

PN. ABR-025
82221



REACH

RESOURCES
FOR CHILD
HEALTH

WORKING MANUAL FOR DISTRICT HEALTH MANAGEMENT TEAM
USING QUARTERLY FEEDBACK FROM KEPI TO MANAGE YOUR
IMMUNIZATION PROGRAMME



JOHN SNOW, INCORPORATED, 1616 N. FORT MYER DRIVE, ELEVENTH FLOOR, ARLINGTON, VIRGINIA 22209 USA

TEL: (703) 528-7474 • TELEX: 272896 JSIWUR • FAX: (703) 528-7480

This working manual was developed by the KEPI Management Unit and the REACH Project under the U.S. Agency for International Development (A.I.D.) Contract #DPE-5982-Z-00-9034-00; Project #936-5982.

Resources for Child Health (REACH) Project

John Snow, Inc.
1616 North Fort Myer Drive
Suite 1100
Arlington, Virginia 22209 USA
Telephone: 703-528-7474
FAX: 703-528-7480
Telex: 272896

KEPI Management Unit

Ministry of Health
P.O. Box 43319
Nairobi
KENYA
Telephone: 725105/6/8 or 721057
Telex: COMDISCO 23259

ACRONYMS

CEIS	Computerized EPI Information System
EPI	Expanded Programme on Immunization
KEPI	Kenya Expanded Programme on Immunization

TABLE OF CONTENTS

INTRODUCTION	i
I. INTRODUCTION TO USING ROUTINE DATA TO MONITOR PROGRAMME INDICATORS	1
II. ACCESS TO IMMUNIZATIONS AND UTILIZATION OF IMMUNIZATION SERVICES	1
III. PROGRAMME CONTINUITY	4
IV. PROGRAM QUALITY - MISSED OPPORTUNITIES	8
TARGETING UNDER ONES FOR IMMUNIZATION	9
V. USING KEPI FEEDBACK	12
VI. EXAMPLES	23
A. COV 005	24
B. COV 006	25
C. COV 004	26
D. COV 003	27
VI. EXERCISES	28

INTRODUCTION

This manual has been written to assist you, the District Public Health Nurses, and other members of the District Health Management Team, to use reports and graphs sent as feedback from KEPI Headquarters to improve the performance of your immunization programme. The reports and graphs have been produced by the Computerized EPI Information System (CEIS) installed at KEPI Headquarters, using the data sent to KEPI each month on the monthly immunization report forms. The KEPI Management Unit hopes that these reports and graphs will help you manage your immunization programme and meet the targets for programme performance set by KEPI. Please let the KEPI Management Unit know if you have questions or if you would like any other feedback reports or graphs sent to you regularly.

QUARTERLY FEEDBACK SUMMARY

INDICATORS FROM ROUTINELY REPORTED DATA THAT SHOULD BE MONITORED REGULARLY TO DETERMINE IF TARGETS FOR FULLY IMMUNIZED CHILDREN WILL BE MET

I. INTRODUCTION TO USING ROUTINE DATA TO MONITOR PROGRAMME INDICATORS

Children must have a first contact with the EPI and then return between two and four more times in order to receive all the required immunizations.

A first contact with the immunization programme is defined as having ACCESS. Completion of the immunization series is defined as CONTINUITY. Both of these attributes can determine whether or not KEPI can expect to fully immunize all children and pregnant women in your district. Data collected from routine reports of immunizations given can be used to decide if you are meeting your objectives for programme ACCESS and programme CONTINUITY or if there is a need for improvement.

If less than 100% of children in your district are being fully immunized, you will need to decide if this is because children in your district do not have ACCESS to the immunization programme or because your programme has poor CONTINUITY, meaning that children are receiving some immunizations but not all.

The following notes describe how you can use the data you collect to routinely monitor your immunization programme and to decide if you have a problem with programme access or programme continuity in your district.

Once you have decided which attribute of your programme requires improvement, you will need to decide what steps to take to learn more about the causes of poor performance and what actions you might take to improve programme performance and increase the number of children being fully immunized.

II. ACCESS TO IMMUNIZATIONS AND UTILIZATION OF IMMUNIZATION SERVICES

A. DPT1 Coverage as an Indicator of Access and Utilization

1. In order for you to reach the goal of fully immunizing 100% of the infants in your district, 100% of this population must have access to and use immunization services. The first dose of DPT should be given at the first contact with KEPI after six weeks of age. If children have only one contact with KEPI, they will most likely receive the first dose of DPT.

It is possible that children may receive BCG or Polio immunizations before receiving DPT1 after six weeks of age. If children receive BCG or Polio before six weeks of age, it is likely that the doses were given at the hospital at the time of delivery, not by the routine EPI in the district where the infant lives. For this reason, BCG may not be the best indicator of access to routine EPI services. DPT1 has been selected instead.

2. DPT1 coverage shows the highest percent of the target population that has access to and is using the EPI. DPT1 coverage also shows the highest percent of the target population that you

can fully immunize through routine KEPI services.

B. Possible Causes for low DPT1 coverage

1. If you are not reaching your goal of 100% coverage with DPT1, it either means that not everyone in your district has access to immunization services or that people who have access are not using the immunization services available to them.
2. You will need to decide if people in your district do not have access or are not using your immunization programme so you can make the right decision on how to increase your DPT1 coverage. Once you know the main cause of the problem, you can decide if you need to offer more immunization sessions, offer sessions in new locations, make more and regular supervisory visits or do more social mobilization and health education activities.

C. Determining why you are not reaching your target for DPT1 coverage

1. Follow the steps listed below to decide if you are not reaching your target for DPT1 coverage because of a lack of access or a lack of utilization.

ACCESS

- a. For your district, calculate the number of people who live within the catchment area of all health facilities that give immunizations or within the catchment area of an outreach site or location visited by a mobile team.
- b. Decide if 100% of the population lives within the catchment area of at least one of these health facilities, outreach sites and locations visited by mobile teams.
- c. Make sure that the distance you are using to calculate the catchment area is a reasonable distance that people can travel to get immunizations.
- d. Review health facility records to determine if all facilities that are expected to give immunizations on a regular basis are actually holding all the immunization sessions that you expect them to. Check to make sure that immunization supplies are adequate and available.

ACCESS MAY BE A PROBLEM IF:

**-NOT ALL (100%) OF THE POPULATION LIVE WITHIN THE CATCHMENT AREA OF AT LEAST ONE HEALTH FACILITY; OR
-EACH HEALTH FACILITY IS NOT HOLDING THE NUMBER OF IMMUNIZATION SESSIONS YOU EXPECTED.**

UTILIZATION

- e. Observe immunization sessions to see if they are well organized and if staff are well trained and pleasant. Interview parents to learn if the sessions are acceptable and are being held at convenient and fixed times.

f. Interview community members who do not attend immunization sessions to find out if:

-Immunization sessions are conducted according to a regular schedule or if sessions are frequently canceled;

-Social or political barriers are preventing people from attending immunization sessions; or

-There is a lack of information about the importance of immunization or about when immunizations are available.

UTILIZATION MAY BE A PROBLEM IF:

-IMMUNIZATION SESSIONS ARE DISORGANIZED OR NOT ACCEPTABLE;

-THERE IS A LACK OF INFORMATION ABOUT IMMUNIZATIONS/IMMUNIZATION SESSIONS; OR

-OTHER SOCIAL OR POLITICAL BARRIERS TO IMMUNIZATION EXIST.

D. Taking actions to increase your DPT1 coverage

1. Once you have completed the steps listed in part C, you should know more about the most likely cause of low DPT1 coverage in your district. Knowing the most likely cause can help you decide what actions will be most effective in increasing coverage.

2. Possible steps to improve access:

a. Consider offering immunization sessions in more locations

b. Set up new static facilities. Find new trained staff or transfer staff from facilities that do not give many immunizations.

c. Where available, have outreach teams from static facilities visit new locations.

d. Where available, have mobile teams visit new locations.

e. Consider offering more immunization sessions at the static facilities, outreach sites and locations visited by mobile teams.

f. Consider starting immunization sessions earlier in the day or extending the sessions until later, i.e., afternoons from 2:00 pm to 4:30 or 5:00 pm.

g. Consider asking private physicians, private hospitals or private voluntary organizations that may not be offering immunizations to begin immunizing routinely. Considering providing them with vaccines and immunization supplies/equipment.

h. Work with health staff and storekeepers to ensure that adequate cold chain, vaccines and supplies are continuously available at each health facility providing

immunizations.

- i. Make sure that all scheduled immunization sessions actually do occur.

3. Possible steps to improve utilization:

- a. Increase supervision to help clinic staff to:
 - i) organize sessions;
 - ii) plan schedules that will be convenient to all; and,
 - iii) review performance and attitudes of health workers.
- b. Hold focus group discussions with community members to learn their attitudes about immunizations and the immunization services being offered in their specific community.
- c. Increase health education and social mobilization activities.

III. PROGRAMME CONTINUITY

A. Introduction to the indicators of programme continuity

1. DPT1 - DPT3 Drop Out Rate and DPT1 - Measles Drop Out Rate

- a. To be fully immunized before one year, a child must attend at least three immunization sessions. If the KEPI immunization schedule is followed, a child must attend five immunization sessions. A big challenge to KEPI is to provide this continuity of services so that children who receive their first immunization also receive their last.
- b. Children who receive at least one immunization, but who do not receive their last one are called DROP OUTS. The drop out rate is the percent of children who receive one immunization but who do not receive the last one. If children drop out before receiving all immunizations then they cannot be fully immunized.
- c. KEPI managers at district level (DHMT) need to know the number of children who have at least one contact with KEPI but who do not go on to receive all of the immunizations. DPT1 is usually given at the first contact with routine KEPI services after six weeks of age and DPT3 or measles is usually given at the last.
- d. Monitoring the difference between the number of doses of DPT1 and DPT3 given and between the number of doses of DPT1 and measles given can help you determine the number of infants who are DROP OUTS -- i.e., not completing all of their immunizations. This in turn can help determine whether or not poor programme continuity is a major factor in preventing the full immunization of all children in the district.

2. Tetanus Toxoid (TT)1 - 2 Drop Out Rate

- a. Pregnant women should also be fully immunized before they give birth in order to prevent the occurrence of neonatal tetanus in their children. This means that women should come at least two times during their pregnancy if they have never been immunized with TT before.
- b. KEPI management staff at District levels (DHMT) need to know the number of women who have had at least one contact with the EPI during their pregnancy but who do not receive the second dose that is required to protect their infant against neonatal tetanus.
- c. Monitoring the difference between the number of doses of TT1 and TT2 given will help you determine the number of women who are DROP OUTS - i.e., not completing all of the immunizations needed to prevent neonatal tetanus. This in turn can help determine whether or not poor programme continuity is a major factor in not being able to protect infants fully against neonatal tetanus.

B. Possible causes for a high drop out rate

1. There are many reasons why your EPI may have a high drop out rate. You should find out what the most important reasons for the drop out are in your programme so you can decide what is the best action to take to reduce this number. Possible causes may be:

- a. Parents do not know that they should bring infants back for more immunizations
- b. Health workers do not tell parents to bring infants back for more immunizations
- c. Health workers do not follow up on the infants in their catchment area to make sure that they return after the first visit
- d. Parents may have:
 - i) waited for a long time/had a bad experience with the health worker at an immunization session; or
 - ii) traveled a long distance/gone at a bad time to an immunization session.
- e. The infant may have had a bad reaction to the vaccine.
- f. All third doses of DPT given are not being recorded as given because:
 - i) parents do not keep the immunization cards, or do not bring the immunization cards to the sessions; or
 - ii) health workers do not give immunization records to parents; do not keep correct tallies/summaries of immunization doses given, or keep an up-to-date immunization register.

- g. Infants may have been given some but not all of the immunizations for which they are eligible.
- h. Second and booster doses of TT given are not being recorded correctly because:
 - i) pregnant women do not keep immunization records
 - ii) a second or booster dose given during a subsequent pregnancy is recorded as a first dose; or
 - iii) there is no up-to-date antenatal register kept.

C. Finding the cause of a high drop out rate.

1. Follow the steps listed below to find the reasons for a high drop out rate in your district:

- a. Make supervisory visits to health facilities and outreach sites during regularly scheduled immunization sessions.
 - Observe how the clinic operates and how health workers behave towards clients and infants.
 - Observe whether health workers explain to parents when to return for more immunizations.
 - Observe whether health workers have a system for tracking infants and pregnant women who need additional immunizations.
 - Observe whether:
 - i) parents bring immunization records to sessions;
 - ii) health workers give parents immunization records as necessary; and
 - iii) health workers keep accurate tallies of the number of doses given.
 - Observe whether health workers are giving all immunizations for which children are eligible.
 - Observe whether clinics have adequate supplies of all immunization related equipment and vaccines during immunization sessions.
 - Find out the frequency of immunizations sessions and the times they are offered.
 - Find out whether scheduled sessions are sometimes canceled, or individual vaccines are not in stock.
 - Interview parents when they leave the immunization clinic to find out their attitudes

about the immunization session, if they know when to come back and how far they had to travel.

- b. Hold focus group discussions with parents and community leaders. Ask them about their beliefs and attitudes about immunization sessions. Remember to ask them if the possible causes for a high drop out rate listed under Section B are important in the community.

D. Taking actions to reduce high drop out rates.

1. Once you have completed the steps listed under Part C, you should have more information about the most important cause for a high drop out rate in your district.

2. Steps to take if immunization clinic organization, timing or location is a problem or if health worker behaviors are causing a high drop out rate:

- a. Work with health workers to reorganize immunization sessions, or to fix a schedule for holding more convenient immunization sessions.
- b. Talk with health workers about improving their communication with parents and about the information they should be giving to parents/clients.
- c. Work with health workers to find a system they can use to track infants and pregnant women in the community who have not received all of their immunizations to make sure that they continue to return until they are fully immunized.
- d. Assist health workers in determining their needs for immunization equipment and vaccines to ensure that adequate supplies are continuously available.

3. Steps to take if the community's or the parent's attitudes and beliefs are important:

- a. Increase social mobilization and health education activities
- b. Talk with community leaders and parents to convince them of the importance of immunization. Have the leaders explain the importance of immunization to parents in their communities.

IV. PROGRAM QUALITY - MISSED OPPORTUNITIES

A. Indicators for Monitoring Missed Opportunities

1. Differences between DPT1 and OPV1 coverage, DPT2 and OPV2 coverage, DPT3 and OPV3 coverage.
 - a. The KEPI Immunization Schedule states that children should be immunized with the first dose of DPT and Oral Polio at six weeks of age, the second dose at 10 weeks of age and the third dose at 14 weeks of age.
 - b. If health workers follow the immunization schedule, they should be providing the same number of first doses of DPT and Oral Polio vaccine. Health workers should also be providing the same number of second and third doses of DPT and Oral Polio vaccine.
 - c. Monitoring the number of DPT1 doses as compared to the number of OPV1 doses, the number of DPT2 doses as compared to the number of OPV2 doses and the number of DPT3 doses as compared to the number of OPV3 doses allows you determine if health workers are following the immunization schedule and providing DPT and Oral Polio vaccine together.

B. Possible Causes for Missed Opportunities

As with the other indicators, missed opportunities can be the result of many different operational problems. You will need to find out the most important cause for missed opportunities in your program in order to decide what is the best action to take to reduce the number.

Possible causes for missed opportunities include:

1. Service delivery points run out of one vaccine
2. Health workers are afraid to give more than one immunization during a vaccination session for fear of causing side effects
3. Health workers use false contraindications to immunization in determining which children to immunize and which immunizations to give
4. Health workers do not screen children correctly and fail to identify children as eligible for immunization.
5. Health workers do not open a new vial of vaccine if only one eligible child is present.

C. Finding the Cause of a High Rate of Missed Opportunities

1. Follow the steps below to find the reasons for a high rate of missed opportunities in your district.
 - a. Make supervisory visits to health facilities during scheduled immunization sessions:
 - Observe whether all vaccines are in stock for the session
 - Observe whether health workers open a new vial of vaccine for only one eligible child
 - b. Conduct exit interviews with mothers to review the child's immunization record. Make sure that the child received all immunizations that were due. If all immunizations were not given ask the reasons why.
 - c. Interview health workers to learn about their knowledge of the KEPI Immunization Schedule and KEPI policy on contraindications for immunization and their attitudes about giving more than one injection to a child during each immunization visit.

D. Taking actions to reduce the level of missed opportunities

1. Once you have completed the steps under Part C, you should have identified the most important cause of missed opportunities in your district.
2. If vaccine logistics are a problem, work with health staff to ensure that the necessary amounts of all vaccines are available.
3. If health worker knowledge about the KEPI Immunization Schedule, the policy on contraindications or the policy on opening a new vial for one eligible child is a problem, provide in-service education and training during supervisory visits.

PROGRAM QUALITY - TARGETING UNDER ONES FOR IMMUNIZATION

- A. Indicator for monitoring the program's ability to target under ones for immunization.
 1. KEPI policy states that infants should be fully immunized by one year of age. If KEPI is to meet its objective for fully immunizing children before their first birthday, children must receive their immunizations as close to the recommended age as possible. Immunizing children early against measles is especially important as young infants are at the highest risk for serious complications from measles.

2. KEPI currently monitors the number of doses of each vaccine given to children before one year of age and to children after one year of age. Because measles is often the last antigen given to children in Kenya, it is important to monitor how many children are immunized against measles before one year of age as compared to after one year of age.
3. To monitor your program's ability to target under ones for immunization, you should compare the proportion of all measles doses given (to children less than one and over one) that are given to children less than one.

B. Possible causes for poor targeting of under ones for measles immunization

1. It is important to learn why children may not be immunized with measles before one year of age in order to correct any problem with targeting under ones. Possible causes for not targeting under ones for measles immunization include:
 - a. Children may not visit an immunization facility between nine and twelve months of age.
 - b. Children may visit an immunization facility between nine and twelve months of age and not be immunized against measles. These same children may return and be immunized after one year of age and represent missed opportunities for measles immunization.
 - c. Immunization services are not regularly available at all times during the year, either because fixed facilities do not operate all year or because mobile and outreach teams do not frequently visit the entire catchment area.

C. Finding the cause of poor targeting of under ones for measles immunization.

1. Make supervisory visits to health centers to observe whether health workers are missing opportunities to immunize children against measles before one year of age.
2. Review coverage survey results to determine if there is a high number of corrected missed opportunities for measles immunization. If there is a high number, this may suggest that children are attending an immunization session between nine and twelve months of age, but are not being immunized against measles at the first opportunity.
3. Hold focus group discussions with parents and community leaders to determine if:

-immunization services are routinely available year round

-parents are willing to bring their children for immunization between nine and twelve months of age

D. Taking actions to improve the targeting of under ones for measles immunization

1. If health workers are missing opportunities to immunize children against measles:

-Provide health workers with in-service training on the KEPI Immunization Schedule and policies on contraindications to immunization

2. If immunization services are not routinely available all year:

-Work with health workers to increase the frequency of immunization clinics within the catchment area

V. USING KEPI FEED BACK REPORTS

A. COV 005 - MONTHLY CUMULATIVE REPORT FOR DOSES OF INFANT VACCINES (see chart VI.A., page 24)

You and your supervisors will use Report COV 005 - COV 005 to determine whether or not programme performance in your district needs to be improved. This report will tell you how many doses of each vaccine have been given each month since the beginning of the year. For each dose, the total number given and the percent coverage achieved are shown. The report can help you by giving you monthly information on progress towards your annual targets for coverage. It will also give you information on the number of facilities reporting and the number of reports received, as compared to the number that are expected.

1. PARTS OF THE REPORT

- a. **REPORT COLUMNS** - The vaccines you give to infants are written at the top of the columns that go across the top of the report.

- SURVIVORS

The first column is labeled "Survivors". This is equal to the number of infants who are born in your district each year and who will live to be one year old. This is your target population for immunizing infants for the year and is the number used to calculate coverage with each vaccine.

- VACCINES

The next several columns are labeled for each vaccine and dose that you give to infants and for the number of fully immunized infants (FIC). For each vaccine, the number of doses given is shown under the column labeled "Doses" and the percent immunization coverage is shown under the column labeled "Cov".

- REPORTING FACILITIES

The last three columns on the right-hand side show information about reporting in your district. The two columns under the label "Reporting Facilities" show you the number of facilities that reported to you for the month and the percent of reports expected for the month that were received. The column under the label "Total # of Facilities" tells you the number of facilities in your district that give immunizations and that should send you a report on immunization activities each month. This number equals the number of reports you should expect for the month.

- b. **MONTHLY INFORMATION** - The months of the year are shown vertically on the left-hand side of the report. Immunization data for each month is listed under the columns. For each month there are two lines:

FIRST LINE

The name of the month is written on the top line. This row shows you the number of doses of each vaccine given during the month, and the number of facilities in your district that reported to you. The row will also show you the percent coverage for each vaccine for the month.

The denominator for calculating coverage is your target population for the year, which is shown under the "Survivors" column. The denominator for the percent of reporting facilities that reported is the total number of facilities in your district that give immunizations and that you expect to report for the month.

SECOND LINE

The cumulative line, labeled (cums) on the report is on the second line, under the month. This line will show you the total doses you have given since the beginning of the year and your cumulative immunization coverage for the year up to that month. The cumulative totals for a month are equal to the total number of doses given during that month plus the number given during all the previous months of the year, beginning with January.

The denominator used to calculate the cumulative coverage you have reached up to that month is the target population for the year, which is shown under the "Survivors" column.

The denominator used to calculate the cumulative percent of facilities reporting is the total number of facility reports expected for the year. This number is equal to the number of facilities in your district that give immunizations and that you expect to report for a month times 12 (for the 12 months in the year).

2. UNDERSTANDING THE MONTHLY CUMULATIVE REPORT

- a. The TOTALS line at the bottom of the report shows you the total number of doses and the percent coverage you have achieved with each dose of vaccine by the end of the month that KEPI last entered a report for your district.

The TOTALS line also shows you how completely facilities are reporting to the you at district level and how completely you are reporting to KEPI.

- b. Find the last month that KEPI entered data. This will be the last month with numbers showing on the top line next to the name of the month.

-If KEPI has not entered a report for your district for a month, a series of dots (. . .) will show under the columns for the antigens and for the Reporting facilities column on the top line next to the name of the month.

-If KEPI has not entered a report for your district for a month, the cumulative total number of doses and the coverage for the year up to that month will still shown on the

cumulative (cums) line for that month. If no data has been entered for any month during the year, a series of dots (. . .) will also show on the cumulative (cums) line.

- c. Check the numbers listed on the report for each month to make sure that they are the same as the numbers you reported to KEPI. Also, make sure that all the monthly reports you sent were received by KEPI and entered. Notify KEPI of any problems.

3. PROGRAMME INDICATORS ON THE MONTHLY CUMULATIVE REPORT

- a. There are three indicators of immunization coverage that you should review on the report COV005. You should find the cumulative coverage for the year to date for the following:

DPT1 - Indicator of access to immunization services and use of these services.

MEASLES - Indicator of children completing the immunization series.

FACILITIES REPORTING - Indicator of the completeness of reporting from health facilities in your district.

- b. Review the values of these indicators and compare them with the targets set. Use the cover sheet sent by KEPI with the quarterly report to help you decide if you need to improve programme performance.

B. COV006 - MONTHLY CUMULATIVE REPORT FOR PREGNANT WOMEN (see chart VI.B., page 25)

1. PARTS OF THE REPORT

- a. REPORT COLUMNS - The doses of TT given to pregnant women are written at the top of the columns that go across the top of the report

PREGNANT WOMEN

The first column is labeled "Pregnant Women". The number in this column is equal to the total number of pregnant women in your district for the year. This is your target population for immunization with TT for the year. This total number for the year is written all the way down the column, next to the name of each month.

VACCINES

The next few columns are labeled for the doses of TT given to pregnant women, TT1, TT2 and TT Boost (Tetanus Booster doses). For each dose, the total number of doses given is shown under the column labeled "Doses" and the percent immunization coverage is shown under the column labeled "Cov".

REPORTING FACILITIES

The last two columns on the report show information about reporting in your district. The column labeled "Reporting Facilities" shows you the number and the percent of KEPI facilities in your district that reported to you for the month. This number should equal the number of facilities you listed on your monthly report to KEPI that either showed the number of doses given or that showed a reason why no immunization were given.

The column labeled "Total # of Facilities" tells you the number of KEPI facilities in your district that should be sending you a report on immunization activities each month.

- b. MONTHLY INFORMATION - The months of the year are listed in rows on the left side of the report. Immunization data for each month is listed under the columns. For each month there are two lines:

FIRST LINE - The name of the month is written on the top line. This row shows you the number of doses of TT1, TT2 and TT Booster doses given during the month and the number of facilities in your district that reported to you. The row will also show you the percent coverage achieved for each dose for the month. The denominator for calculating coverage for the month is your target population of pregnant women for the year, which is shown under the column labeled "Pregnant Women".

SECOND LINE - The cumulative line, labeled (cums) on the report, is on the bottom line, under the name of the month. This line will show you the total number of doses that have been given since the beginning of the year and your cumulative immunization coverage for the year up to that month. The cumulative totals for a month are equal to the total number of doses given during that month plus the number given during all the previous months of that year, beginning with January. The cumulative coverage you have reached up to that month is calculated by using the target population of pregnant women for the year.

2. UNDERSTANDING THE MONTHLY CUMULATIVE REPORT FOR PREGNANT WOMEN

- a. **THE TOTALS LINE** - The TOTALS line at the bottom of the report shows you the total number of doses and the percent coverage you have reached with each dose of vaccine by the end of the month that KEPI last entered a report for your district.
- b. Find the last month that KEPI entered data. This will be the last month with the number of doses showing on the top line next to the name of the month.

-If KEPI has not entered a report for your district for a month, a series of dots (. . .) will show under the columns for the doses and for the Reporting Facilities column on the top line next to the name of the month.

-If KEPI has not entered a report for your district for a month, the cumulative total number of doses and the coverage for the year up to that month will still shown on the cumulative (cums) line for that month. The cumulative number and the cumulative percent will be the same as those for the previous month because no new activity was reported for the month being looked at.

- c. Check the numbers listed on the report for each month to make sure that they are same numbers as you reported to KEPI. Also, make sure that all the monthly reports you sent were received by KEPI and entered. Notify KEPI of any problems.

3. PROGRAMME INDICATORS ON THE MONTHLY CUMULATIVE REPORT

- a. There are two indicators of immunization coverage that you should review on the report COV006. You should find the cumulative coverage for the year to date for the following:

TT1 - Indicator of the access pregnant women have to immunization services and their use of these services.

TT2 - Indicator of the number of pregnant women whose infants are protected at birth against neonatal tetanus. You should remember that this number will be the lowest percentage of pregnant women whose infants will be protected. Pregnant women who receive boosters will also have infants protected at birth and some pregnant women receiving no dose of TT during the pregnancy will also have infants protected at birth because they are still protected from TT doses given during an earlier pregnancy.

C. COV004 - ANNUAL SUMMARY, DROP OUT RATES (see chart VI.A., page 26)

I. PARTS OF THE REPORT

a. REPORT COLUMNS

i. DPT1 - DPT2

This is the percent difference between the number of doses of DPT1 given and the number of doses of DPT2 given during the year.

ii. DPT1 - DPT3

This is the percent difference between the number of doses of DPT1 given and the number of doses of DPT3 given during the year.

iii. OPV1 - OPV2

This is the percent difference between the number of doses of OPV1 given and the number of doses of OPV2 given during the year.

iv. OPV1 - OPV3

This is the percent difference between the number of doses of OPV1 given and the number of doses of OPV3 given during the year.

v. TT1 - TT2

This is the percent difference between the number of first doses of TT given to pregnant women and the number of second doses of TT given to pregnant women during the year.

b. DISTRICT LINE

There is one line of information on the drop out rate report. The name of your district is written on the left of the report. Next to the name of the district, under each of the columns, the drop out rates are listed.

The drop out rates show the percent difference between the number of doses of the first vaccine listed and the second vaccine listed in the column header at the top of the report. The drop out rates are based on the total number of doses of the antigens given for the year up to the last month you reported immunization data to KEPI. You will find the numbers used to calculate each of the drop out rates in the TOTALS line of report, COV005, Monthly Cumulatives, under the column showing the number of doses given for the vaccines used in the drop out rate.

2. UNDERSTANDING THE DROP OUT RATE REPORT

- a. You can calculate a drop out rate by taking the total number of doses of the first vaccine listed in the drop out rate and then subtracting the total number of doses of the second vaccine listed. You should divide the difference between these two numbers by the number of doses of the first vaccine.

For example, to calculate the DPT1 - DPT3 drop out rate, you would use the following formula:

$$\frac{(\text{Total Number of doses of DPT1}) - (\text{Total Number of doses of DPT3})}{(\text{Total Number of DPT1})} \times 100\%$$

- b. A drop out rate tells you the percent of children who receive a first dose of vaccine but do not receive a dose that should be given later. A positive drop out rate means that your programme is giving fewer doses of the second antigen listed in the drop out rate than of the first antigen. If you have a positive DPT1 - DPT3 drop out rate, it means you are giving more doses of DPT1 than of DPT3.
- c. A negative drop out rate means that your programme gave more doses of the second antigen than of the first antigen listed in the drop out rate. If you have a negative DPT1 - DPT3 drop out rate, it means that you gave more doses of DPT3 than of DPT1.
- d. PROGRAMME INDICATORS ON THE DROP OUT RATE REPORT

You should find the following indicators of programme continuity on the drop out rate report:

DPT1 - DPT3 Drop Out Rate - Indicator of programme continuity for immunizing infants.

TT1 - TT2 Drop Out Rate - Indicator of programme continuity for immunizing pregnant women.

D. COV003 - MONTHLY MONITORING GRAPH (see graph VI.D., page.27)

1. THE FIVE PARTS OF THE GRAPH

a. TARGET NUMBER SCALE: **DOSES (X 1000)**

-The vertical scale on the left side of the chart is the target number scale. It has a label that reads "DOSES (X 1000)".

-The top number on the scale shows you the number of doses (in thousands) of each vaccine you must give during the year to vaccinate 100% of your target population. This total equals the total number of survivors in your district, which is your target for the year.

b. IMMUNIZATION COVERAGE SCALE: **% COVERAGE**

-The vertical scale on the right side of the chart is the immunization coverage scale. It has a label that reads "% COVERAGE".

-The numbers show you the percent immunization coverage you have achieved with each antigen as a percentage of the target population for the year. The numbers go from 0% to 100% so you can monitor your progress towards immunizing 100% of your target population during the year. The denominator for calculating coverage is the total number of survivors in your district for the year.

c. MONTHS OF THE YEAR SCALE

-The horizontal scale along the bottom of the chart shows you the months of the year that you will be monitoring your progress in immunizing the target population.

d. PERCENT OF TARGET LINES

-There are four solid lines drawn on the Monthly Monitoring Chart. These are the percent of target lines. All of the lines start at zero on the left of chart and rise towards the right side of the chart.

One line rises to 100% coverage by the end of the year

One line rises to 75% coverage by the end of the year

One line rises to 50% coverage by the end of the year

One line rises to 25% coverage by the end of the year

-The four target lines rise as they go across the chart to show the growing number of children who should be immunized in order to succeed in immunizing the percent of the target population shown at the end of the line by the end of the year.

-These target lines will help you decide before the end of the year whether or not your programme will reach its target, based on the current rate of performance.

-Each separate target line shows you the total cumulative number of doses you must give by the end of each month in order to reach the percent immunization coverage shown at the end of the line by the end of the year.

-The lines will show you the percent of the total target population that you should have immunized by the end of that month that you were able to immunize.

-You should look closely at the line that reaches 100% coverage, because this line will show you the total number of doses you must give by the end of each month to be successful in immunizing 100% of your target population by the end of that month and by the end of the year.

e. ANTIGEN LINES

-There are two lines with symbols drawn on the chart. The line with squares shows you the number of doses of BCG you have given. The line with circles shows you the number of doses of measles you have given.

-On the BCG line, the squares above each month show you the total cumulative number of doses of BCG given since January to the end of the last month reported. This is the cumulative total number of doses of BCG given during the last month reported plus all the past months for the year.

-On the measles line, the circles above each month show you the total cumulative number of doses of measles given since January to the end of that month. This is the cumulative total number of doses of measles given during the last month reported plus all the past months for the year.

2. UNDERSTANDING THE MONTHLY MONITORING CHART

a. Find the last month that KEPI received a report from your district and entered it into the CEIS.

-This will be the last month with a circle and square above showing the number of doses of BCG and measles given.

b. Find out what your immunization coverage is for the year at the end of the last month that KEPI entered a report.

-Look to see where the square and the circle are on the % **COVERAGE** scale. Estimate your immunization coverage with BCG and measles from this scale.

c. Find out if you have reached your goal of immunizing 100% of the target population with BCG for the time between January and the last month that KEPI entered data.

-Find the percent target line (100%, 75%, 50% 25%) that is closest to the BCG antigen line for the last month reported. This line shows you the percent of the target population up to the last month you reported that you have immunized.

-If the BCG antigen line is below the 100% line, this means that you have not been able to immunize 100% of eligible infants each month with BCG.

-The closest percent target line also shows you what your immunization coverage will be at the end of the year, if your immunization programme performance stays the same for the rest of the year.

d. Find out if you have reached your goal of immunizing 100% of the target population with measles for the time between January and the last month that KEPI entered data.

-Find the percent target line (100%, 75%, 50%, 25%) that is closest to the measles antigen line at the last month. This line shows you the percent of the target population up to the last month you reported that you have immunized.

-If the measles line is below the 100% line, this means that you have not met the target of immunizing 100% of infants against measles.

-The closest percent target lines also shows you what your immunization coverage will be at the end of the year, if your immunization programme performance stays the same for the rest of the year.

e. Find out if you are reaching your goal of completely immunizing all children who get the first immunization.

-If your programme is completely immunizing most children who start the immunization series, then there should not be a big difference between the number of doses of DPT1 given and the number of doses of measles. This is because DPT1 is often given first to children who are starting their immunizations and measles is often given last. For this graph, BCG is used instead of DPT1, but the number of children who get BCG should be close to the number getting DPT1.

-Look at the difference between the BCG line and the measles line. If the two lines are close together, this means that your programme is giving almost the same number of BCG doses as measles doses. Children who receive their first immunization are also receiving their last one. Your programme has a low drop out rate.

f. Find out if your programme is running every month at the same level, and whether or not all of the monthly reports you sent to KEPI have been received and entered.

-The Monthly Monitoring chart shows the cumulative total number of doses given by the end of each month. The total can only increase or stay the same from one month to the next. It can not decrease.

-If your district is immunizing constantly throughout the year and reporting to KEPI, then

your BCG line and your measles line will probably be straight, rising or showing increasing coverage by a similar amount every month.

A STRAIGHT line that rises (shows increasing coverage) for every month means that your programme is functioning every month and reporting to KEPI.

-If your district doesn't give any immunizations or very few immunizations during one month, the cumulative total will stay the same as in the previous month, or increase only a little.

-If there is no circle or square on the line above a month, this means that no immunization report was entered by KEPI for that month. The antigen line going from the previous month to the month in which there was no or little activity will be flat.

A FLAT line means there was a performance problem during a month.

g. Look at the position of the BCG and measles lines at the end of the month as compared to the position of the 100% target line at that month.

-The difference shows you how far you have to go to catch up. The difference between the position of the 100% line and the antigen line equals the number of extra doses you must make up over the next months, in addition to immunizing the target population for those months, if you want to reach 100% of your target by the end of the year.

-Because the number of doses that must be given equals the number of infants in the target population, the difference between the vaccine line and the 100% target line also shows you the number of infants you must immunize over the next months, in addition to the monthly target population, in order to reach your target of 100% by the end of the year.

VI. EXAMPLES OF CEIS FEEDBACK REPORTS

Monthly, Cumulative: Infant Doses and Coverage

District: Taifa Taveta

January 1991 December 1991

Page:

Month	Survivors	BCG		DPT1		DPT2		DPT3		OPV Birth		OPV1		OPV2		OPV3		Measles		PIC	I Cov	Reporting Facilities	Total # of Facilities
		Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov				
Taifa Taveta District																							
January (cums)	8468	579	72	531	62	507	72	584	72	500	62	522	62	530	62	607	72	558	72	503	72	19	952
February (cums)	8468	976	122	974	122	978	122	991	122	966	112	957	112	945	112	979	122	928	112	1025	122	30	162
March (cums)	8468	1511	182	1451	172	1511	182	1465	172	1370	162	1398	172	1503	182	1501	182	1411	172	1593	192	60	252
April (cums)	8468	2023	242	1951	232	1971	232	1967	232	1829	222	1877	222	2013	242	1994	242	1842	232	2048	242	10	302
May (cums)	8468	3609	312	3523	302	3518	302	3446	292	3344	282	3376	282	3579	302	3503	302	3374	282	3667	302	20	1002
June (cums)	8468	3133	372	3086	362	3052	362	2926	352	2844	342	2917	342	3119	372	2983	352	2867	342	3292	392	121	502
July (cums)	8468	3683	432	3667	432	3629	432	3509	412	3372	402	3436	412	3708	442	3541	422	3403	402	3888	462	143	602
August (cums)	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692
September (cums)	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692
October (cums)	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692
November (cums)	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692
December (cums)	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692
TOTALS	8468	4256	502	4302	512	4239	502	4147	492	3857	462	4023	482	4337	512	4207	502	3943	472	4428	522	165	692

Monthly, cumulative: Pregnant women doses and coverage

District: Taita Taveta

January 1991 - December 1991

25

Month	Pregnant Women	TT 1		TT 2		TT Boost		Reporting Facilities		Total # of Facilities
		Doses	Cov.	Doses	Cov.	Doses	Cov.			
Taita Taveta District										
January (cums)	9326	645	7%	295	3%	302	3%	19	6%	20
February (cums)	9326	510	5%	214	2%	222	2%	17	5%	20
March (cums)	9326	176	2%	218	2%	271	3%	21	110%	20 1E 600E 47100.
April (cums)	9326	582	6%	273	3%	369	4%	18	90%	20
May (cums)	9326	723	8%	331	3%	362	3%	26	106%	20
June (cums)	9326	505	5%	324	3%	377	3%	25	115%	20
July (cums)	9326	184	2%	16	0%	131	1%	22	110%	20
August (cums)	9326	531	6%	175	2%	562	6%	22	110%	20
September (cums)	9326	4216	45%	1790	19%	2261	24%	165	69%	20
October (cums)	9326	4216	45%	1790	19%	2261	24%	165	69%	20
November (cums)	9326	4216	45%	1790	19%	2261	24%	165	69%	20
December (cums)	9326	4216	45%	1790	19%	2261	24%	165	69%	20
TOTALS	9326	4216	45%	1790	19%	2261	24%	165	69%	20

Prepared on: 02/10/91

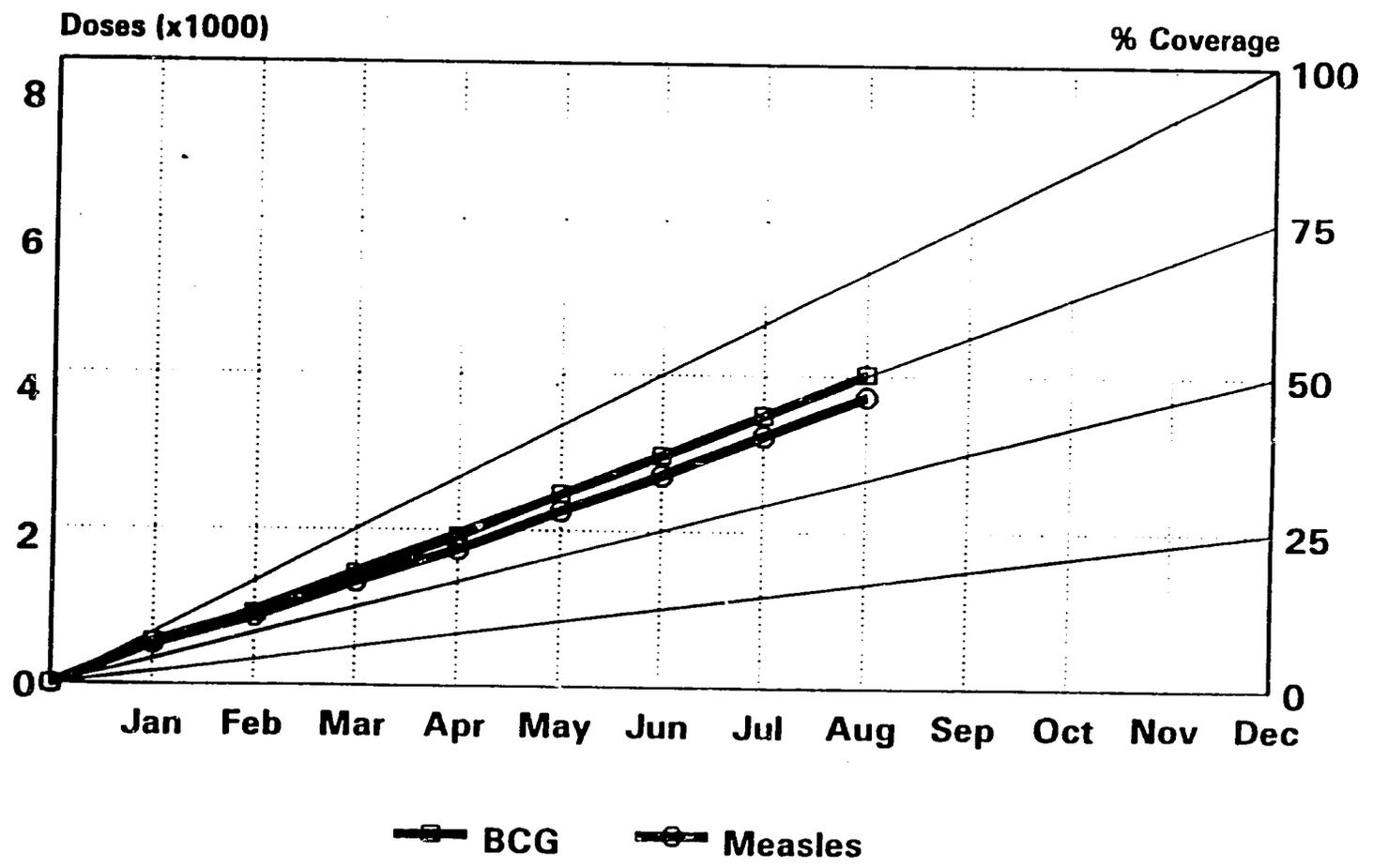
Page: 1

Annual Summary: Drop-out rates
District: Taita Taveta
1991

A: pa Code Name	LPT1-OPT2	OPT1-OPT3	OPV1-OPV2	OPV1-OPV3	TT1-TT2
05 Taita Taveta	12	12	20	52	502

Annual Cumulative Coverage

District: Taita Taveta 1991
BCG, Measles



27

VII. EXERCISES

EXERCISE A

PART 1 USE THE MONTHLY CUMULATIVE REPORT FOR LAMU DISTRICT, 1991 TO ANSWER THE FOLLOWING QUESTIONS.

1. What is the target population of surviving infants in Lamu District for 1991? Under what column is this information found?

2. What is the last month for which data from Lamu district were received by KEPI?

3a. How many doses of measles vaccine were given in Lamu District during the month of March, 1991?

3b. What was the measles coverage in Lamu district for March, 1991?

Write down the number of doses given and the denominator used to calculate measles coverage for the month.

Number of Doses _____

Denominator _____

4a. How many doses of measles vaccine were given in Lamu District from January to July, 1991?

4b. What was the measles coverage in Lamu district for the period January to July, 1991?

29'

Write down the number of doses given and the denominator used to calculate measles coverage for the period January to July, 1991.

Number of Doses _____

Denominator _____

5a. How many total immunization reports are expected from all facilities in Lamu during 1991? Under what column do you find this information?

5b. How many monthly immunization reports are expected each month in Lamu District? (Note: The number of reports expected each month will equal the total number of facility reports expected for the year divided by 12). Show the numbers used to calculate this.

Total number of reports expected for the year _____

Total number of reports expected each month _____

5c. How many facilities sent a monthly immunization report to Lamu District in May, 1991?

5d. What is the completeness of reporting from the health facility to the district level in Lamu district for the month of May, 1991.

Reports received for May, 1991 _____

Reports expected for May, 1991 _____

Completeness of Reporting for May, 1991 _____

6. What is the cumulative access to immunization services in Lamu District, at the end of the last month for which data were entered? Under what column is this information found?

Access _____

Column _____

7. What percent of the yearly target population of surviving infants completed the immunization series at the end of the last month for which data were entered? Under what column on the report is this information found?

Infants Completing Immunization Series _____

Column _____

- 8a. What was the difference between DPT1 and OPV1 coverage in Lamu District for the period January to July, 1991?

DPT1 Coverage _____

OPV1 Coverage _____

Difference in Coverage between DPT1 and OPV1 _____

- 8b. Does the difference in coverage between DPT1 and OPV1 suggest that there was a problem with missed opportunities in Lamu District between January and July, 1991?

- 8c. What was the difference between DPT3 and OPV3 coverage in Lamu District for the period January to July, 1991?

DPT3 Coverage _____

OPV3 Coverage _____

Difference in coverage between DPT3 and OPV3 _____

- 8d. Does the difference in coverage between DPT3 and OPV3 suggest that there was a problem with missed opportunities in Lamu District between January and July, 1991?

Monthly Cumulative: Infant Uses and Coverage
District: Lamu
1991

Routine reports

Month	Survivors	bCG		DPT1		DPT2		DPT3		Inj Birth		DPT4		DPT5		DPT6		DPT7		DPT8		Reporting Facilities	Total # of Facilities	
		Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov			
35 Lamu District																								
January (cuus)	2877	164	62	157	52	155	52	189	72	144	52	152	52	167	62	192	72	176	62	166	62	13	62	106
February (cuus)	2877	176	62	134	52	148	52	113	42	136	52	118	42	146	52	161	62	136	52	131	52	15	92	120
March (cuus)	2877	225	82	165	62	138	52	135	52	187	72	149	52	124	42	136	52	174	62	157	52	16	102	118
April (cuus)	2877	235	82	202	72	166	62	137	52	210	72	194	72	171	62	137	52	166	62	162	62	15	92	107
May (cuus)	2877	210	72	201	72	183	62	137	52	176	62	187	62	184	62	149	52	135	52	125	42	14	72	126
June (cuus)	2877	192	72	174	62	182	62	157	52	154	62	164	62	175	62	154	52	147	52	117	42	15	72	102
July (cuus)	2877	212	72	231	82	207	72	178	62	173	62	222	82	209	72	202	72	196	72	172	62	15	72	122
August (cuus)	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344
September (cuus)	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344
October (cuus)	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344
November (cuus)	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344
December (cuus)	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344
Total 5	2877	1414	492	1266	442	1177	412	1048	362	1185	412	1196	422	1176	412	1133	392	1132	392	1030	362	103	312	1344

Monthly Cumulatives: Infant Doses and Coverage
District: Kisii
1991

Routine reports

Month	Surveillance Doses	BCG		DTP1		DTP2		DTP3		DTP birth		DTP4		DTP5		Measles		FICCI Cov	reporting Facilities Cov	Total # of facilities	
		Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov						
Al Kisii District																					
January (cum)	07623	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
February (cum)	07623	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
March (cum)	07623	3012	42	1977	22	2109	32	1959	22	1559	22	1501	22	2003	32	1983	32	1656	22	1191	22
April (cum)	07623	1606	22	1978	22	2109	32	1652	22	3057	52	1711	32	1797	32	1970	32	3659	52	2113	32
May (cum)	07623	7500	112	6347	82	6706	102	6070	92	6818	102	5036	72	3662	62	6121	92	7565	112	4432	72
June (cum)	07623	9641	132	7381	112	8422	122	7750	112	8645	132	6823	102	4468	112	7676	122	9146	132	5321	82
July (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
August (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
September (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
October (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
NOVEMBER (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
DECEMBER (cum)	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92
TOTALS	07623	12118	182	9476	142	10269	152	9534	142	10513	162	8515	132	5662	142	9669	152	10742	162	6344	92

Best Available Document

34

EXERCISE B

USE THE "ANNUAL SUMMARY: DROP-OUT RATES" REPORT TO ANSWER THE FOLLOWING QUESTION?

1. Which district had the largest drop-out rate between DPT1 and Measles during 1991?

2. What was the DPT1-DPT3 Drop Out Rate in Elgeyo Marakwet District in 1991?

Use the Monthly Cumulatives Report for Elgeyo Marakwet for 1991 to find DPT1 coverage and the DPT3 coverage in the district. Use these coverage figures and calculate the DPT1 - DPT3 Drop Out Rate by hand.

DPT1 Coverage _____

DPT3 Coverage _____

DPT1 - DPT3 Drop Out Rate _____

3. In Bungoma District DPT3 coverage was 50% and measles coverage was 60% in 1990. Calculate the DPT3 - Measles Drop out rate?

4. List the districts where Measles coverage was higher than DPT3 coverage in 1991. Describe how you selected these districts.

5. How many districts in Kenya had a problem with the drop-out between DPT1 and measles during 1991? Use a drop-out rate of more than 10% as an indicator for a problem.

6. How many districts in Kenya had a problem with the drop-out between TT1 and TT2 during 1991? Use a drop-out rate of more than 10% as an indicator for a problem.

Best Available Document

Annual Summary: Drop-out rates

Country: Kenya

1991

routine reports

Ranked on DFT1 - Measles rate

Rank	Location	DFT1 - DFT3		DFT1 - DFT5		DFT1 - Measles		DFT3 - Measles		FT1 - FT2	
		Diff	Out	Diff	Out	Diff	Out	Diff	Out	Diff	Out
1.	04 South Nyanza	4914	24%	1312	7%	8460	42%	3546	23%	5834	47%
2.	52 Mandera	146	25%	103	20%	209	36%	53	15%	309	69%
3.	03 Wajir	462	35%	324	27%	470	36%	8	1%	260	47%
4.	45 Marsabit	218	25%	191	21%	302	35%	84	13%	259	52%
5.	06 West Pokot	1703	33%	1088	16%	1769	35%	56	1%	866	42%
6.	01 Garissa	829	42%	500	14%	680	34%	-149	-13%	572	51%
7.	02 Kisumu	2539	19%	-642	-6%	4402	33%	1863	17%	5005	48%
8.	72 Eusia	1408	23%	-970	-21%	2023	33%	615	13%	1499	33%
9.	71 Kajiado	852	19%	627	15%	1324	30%	472	13%	1596	52%
10.	63 Siaya	965	7%	-2880	-24%	3994	29%	3029	24%	2994	34%
11.	05 Turkana	1206	36%	460	16%	988	29%	-218	-10%	577	45%
12.	00 Kakamega	4868	16%	-5550	-22%	8224	27%	3336	13%	3090	46%
13.	11 Nairobi	2461	12%	-2950	-19%	5255	26%	2794	16%	1629	10%
14.	08 Tana River	211	33%	78	13%	157	24%	-54	-13%	212	49%
15.	15 Narok	1304	19%	529	5%	1669	24%	365	6%	1966	43%
16.	04 Samburu	558	21%	205	8%	622	23%	64	3%	669	51%
17.	01 Bungoma	1355	10%	-1270	-11%	2965	21%	1613	10%	5290	36%
18.	01 Lamacha	419	11%	525	14%	691	18%	272	6%	464	12%
19.	02 Elgeyo Marakwet	574	11%	62	1%	993	18%	399	6%	1209	41%
20.	04 Taitave	35	4%	49	5%	144	15%	109	12%	312	47%
21.	06 Meru	1469	10%	-2380	-12%	2239	15%	770	6%	7732	43%
22.	00 Isiasha	117	5%	-450	-5%	1002	10%	285	4%	1747	37%
23.	24 Nvandarua	138	3%	736	15%	559	11%	421	9%	3992	65%
24.	03 Laikipia	218	17%	63	5%	134	11%	-84	-6%	313	34%
25.	07 Machakos	927	69%	661	66%	148	11%	-779	-191%	471	32%
26.	01 Kilifi	303	5%	-68	-1%	615	10%	312	5%	638	14%
27.	74 Nakuru	267	7%	29	2%	398	10%	131	4%	2595	59%
28.	08 parts Kaveta	155	4%	-154	-5%	359	5%	204	5%	2426	56%
29.	03 Laikipia	526	12%	-623	-13%	245	6%	-281	-5%	2470	57%
30.	05 Nyeri	214	2%	-1426	-15%	400	4%	166	2%	6319	42%
31.	01 Baringo	35	1%	-19	-1%	240	4%	205	3%	4865	51%
32.	01 Baringo	...	..	...	..	...	..	...	..	...	..
33.	02 Kwale	...	..	...	..	...	..	...	..	...	..
34.	00 Transkei	...	..	...	..	...	..	...	..	...	..
35.	00 Transkei	...	..	...	..	...	..	...	..	...	..
36.	00 Transkei	...	..	...	..	...	..	...	..	...	..
37.	00 Transkei	...	..	...	..	...	..	...	..	...	..
38.	00 Transkei	...	..	...	..	...	..	...	..	...	..
39.	00 Transkei	...	..	...	..	...	..	...	..	...	..
40.	00 Transkei	...	..	...	..	...	..	...	..	...	..
41.	00 Transkei	...	..	...	..	...	..	...	..	...	..
42.	00 Transkei	...	..	...	..	...	..	...	..	...	..
43.	00 Transkei	...	..	...	..	...	..	...	..	...	..
44.	00 Transkei	...	..	...	..	...	..	...	..	...	..
45.	00 Transkei	...	..	...	..	...	..	...	..	...	..
46.	00 Transkei	...	..	...	..	...	..	...	..	...	..
47.	00 Transkei	...	..	...	..	...	..	...	..	...	..
48.	00 Transkei	...	..	...	..	...	..	...	..	...	..
49.	00 Transkei	...	..	...	..	...	..	...	..	...	..
50.	00 Transkei	...	..	...	..	...	..	...	..	...	..
51.	00 Transkei	...	..	...	..	...	..	...	..	...	..
52.	00 Transkei	...	..	...	..	...	..	...	..	...	..
53.	00 Transkei	...	..	...	..	...	..	...	..	...	..
54.	00 Transkei	...	..	...	..	...	..	...	..	...	..
55.	00 Transkei	...	..	...	..	...	..	...	..	...	..
56.	00 Transkei	...	..	...	..	...	..	...	..	...	..
57.	00 Transkei	...	..	...	..	...	..	...	..	...	..
58.	00 Transkei	...	..	...	..	...	..	...	..	...	..
59.	00 Transkei	...	..	...	..	...	..	...	..	...	..
60.	00 Transkei	...	..	...	..	...	..	...	..	...	..
61.	00 Transkei	...	..	...	..	...	..	...	..	...	..
62.	00 Transkei	...	..	...	..	...	..	...	..	...	..
63.	00 Transkei	...	..	...	..	...	..	...	..	...	..
64.	00 Transkei	...	..	...	..	...	..	...	..	...	..
65.	00 Transkei	...	..	...	..	...	..	...	..	...	..
66.	00 Transkei	...	..	...	..	...	..	...	..	...	..
67.	00 Transkei	...	..	...	..	...	..	...	..	...	..
68.	00 Transkei	...	..	...	..	...	..	...	..	...	..
69.	00 Transkei	...	..	...	..	...	..	...	..	...	..
70.	00 Transkei	...	..	...	..	...	..	...	..	...	..
71.	00 Transkei	...	..	...	..	...	..	...	..	...	..
72.	00 Transkei	...	..	...	..	...	..	...	..	...	..
73.	00 Transkei	...	..	...	..	...	..	...	..	...	..
74.	00 Transkei	...	..	...	..	...	..	...	..	...	..
75.	00 Transkei	...	..	...	..	...	..	...	..	...	..
76.	00 Transkei	...	..	...	..	...	..	...	..	...	..
77.	00 Transkei	...	..	...	..	...	..	...	..	...	..
78.	00 Transkei	...	..	...	..	...	..	...	..	...	..
79.	00 Transkei	...	..	...	..	...	..	...	..	...	..
80.	00 Transkei	...	..	...	..	...	..	...	..	...	..
81.	00 Transkei	...	..	...	..	...	..	...	..	...	..
82.	00 Transkei	...	..	...	..	...	..	...	..	...	..
83.	00 Transkei	...	..	...	..	...	..	...	..	...	..
84.	00 Transkei	...	..	...	..	...	..	...	..	...	..
85.	00 Transkei	...	..	...	..	...	..	...	..	...	..
86.	00 Transkei	...	..	...	..	...	..	...	..	...	..
87.	00 Transkei	...	..	...	..	...	..	...	..	...	..
88.	00 Transkei	...	..	...	..	...	..	...	..	...	..
89.	00 Transkei	...	..	...	..	...	..	...	..	...	..
90.	00 Transkei	...	..	...	..	...	..	...	..	...	..
91.	00 Transkei	...	..	...	..	...	..	...	..	...	..
92.	00 Transkei	...	..	...	..	...	..	...	..	...	..
93.	00 Transkei	...	..	...	..	...	..	...	..	...	..
94.	00 Transkei	...	..	...	..	...	..	...	..	...	..
95.	00 Transkei	...	..	...	..	...	..	...	..	...	..
96.	00 Transkei	...	..	...	..	...	..	...	..	...	..
97.	00 Transkei	...	..	...	..	...	..	...	..	...	..
98.	00 Transkei	...	..	...	..	...	..	...	..	...	..
99.	00 Transkei	...	..	...	..	...	..	...	..	...	..
100.	00 Transkei	...	..	...	..	...	..	...	..	...	..
Kenya Country		31662	13%	-14073	-7%	49925	21%	18263	9%	73020	42%

131

Monthly Cumulative: Infant Doses and Coverage
District: Elgeyo-Marakwet
1991

Routine reports

Month	Facilities	BCG		DPT1		DPT2		DPT3		OPV Birth		OPV1		OPV2		OPV3		Measles		FIC-1		Reporting Facilities Cov		Total # of Facilities
		Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	Doses	Cov	
Elgeyo-Marakwet District																								
January	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	22	112	192
February	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	22	112	192
March	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	24	122	192
April	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	46	242	192
May	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	21	112	192
June	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	67	352	192
July	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	26	142	192
August	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	93	462	192
September	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	23	122	192
October	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	116	602	192
November	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	21	112	192
December	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	137	712	192
January	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	23	122	192
February	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
March	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
April	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
May	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
June	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
July	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
August	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
September	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
October	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
November	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
December	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192
TOTAL	192	620	72	15	12	601	72	642	62	474	62	574	72	692	82	684	82	544	62	564	72	160	832	192

EXERCISE C

Use the Monthly Monitoring Charts for Embu, Elgeyo Marakwet and West Pokot Districts to answer the following questions:

1a. Where do you write the target population of surviving infants on a district monthly monitoring chart?

1b. For 1991, what is the target population of surviving infants in Embu district?

For Elgeyo Marakwet District?

For West Pokot District?

2. By the end of 1991, how many doses of measles vaccine must be given in Embu district during 1991 in order to immunize 100% of surviving infants?

3. What is the last month for which data was entered on the monthly monitoring chart for Embu district?

4. How many doses of DPT1 were given to surviving infants in Elgeyo Marakwet District between January and July, 1991.

5a. Which district, Elgeyo Marakwet, Embu or West Pokot, performed better from January to July 1991 by immunizing the highest percent of the target population against measles?

5b. How many infants were immunized against measles by the end of July, 1991 in this district?

5c. What was the annual measles immunization coverage rate in this district at the end of July, 1991. Where on the Monthly Cumulative Report (COV 005) for this district for 1991 could you find this same number?

5d. If the program in this district maintains the same rate of performance, what will be the measles coverage rate at the end of 1991?

6a. Embu District has a target population of 8389 surviving infants in 1991 and gave 4458 total doses of measles from January to July, 1991. What is the measles coverage in Embu District at the end of July, 1991?

6b. How many surviving infants should have been immunized against measles in Embu District between January and July, 1991, if the District was immunizing 100% of the target population?

6c. What percent of surviving infants who should have been immunized against measles between January and July, 1991 (from 6b) were immunized during this period?

7. About how many infants would need to be immunized against measles in Embu district during August, 1991, if the district wanted catch up and immunize 100% of surviving infants for the period January to August, 1991?

8a. Which of the three districts provided better access to immunization services from January to July, 1991?

8b. What is the estimated level of access to immunization services in this district?

9a. How can you use the monthly monitoring chart to estimate the DPT1 - Measles drop out rate?

9b. Which of the three districts has a larger problem with drop outs between DPT1 and measles?

9c. What is the estimated drop out rate between DPT1 and measles in this district for the period January to July, 1991.

10a. How can you use the monthly monitoring chart to determine if the EPI did not function during a particular month and gave no immunizations?

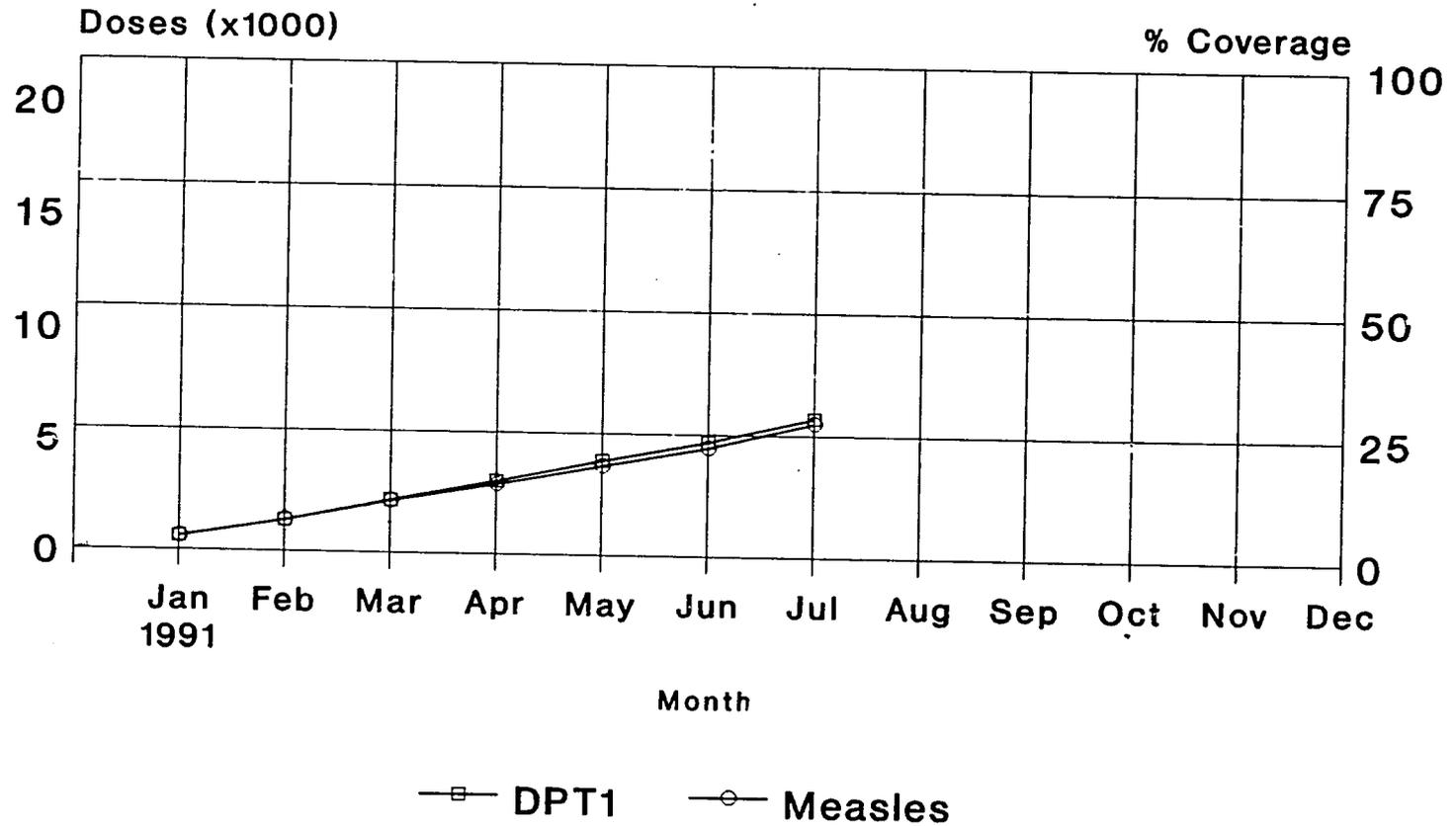
10b. Which District's Monthly Monitoring Chart shows that there was a performance problem during one month between January and July, 1991.

10c. During which month were no immunizations given in this district?

14

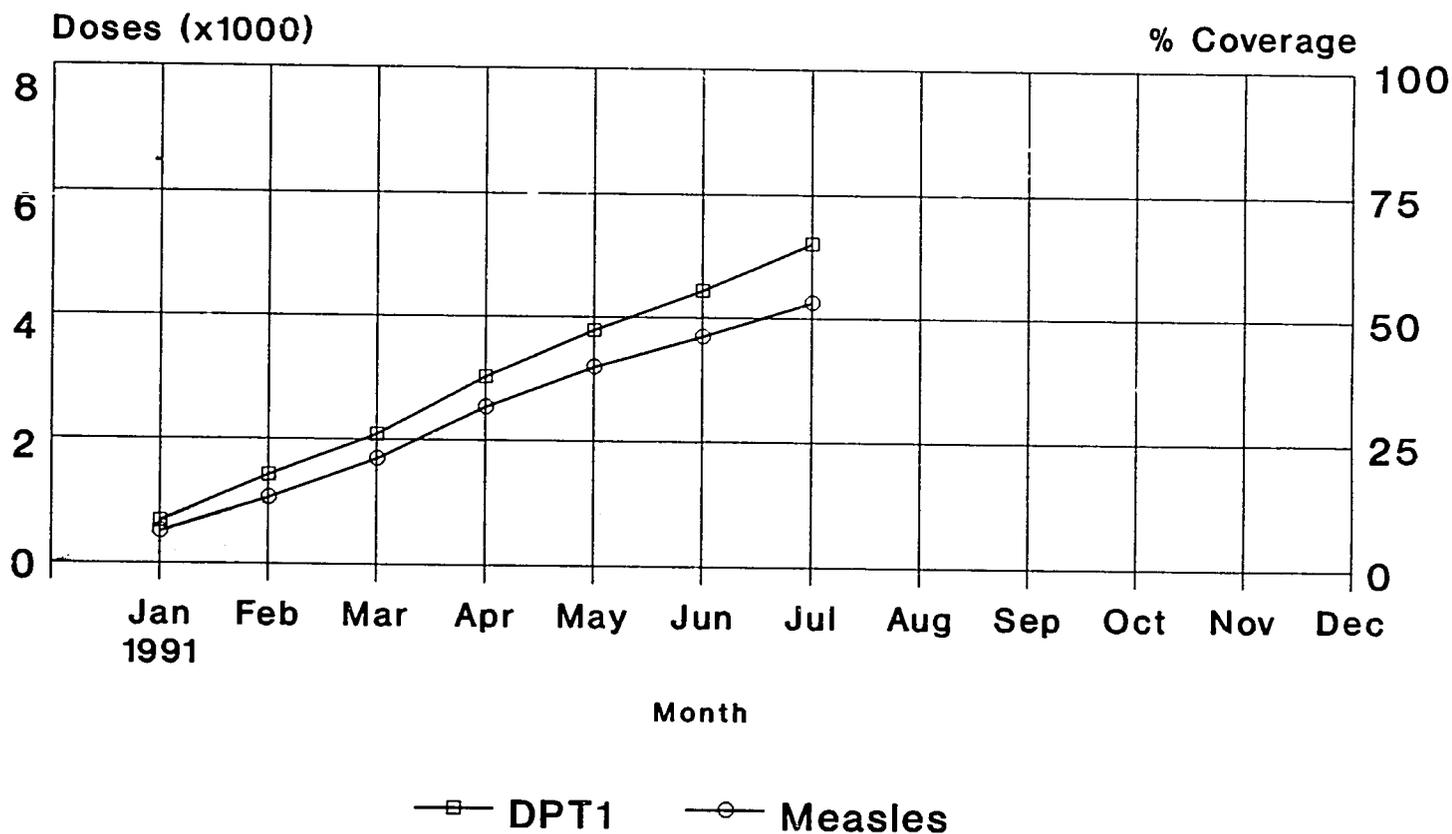
Monthly Monitoring Chart

District: Embu
Infant: DPT1, Measles



Monthly Monitoring Chart

District: Elgeyo Marakwet
Infant: DPT1, Measles

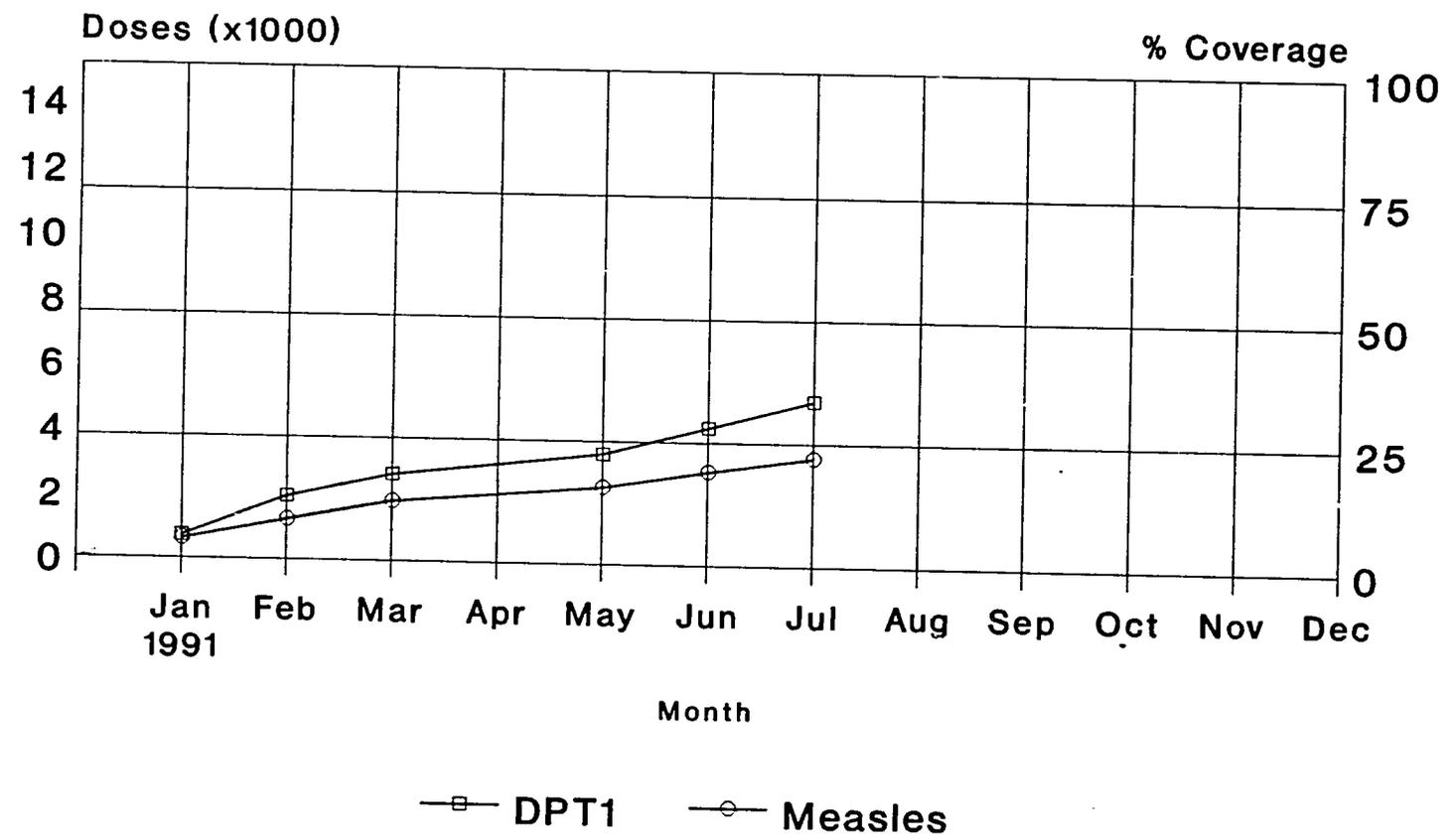


Kenya EPI

57

Monthly Monitoring Chart

District: West Pokot
Infant: DPT1, Measles



EXERCISE D

Use the KEPI Management Unit Report for 1991 to answer the following questions

1. Which district in Kenya was successful in giving the highest proportion of all the measles doses it administered to children less than one.

District _____

2. Which districts in Kenya may have a problem with targeting under ones for measles immunization. Use the criteria that at least 90% of all measles doses administered should be given to children less than one.

CEPI MU Monthly Management Report
Country: Kenya
December 1991

Routine reports

Ranked on Measles % Rearrange

Area Location	Survivors	PT1 Gov	PT3 Gov	PT5 Gov	Measles Gov	Pregnant Gov	TC Gov	CEPI - Measles Proc Gov	Measles Rear Losses	Reporting Facilities Gov	PT1 - PT2 Proc Gov
1. 22 Kirinyaga	22784	7%	6%	6%	7%	25093	3%	-10%	69	15%	31%
2. 23 Murang'a	53086	7%	7%	7%	7%	58464	5%	-10%	99	19%	51%
3. 41 Embu	21874	15%	15%	15%	15%	24090	20%	4%	99	18%	51%
4. 25 Nyeri	38031	19%	19%	19%	19%	41885	21%	4%	98	52%	42%
5. 73 Laikipia	13079	12%	15%	14%	10%	14404	13%	6%	98	58%	57%
6. 24 Nyanza	18030	27%	27%	24%	24%	19857	11%	11%	77	26%	65%
7. 35 Taita Taveta	6468	31%	4%	50%	4%	7326	1%	6%	77	6%	38%
8. 11 Nairobi	46793	42%	3%	3%	3%	51534	3%	26%	76	4%	10%
9. 31 Kilifi	25452	14%	13%	22%	21%	28031	13%	10%	76	13%	14%
10. 74 Nakuru	48723	3%	3%	6%	7%	53659	3%	10%	95	14%	59%
11. 75 Kakamega	76026	40%	14%	41%	39%	83729	4%	27%	53	52%	46%
12. 71 Bunyoni	39469	16%	22%	33%	28%	43468	10%	21%	89	36%	56%
13. 71 Kisumu	13700	22%	26%	25%	22%	15088	10%	30%	68	35%	52%
14. 42 Isiolo	3531	26%	25%	25%	22%	3889	9%	15%	87	24%	47%
15. 77 Uasin Gishu	26386	9%	3%	2%	4%	29060	2%	11%	87	6%	52%
16. 81 Garissa	15604	15%	26%	20%	21%	17185	10%	18%	87	32%	22%
17. 92 Busia	23462	16%	10%	13%	12%	25839	12%	33%	37	25%	70%
18. 45 Meru	66886	15%	10%	10%	10%	73663	14%	15%	66	1%	43%
19. 73 Lamu	1377	44%	7%	7%	7%	2168	1%	11%	25	14%	14%
20. 52 Kisumu	35125	17%	10%	10%	15%	3785	14%	33%	65	18%	46%
21. 65 Nyanza	0	..	..	..	..	0	..	13%	63	..	19%
22. 63 Siaya	15123	38%	15%	42%	17%	39783	18%	29%	62	53%	34%
23. 64 South Nyanza	62168	70%	25%	16%	19%	63467	10%	42%	92	57%	47%
24. 64 Samburu	5259	51%	40%	43%	35%	5792	11%	23%	71	63%	51%
25. 62 Elgeyo Marakwet	3389	65%	58%	57%	50%	4239	19%	18%	77	50%	41%
26. 86 West Pokot	15164	34%	22%	24%	22%	16700	7%	35%	76	55%	42%
27. 76 Tana River	6227	10%	7%	9%	8%	6858	7%	24%	72	11%	49%
28. 45 Marsabit	6989	10%	7%	6%	6%	7900	2%	35%	71	12%	52%
29. 75 Narok	19073	37%	30%	30%	28%	21005	12%	24%	69	37%	43%
30. 93 Turkana	7084	48%	11%	14%	14%	7802	9%	29%	66	47%	45%
31. 33 Wajir	2963	15%	7%	10%	8%	3872	3%	35%	53	16%	47%
32. 61 Kisii	67823	14%	14%	15%	16%	71695	5%	-13%	53	26%	70%
33. 52 Mandera	5164	11%	5%	5%	7%	5688	3%	36%	51	35%	37%
34. 51 Garissa	7134	12%	13%	13%	14%	10060	4%	34%	48	40%	61%
35. 21 Kisumu	55870	..	..	..	..	61531	..	..	..	..	..
36. 32 Kwale	17069	..	..	..	..	18798	..	..	..	..	..
37. 24 Mombasa	20008	..	..	..	..	22035	..	..	..	..	..
38. 43 Kitui	36763	..	..	..	..	40488	..	..	..	..	..
39. 44 Machakos	34305	..	..	..	..	42847	..	..	..	..	..
40. 72 Kericho	50035	..	..	..	..	55104	..	..	..	..	..
41. 76 Trans Nzoia	25576	..	..	..	..	28168	..	..	..	..	..
42. 63 Mandi	24907	..	..	..	..	27430	..	..	..	..	..
Kenya Country	1174479	20%	17%	19%	16%	1293479	8%	21%	54	28%	..

45