
title	str28	%28s	Title of in-charge
witname	str20	%20s	Witness name
title01	str28	%28s	