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11/11

TRAINING COURSE IN WOMEN'S HEALTH

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**Module Nine**

**Measuring the Prevalence  
of Contraceptive Use:**

A Family Planning Program Evaluation Guide

## International Prototype

Developed by the International Women's Health Coalition and converted to self-instructional format by the Institute for Development Training, this manual, and others in the series, is intended as a prototype only. For effective use in training programs, a country adaptation focused on the needs of a specific type of trainee, followed by pre-testing, is considered essential. For information on sources of funding for adaptation workshops, pre-tests and multiple copies of the adapted manual contact:

Institute for Development Training  
P.O. Box 2522  
Chapel Hill, NC 27515-2522  
U.S.A.

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## Introduction to Module Nine

This module, "Measuring the Prevalence of Contraceptive Use: A Family Planning Program Evaluation Guide," has been developed to teach you, the family health doctor, nurse, or field supervisor, a simple method which you can use to measure the success of your family planning program. With the aid of an evaluation worksheet, you will learn how to calculate the prevalence of contraceptive use in your village at a given point in time. This same method - along with individual village evaluation results - can be used at various administrative levels to calculate the prevalence of contraceptive use over larger population areas as well. If there are other sources of contraception available in your village or district, like pharmacies or private doctors, this module will tell you what the family planning case load is in your clinic. This evaluation technique is called "program prevalence."

Family planning can favorably influence the health and development of the children and mothers in your village. When you evaluate your family planning program using data, you have the opportunity to show your fellow doctors and nurses what you are doing professionally and what progress you are making in this area of family health. Evaluation results can also be a valuable guide for setting goals for family planning in your village.

Authors: Lenni W. Kangas  
Malik Namrossi

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## Instructions for the Learner

This module is self-instructional. Self-instruction is a method by which you, the learner, learn by yourself from carefully sequenced materials. The module is divided into short sections of information and each of these sections is followed by a series of questions which give you a chance to practice using the information you have learned. Answers to these questions are given so that you can check your understanding of the information.

The self-instructional method allows you to learn at your own speed and enables you to check your progress consistently in learning the information.

Follow the steps below in order to proceed through this self-instructional module in the most effective way:

1. Read the objectives for the module. They will outline for you what you will learn and be able to do after completing the module.
2. Take the Pre-test to get an idea of what you already know and what you need to learn.
3. Read and study the information in Section 1.
4. Answer the practice questions following the section without looking back at the information. Use a separate sheet of paper.
5. Check your answers using the answer sheet on the page following the questions.
6. If any of your answers are incorrect, reread the information in the section and try to answer the questions again.
7. When all your answers are correct, go on to the next section.
8. Proceed through the rest of the sections in the same way: read section; answer questions; check answers; reread section if necessary.
9. Take the Post-test after you have completed the entire module.
10. Check your answers to the Post-test using the answer sheet at the end of the module.

## Prerequisites and Objectives

### Prerequisites

Program evaluation involves the use of some basic mathematical skills. These skills will not be taught in the learning module. It is assumed that you are already able to do the following mathematical functions:

1. perform simple mathematical operations on an electronic hand calculator;
2. translate percentage (%) into an actual number [e.g., 10% of 5,000 = 500];
3. translate a fraction into a percentage (%) [e.g.,  $28/1000 = 2.8\%$ ];
4. multiply a whole number by a percentage [e.g.,  $5,000 \times 2.8\% = 140$ ];
5. tabulate a series of numbers using multiplication and addition; and
6. plot a point on a simple line graph.

If you have difficulty with any of these mathematical skills, it may be a good idea to review the skills before proceeding with this module.

### Main Learning Objective:

After completing this learning module, you, the learner, will be able to calculate the prevalence of contraceptive use among Married Couples of Reproductive Age (MCRA) to measure family planning program performance in a typical village at a given point in time.

### Sub-objectives

The following sub-objectives are the individual skills that will enable you to perform the main objective listed above. You will learn these enabling skills in the 7 information sections that make up this module. The sub-objectives, or skills to be learned in an information section, will be listed again at the beginning of the section. After completing the 7 information sections, you will be able to do the following:

1. define the term, "evaluation:"
2. give at least two reasons for evaluating family planning programs;
3. define the concept of prevalence programming;
4. define and distinguish between the following two groups of family planning clients: "current users" and "cumulative new acceptors;"
5. list two kinds of data you must have about a village in order to measure the prevalence of contraceptive use in that village;
6. calculate the current population of a village using the most recent census figures;
7. calculate the Population Growth Rate (PGR), or the Natural Rate Increase (RNI), of a population given the Crude Birth Rate (CBR) and the Crude Death Rate (CDR) of that population;
8. calculate the number of Married Couples of Reproductive Age (MCRA) in a typical village given the current population of that village;
9. tabulate on a worksheet the number of Married Couples of Reproductive Age (MCRA) using each of the following types of contraceptives at a given point in time: (a) pills; (b) condoms; (c) tubal ligations, vasectomies and hysterectomies; (d) foam tablets and cream applications; (e) injectible contraceptives; (f) IUDs; and (g) diaphragms;
10. calculate the prevalence of contraceptive use in a typical village at a specific point in time given the total number of current contraceptive users in that village;
11. plot the prevalence rate on a line graph to show the correlation between prevalence of contraceptive use, the Population Growth Rate, and the Crude Birth Rate;
12. list at least three health advantages for the village and for the Married Couples of Reproductive Age (MCRA) who practice family planning on a regular basis;
13. explain the advantage of setting a specific goal for increasing the prevalence of contraceptive use in a village over a period of time; and
14. list at least three advantages of measuring family planning program performance using the evaluation method, prevalence programming.

## Pre-Test

**To the Learner:** Before starting this module, try taking the following test. This test will give you an idea of what you already know and what you will learn in this module. You will take the same test again after you have completed the module. A comparison of your two sets of answers will give you an idea of how much you have learned from this module.

Record your answers on a separate sheet of paper. You will find the correct answers to the Pre-test in the last section of this module.

1. What is "evaluation"?
2. What are two good reasons for evaluating family planning programs?
3. What are the two general parts of an evaluation program?
4. What does the evaluation program, "prevalence programming," measure?
5. (Fill in the blanks) MCRA's who are using contraceptives now are called \_\_\_\_\_.
6. (Fill in the blanks) MCRA's in the family planning program for the first time and have not used contraceptives before are called \_\_\_\_\_.
7. As part of the evaluation method, prevalence programming, which kind of contraceptive user will you count?
8. (Fill in the blanks) To measure the prevalence of contraceptive use in your village, you must divide the number of \_\_\_\_\_ by the number of \_\_\_\_\_.
9. What two kinds of data must you tabulate from your village records to use the evaluation method, "prevalence programming"?
10. You are a doctor or nurse or field supervisor in the village of Manif. Using the following population data and contraceptive use data, fill out the Program Prevalence Worksheet on pages 9 and 10. The results will be the prevalence of contraceptive use in the village of Manif at the end of a 12 month period in 1984.

### Population Data for the Village of Manif

Population size according to the 1976 census = 9,850  
Population Growth Rate = 2.5% per year  
Number of births in 1984 = 422  
Number of deaths in 1984 = 122

### Contraceptive Use Data for the Village of Manif-Previous 12 Months of 1984

---

| Contraceptive Type                              | Number Distributed Over<br>Previous 12 Month Period |
|---|---|
| pills (monthly cycles)                          | 2925  |
| condoms (pieces)                                | 1500  |
| tubal ligations, vasectomies,<br>hystarectomies | 5   |
| foam tablets/cream applications                 | 2000  |
| injectible contraceptives                       | 0   |
| diaphragms                                      | 8   |
| IUDs  | 34  |

---

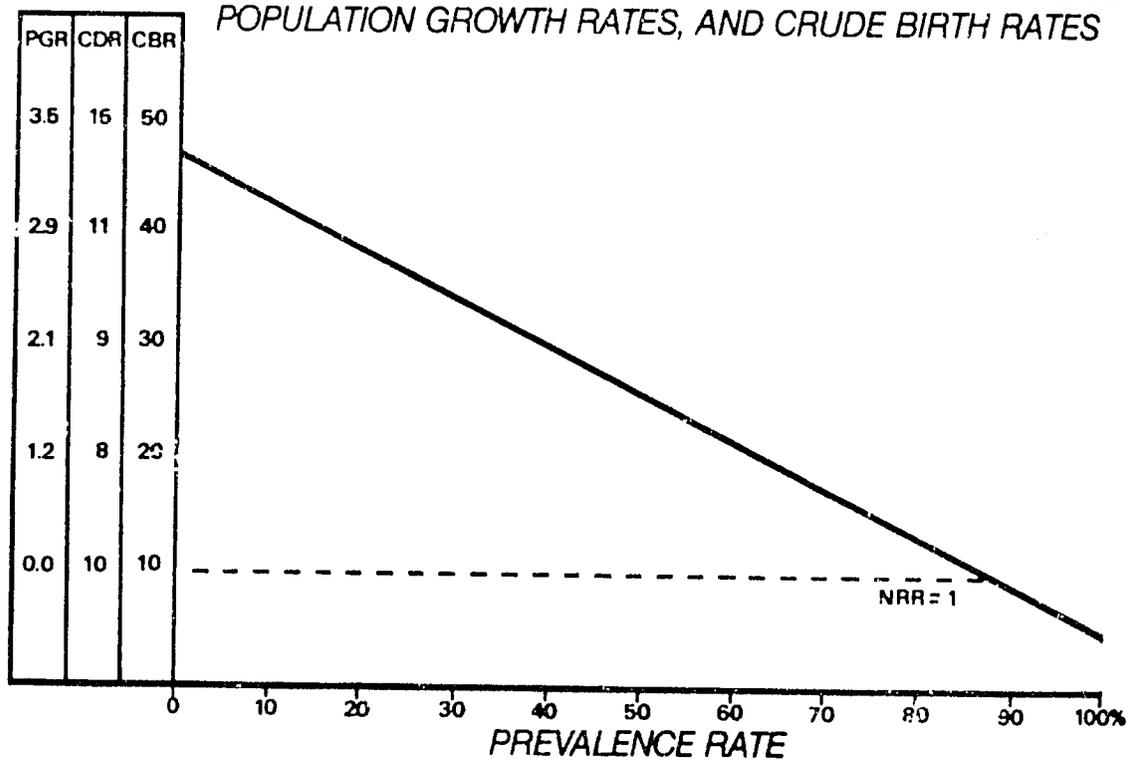


## ESTIMATING CURRENT IUD USERS

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |              |
|----------------------|----------------|---------|---------|---------|---------|--------------|
| Number of Insertions |                |         |         |         |         |              |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |              |
| Current Users        |                |         |         |         |         | <b>TOTAL</b> |

11. Plot the prevalence rate and the crude birth rate for the village of Manif on the following line graph. Label the mark "Manif, 1984."

*CORRELATION BETWEEN PREVALENCE OF CONTRACEPTIVE USE, POPULATION GROWTH RATES, AND CRUDE BIRTH RATES*



12. List at least 3 health advantages for the Married Couples of Reproductive Age in a village who practice consistent family planning.
13. What is the advantage of setting goals for specific increases in contraception prevalence for your village?
14. List at least three advantages of using the evaluation method, "prevalence programming," to measure your family planning program.

## 1. What is Family Planning Evaluation?

---

### Learning Objectives:

At the end of this information section, you will be able to:

1. define the term, "evaluation," and
  2. give at least two reasons for evaluating family planning programs.
- 

You are a village doctor or nurse or field supervisor who is being asked - for perhaps the first time - to evaluate a part of your health clinic practice: the family planning program. You may be asking yourself these two questions: "What is involved in family planning program evaluation?" and "Why should I evaluate this program?" It is the goal of this first information section to answer these two basic questions. The next five information sections will show you step-by-step how to implement your own evaluation program.

### **What is "evaluation"?**

Evaluation is a guide. It can show you what you have accomplished in the past and help you set goals for the future. Evaluation is also a process one uses to measure current program performance. In the case of a family planning program, you will be measuring the prevalence of contraceptive use by Married Couples of Reproductive Age (MCRA) in your village at a given point in time. In order to do this measurement, you will need some specific facts, or "data," about the population in your village and the number of contraceptives dispensed by your health clinic over a specific period of time.

### **Why should I evaluate my health clinic's family planning program?**

There are several good reasons to evaluate your family planning program. First, a successful family planning program favorably influences the health of the mothers participating in the program and contribute to the healthy development of their children. Evaluation gives you a method to measure how much you have accomplished in this area of family health and the evaluation results can help you set specific goals to work towards. Over time, evaluation can tell you whether your clinic's performance is better or worse than in the previous year. Second, doing evaluation increases professionalism. Evaluation gives you the hard data to show your fellow doctors and nurses what you are doing and to receive credit for your professional accomplishments.

### **What is involved in doing evaluation?**

When doing an evaluation of a program, the first step is to have a general idea of the goal you are striving for with your program. In this case, the goal of family planning programs is to reduce the fertility rate of the Married Couples of Reproductive Age (MCRA) in a village consistently over time in order to favorably influence the health and welfare of the people in the village.

The second step is to measure your progress towards accomplishing this goal using an evaluation method applied to the specific data from your clinic's family planning records. A simple evaluation worksheet will guide you through this process. This learning module will teach you how to fill out the worksheet. The evaluation method you will learn is called "prevalence programming."

### Practice Questions

1. What is "evaluation"?
2. What are two good reasons for evaluating family planning programs?
3. What are the two general parts of an evaluation program?
4. What is the evaluation method that you will learn in this module?

**To the Learner:** Turn the page to check your answers.

### Answers to Practice Questions

1. Evaluation is a process one uses to measure program performance.
2. Two good reasons for evaluating family planning programs: (1) gives one a measure to see how much one has accomplished and (2) increases professionalism.
3. Two general parts of an evaluation program: (1) set the goal for your program and (2) measure your progress.
4. "prevalence programming"

**To the Learner:** If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 2 on the next page.

## 2. Prevalence Programming: An Overview

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### Learning Objectives:

At the end of this information section, you will be able to:

1. define the concept of prevalence programming;
  2. define and distinguish between the following two groups of family planning clients: "current users" and "cumulative new acceptors."; and
  3. list two kinds of data you must have about a village in order to measure the prevalence of contraceptive use in that village.
- 

### Definition of "prevalence programming"

Prevalence programming is a simple evaluation method which will enable you to measure the prevalence of contraceptive use by the Married Couples of Reproductive Age (MCRA) in your village at any given point in time. There are two categories of family planning clients which you can count or measure: (1) the "new acceptors" and (2) the "current users." The "new acceptors" are couples in the family planning program who have never used contraceptives before. The "current users" are couples who are using contraceptives now. While it is an important goal to increase the number of "new acceptors," it is an even more important goal to make each "new acceptor" a continuing user, or "current user." It is the number of continuing, or "current users" which will make up the data for the evaluation of prevalence of contraceptive use.

### Example:

Here is a brief example to show you generally how you will be looking at your contraceptive dispensing data in terms of the "current user:"

In **Month 1** of your family program, you have three "new acceptors." One woman has an IUD inserted and the other two women each receive three monthly cycles of pills. In **Month 2**, five "new acceptors" each receive three monthly cycles of pills. In **Month 3**, a "new acceptor" has an IUD inserted. "Current users" at the end of Month 3 equal all the women in your program who are currently protected by contraceptives. In this example, all nine women from Months 1 - 3 are "current users" because they all chose contraceptive methods which last for three months or more. At the end of **Month 4**, however,

only seven women are still protected and are listed as "current users" unless each of the two women from Month 1 came back at the end of Month 3 for additional cycles pills. For a summary, see the table below.

|                 | New Acceptors<br>(Pills) (IUDs) |   |   | Total # Protected |
|-----------------|---------------------------------|---|---|-------------------|
| <b>Month 1:</b> | 2                               | 1 | = | 3                 |
| <b>Month 2:</b> | 5                               | 0 | = | 8                 |
| Month 1 (+)     | 2                               | 1 |   |                   |
| <b>Month 3:</b> | 0                               | 1 |   |                   |
| Month 2 (+)     | 5                               | 0 | = | 9                 |
| Month 1 (+)     | 2                               | 1 |   |                   |
| <b>Month 4:</b> | 0                               | 0 |   |                   |
| Month 3 (+)     | 0                               | 1 | = | 7                 |
| Month 2 (+)     | 5                               | 0 |   |                   |
| Month 1 (+)     | *                               | 1 |   |                   |

\*The women who were new acceptors in month 1 are no longer protected in month 4 unless they return for additional cycles of pills.

### Measuring the Prevalence Rate

Prevalence is the percentage (%) of eligible couples (MCRA) who are using contraception at any one point in time. This rate is determined by dividing the number of "current users" by the total number of eligible MCRAs. The percentage of prevalence will tell you what effect your family planning program has had on the Population Growth Rate, or the Natural Increase Rate, of your village and consequently, on the overall health and welfare of your village due to the benefits of child spacing.

### Summary:

This information section has given you an overview of the evaluation method, "prevalence programming." To apply this evaluation method to your own family planning program, you will need to know how to tabulate two kinds of data from your village records: (1) population data and (2) contraceptive use data. The next two information sections will explain how to tabulate these two kinds of data.

## Practice Questions

1. What does the evaluation method, "prevalence programming," measure?
2. (Fill in the blanks) MCRAs who are using contraceptives now are called \_\_\_\_\_.
3. (Fill in the blanks) MCRAs in the family planning program for the first time and have not used contraceptives before are called \_\_\_\_\_.
4. As part of the evaluation method, prevalence programming, which kind of contraceptive user will you count?
5. In the following example, tabulate the number of "current users" of contraceptives at the end of Month 4. (Assume that your village family planning program started in Month 1.)  
Month 1: 3 "new acceptors" given IUDs  
2 "new acceptors" given three monthly cycles of pills each  
Month 2: 2 "new acceptors" given three monthly cycles of pills each  
1 "new acceptor" receives tubal ligation  
Month 3: 2 "new acceptors" given three monthly cycles of pills each  
Month 4: 1 "new acceptor" receives an IUD  
End of Month 4: Number of "current users" = \_\_\_\_\_
6. (Fill in the blanks) To measure the prevalence of contraceptive use in your village, you must divide the number of \_\_\_\_\_ by the number of \_\_\_\_\_.
7. What two kinds of data must you tabulate from your village records to use the evaluation method, "prevalence programming"?

**To the Learner:** Turn the page to check your answers.

## Answers to Practice Questions

1. "Prevalence programming" measures the prevalence of contraceptive use by Married Couples of Reproductive Age in a population at a given point in time.
2. current users
3. new acceptors
4. current users
5. Nine of the eleven new acceptors are current users at the end of month 4 because all except the two women receiving three monthly pill cycles at the beginning of Month 1 are still protected by the contraceptive method they chose. The two women receiving monthly pill cycles in Month 1 are no longer protected after the end of Month 3.
6. current users ..... Married Couples of Reproductive Age
7. population data and contraceptive use data

**To the Learner:** If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 3 on the next page.

### 3. Tabulating Population Data

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#### Learning Objectives:

At the end of this information section, you will be able to:

1. calculate the current population of a village using the most recent census figures;
  2. calculate the Population Growth Rate (PGR), or the Natural Rate Increase (RNI), of a population given the Crude Birth Rate (CBR) and the Crude Death Rate (CDR) of that population; and
  3. calculate the number of Married Couples of Reproductive Age (MCRA) in a typical village given the population of that village.
- 

In Information Section 2, you learned that the evaluation method you will be using measures the prevalence of contraceptive use at a given point in time. You also learned that prevalence is equal to the percentage (%) of eligible MCRAs actually using contraceptives at a given point in time.

You need to find out the approximate number of MCRAs in your village, which you can do mathematically using the latest census figure and the Population Growth Rate (PGR). In this information section, you will learn to tabulate the Population Growth Rate and the current population size in order to get a current count of Married Couples of Reproductive Age in your village.

#### Updating the Most Recent Census Figure

To update the most recent population census of your village, follow this example:

According to the 1976 population census, the village of Safir had 6,000 people. Now it is 1984, eight years later. Estimate the 1984 population by using an annual growth rate of 2.5% applied to the 1976 census data. This can be done easily and quickly on a simple, electronic hand calculator. Just follow the procedure on the next page.

**Procedure for Using an Electronic Hand Calculator to Update Census:**

1. Enter 1.025 (for 2.5% PGR)
2. Press the "times" button x
3. Enter the 1976 census figure 6,000
4. Press the "equals" button = eight times  
(for 8 years between 1976 and 1984)

ANSWER: 7,310 = 1984 population estimate for village of Safir

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**Determining the Actual Population Growth Rate of Your Village**

The Population Growth Rate (PGR), or the Natural Rate Increase (RNI), is the rate at which the population increases in numbers. To arrive at this rate for your village, you subtract the Crude Death Rate (CDR) from the Crude Birth Rate (CBR). The Crude Birth Rate equals the number of births in a population divided by the total population size. Likewise, the Crude Death Rate equals the number of deaths in a population divided by the total population size.

**Example:**

Village of Safir with a current population size of 7,310.  
 Current year number of births = 252;  
 Current year number of deaths = 78

|  |   |  |   |         |
|--|---|--|---|---------|
| Crude Birth Rate                                   | - | Crude Death Rate                                   | = | PGR/RNI |
| $\frac{\# \text{ births}}{\text{population size}}$ |   | $\frac{\# \text{ deaths}}{\text{population size}}$ |   | PGR/RNI |
| $\frac{252}{7310} (3.4\%)$                         | - | $\frac{78}{7310} (1\%)$                            | = | 2.4%    |

Following is another way to determine the Population Growth Rate using the same data:

$$\begin{aligned} \# \text{ births} - \# \text{ deaths} &= \frac{\text{net increase}}{\text{population size}} = \text{PGR/RNI} \\ &= \frac{174}{7310} = 2.4\% \end{aligned}$$

## Determining the Eligible Couples of Reproductive Age in a Village

To determine the number of Married Couples of Reproductive Age - or those eligible for family planning services - simply divide the current total population of your village by 6. In Egypt, given its age structure and early age of marriage, it turns out the MCRA represent about 16% or 17% of the total population. (16% is approximately 1/6. That is why you divide the total population by 6.)

### Example:

1984 population of the village of Safir = 7,310

1984 estimate of MCRAs in Safir = 1,218

[7,310 : 6 = 1,218 MCRAs]

### Summary:

If you can determine the current population size of your village by updating previous census data, you can quickly figure out the number of MCRAs, or the number of married couples who are eligible for family planning services. This is the population you are trying to reach with your family services. Determining this number of MCRAs is the first step in your evaluation. Each of these couples is part of your goal. The next information section will show you how to tabulate the current number of contraceptive users served by a family.

## Practice Questions

Read the following population description of the village of Gorma. Then calculate your answers to problems following the description. Your answers will constitute the population data you need for your evaluation of prevalence.

The village of Gorma had a total population of 3,500 people according to the census of 1976. This year, 1984, there were 150 births and 44 deaths in Gorma. The population has grown at a rate of 2.5% per year since the last census.

1. Calculate the current year (1984) population size of Gorma.

**hint:** 1976 population x PGR for number of years between 1976 and 1984

2. What is the Crude Birth Rate for Gorma in 1984?

**hint:**  $\frac{\text{number of births in 1984}}{\text{1984 pop. size}} = \text{CBR}$

3. What is the Crude Death Rate in Gorma in 1984?

**hint**  $\frac{\text{number of deaths in 1984}}{\text{1984 pop. size}} = \text{CDR}$

4. What is the current PGR or RNI in Gorma?

**hint:**  $\text{CBR} - \text{CDR} = \text{PGR/RNI}$

5. What is the current year (1984) estimate of the number of couples (MCRAs) eligible for family planning services in Gorma?

**hint:**  $\frac{\text{current population size}}{6} = \text{Number of MCRAs}$

**To the Learner:** Turn the page to check your answers.

### Answers to Practice Questions

1. 4,264       $1.025 \times 3,500 = (8 \text{ times}) \ 4,264$
2. 3.5%       $\frac{150}{4,264} = 150 : 4,264 = 0.035 \text{ or } 3.5\%$
3. 1%       $\frac{44}{4,264} = 44 : 4,264 = 0.01 \text{ or } 1\%$
4. 2.5%       $\text{CBR (3.5\%)} - \text{CDR (1\%)} = 2.5\%$
5. 710       $\frac{4,264}{6} = 4,264 : 6 = 710$

**To the Learner:** Turn the page to check your answers. If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 4 on the next page.

#### 4. Tabulating the Current Number of Contraceptive Users

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##### Learning Objectives:

At the end of this information section, you will be able to:

1. tabulate on a worksheet the number of Married Couples of Reproductive Age (MCRA) using each of the following types of contraceptives at a given point in time: (a) pills; (b) condoms; (c) tubal ligations, vasectomies, and hysterectomies; (d) foam tablets or cream applications; (e) injectible contraceptives; (f) IUDs; and (g) diaphragms.
- 

Now that you know how to determine the current population of a village and the number of MCRAs in that village, you need to determine the number of contraceptive users. To do this, you will only need to fill out a short worksheet based on the numbers of contraceptives you have dispensed over a given period of time.

Let's go through the tabulating process with the family planning records from the village of Dahby as an example. Dahby has a current (1984) population size of 12,000 people with 2,000 MCRAs [ $12,000 \div 6 = 2,000$ ]. Following is a list of contraceptives by type which were dispensed at the family planning clinic over the past twelve months.

##### Number of Contraceptives Dispensed to MCRAs in Dahby Over the Previous 12 Month Period

| Contraceptive Type                              | Total Number Dispensed |
|---|------------------------|
| pill (monthly cycles)                           | 4,160                  |
| condoms (pieces)                                | 1,200                  |
| tubal ligations, vasectomies,<br>hysterectomies | 2                      |
| foam tablets or cream applications              | 2,800                  |
| injectible contraceptives                       | 0                      |
| diaphragms                                      | 4                      |
| IUDs  | 43                     |

---

Using this information, this is how the doctor in the village of Dahby would fill out the following prevalence evaluation worksheet:

**Calculate Number of Current Contraceptive Users Served by this Clinic**

|   |  |
|---|--|
| a. current pill users . . . . .                             | <u>320</u>                               |
| (total # of pill cycles distributed in past 12 months – 13) |  |
| b. current condom users . . . . .                           | <u>12</u>                                |
| (total condom pieces distributed in past 12 months – 100)   |  |
| c. tubal ligations, vasectomies, hysterectomies . . . . .   | <u>2</u>                                 |
| (cumulative # in this area)                                 |  |
| d. current foam/cream application users . . . . .           | <u>28</u>                                |
| (total # distributed in past 12 months – 100)               |  |
| e. users currently protected by injectibles . . . . .       | <u>0</u>                                 |
| (cumulative injections given over previous 3 months)        |  |
| f. current diaphragm users . . . . .                        | <u>4</u>                                 |
| (total # prescriptions over previous 12 months)             |  |
| g. current IUD users . . . . .                              | <u>34</u>                                |
| (complete table)  |  |
| Add numbers in a through g. =                               | Total Number of Current Users <u>400</u> |

**ESTIMATING CURRENT IUD USERS**

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |                    |
|----------------------|----------------|---------|---------|---------|---------|--------------------|
| Number of Insertions | 43             |         |         |         |         |                    |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |                    |
| Current Users        | 34             |         |         |         |         | <b>TOTAL</b><br>34 |

## Explanation of the Worksheet: "Current Number of Contraceptive Users"

The following explanation briefly describes how each part of the worksheet on contraceptive use is calculated. You may want to look at the worksheet at the same time as you read the explanation.

- a. **Pill Users:** Determine the average number of pill users by calculating the average number of monthly cycles distributed per month during the previous 12 months. 13 monthly pill cycles = 1 year of protection because the menstrual cycle is 28 days.  
[4,160 : 13 = 320 current pill users]
- b. **Condom Users:** Assume a frequency of contact of 10 per month. Divide the total number of condom pieces distributed over the previous 12 months by 100.  
[1,200 : 100 = 12 current condom users]
- c. **Tubal Ligations, Vasectomies, Hysterectomies:** Add all known cases among MCRA's in your area.  
[cumulative number = 2]
- d. **Foam or Cream Users:** Estimate the number of women who were given foam or cream applications over the previous 12 months and divide by 100.  
[2,800 : 100 = 28 current foam/cream users]
- e. **Injectibles Users:** Because most injectibles provide three months of protection, add the cumulative number of injections given during the previous three months and enter the total.  
[cumulative number given injectibles over previous 3 months = 0, or no current injectibles users]
- f. **Diaphragm Users:** Estimate the number of women using cervical caps or diaphragms by data from clinic or survey records. If the data is not available, use the cumulative prescriptions or these methods for the previous 12 months.  
[cumulative prescriptions = 4 current diaphragm users]
- g. **IUD Users:** To estimate current IUD (including Copper "T") users, complete the following table:

## ESTIMATING CURRENT IUD USERS

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |                    |
|----------------------|----------------|---------|---------|---------|---------|--------------------|
| Number of Insertions | 43             |         |         |         |         |                    |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |                    |
| Current users        | 34             |         |         |         |         | <b>TOTAL</b><br>34 |

Multiply the number of insertions during each period or year by the percentage (%) figure for that period to give the number of current users. Total the bottom line of current users and enter that number on the worksheet.

[43 insertions during past 12 months x 80% = 34 current users of IUDs]

### Summary:

By filling out the worksheet on the current number of contraceptive users served by the clinic over the previous 12 month period, you now have the total number of current users at this point in time (end of month 12). The next information section will show you how to combine your population data (current population size and number of MCRAs) and the total number of current contraceptive users to calculate the prevalence of contraceptive use.

### Practice Questions

Using the following information about the number of contraceptives dispensed by the family planning clinic in the village of Nahia over the previous 12 months, tabulate your answers to the worksheet, "Current Number of Contraceptive Users." Nahia has a current population of 6,000 with 1,000 MCRA's.

**Number of Contraceptives Dispensed to MCRA's in Nahia Over the Previous 12 Month Period**

| Contraceptive Type                           | Total Number Dispensed |
|--|------------------------|
| pill (monthly cycles)                        | 1,560                  |
| condoms (pieces)                             | 600                    |
| tubal ligations, vasectomies, hysterectomies | 2                      |
| foam tablets or cream applications           | 500                    |
| injectible contraceptives                    | 0                      |
| diaphragms                                   | 3                      |
| IUDs   | 20                     |

**Calculate Number of Current Contraceptive Users Served by this Clinic**

- a. current pill users ..... \_\_\_\_\_  
(total # of pill cycles distributed in past 12 months = 13)
  - b. current condom users ..... \_\_\_\_\_  
(total condom pieces distributed in past 12 months = 100)
  - c. tubal ligations, vasectomies, hysterectomies ..... \_\_\_\_\_  
(cumulative # in this area)
  - d. current foam/cream application users ..... \_\_\_\_\_  
(total # distributed in past 12 months = 100)
  - e. users currently protected by injectibles ..... \_\_\_\_\_  
(cumulative injections given over previous 3 months)
  - f. current diaphragm users ..... \_\_\_\_\_  
(total # prescriptions over previous 12 months)
  - g. current IUD users ..... \_\_\_\_\_  
(complete table)
- Add numbers in a. through g. =                      Total Number of Current Users \_\_\_\_\_

## ESTIMATING CURRENT IUD USERS

| Time Period             | Past 12 months | 2 years | 3 years | 4 years | 5 years |       |
|-------------------------|----------------|---------|---------|---------|---------|-------|
| Number of Insertions    |                |         |         |         |         |       |
| Estimate %<br>Now Using | 90%            | 70%     | 60%     | 50%     | 40%     |       |
| Current Users           |                |         |         |         |         | TOTAL |

To the Learner: Turn the page to check your answers.

## Answers to Practice Questions

### Calculate Number of Current Contraceptive Users Served by this Clinic

- a. current pill users ..... 120  
 (total # of pill cycles distributed in past 12 months – 13)
- b. current condom users ..... 6  
 (total condom pieces distributed in past 12 months – 100)
- c. tubal ligations, vasectomies, hysterectomies ..... 2  
 (cumulative # in this area)
- d. current foam/cream application users ..... 5  
 (total # distributed in past 12 months – 100)
- e. users currently protected by injectibles ..... 0  
 (cumulative injections given over previous 3 months)
- f. current diaphragm users ..... 3  
 (total # prescriptions over previous 12 months)
- g. current IUD users ..... 16  
 (complete table)
- Add numbers in a. through g. = Total Number of Current Users 152

### ESTIMATING CURRENT IUD USERS

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |                    |
|----------------------|----------------|---------|---------|---------|---------|--------------------|
| Number of Insertions | 20             |         |         |         |         |                    |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |                    |
| Current Users        | 16             |         |         |         |         | <b>TOTAL</b><br>16 |

**To the Learner:** If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 5 on the next page.

## 5. Calculating the Prevalence of Contraceptive Use

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### Learning Objectives:

At the end of this information section, you will be able to:

1. calculate the prevalence of contraceptive use in a typical village at a specific point in time given the total current contraceptive users in that village; and
  2. plot the prevalence rate on a line graph to show the correlation between prevalence of contraceptive use, the Population Growth Rate, and the Crude Birth Rate.
- 

If you have mastered the skills in Information Sections 3 and 4, you know how to determine the following three evaluation figures for a village: (1) the current population size of the village based on the previous census; (2) the current number of Married Couples of Reproductive Age (MCRAs) in that village; and (3) the total number of current contraceptive users based on 12 month contraceptive dispensing records from the family planning clinic. That is all the information you need to have in order to figure the prevalence of contraceptive use in the village at a given point in time (end of a 12 month period). Remember, prevalence is the percentage (%) of eligible couples using contraception at any one point in time.

### Calculation of Current "Program Prevalence"

Use the following equation to figure the prevalence rate:

$$\text{Prevalence} = \frac{\text{Number of Current Users}}{\text{Total Number of MCRAs}}$$

### Example:

Let's look again at the data from the village of Dahby listed in the last information section:

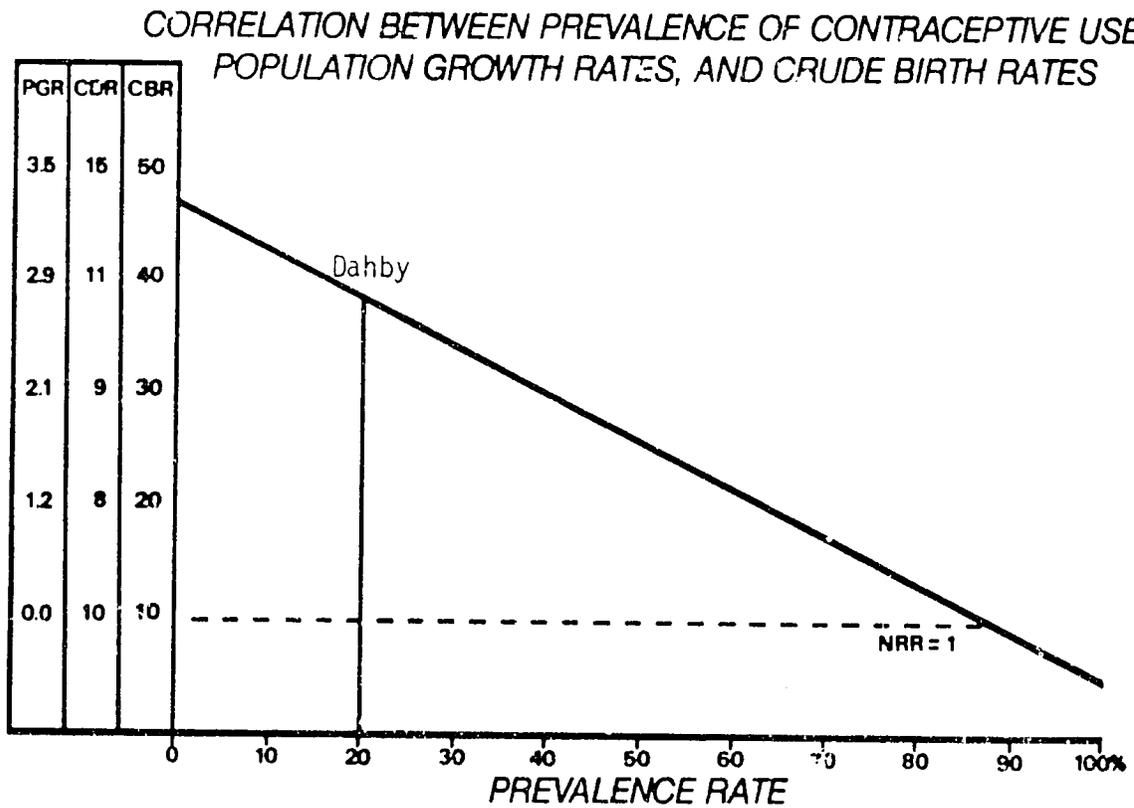
Dahby has a current population of 12,000. Of these 12,000, 2,000 are Married Couples of Reproductive Age [ $12,000 \div 6 = 2,000$ ]. These 2,000 MCRAs are the total number of couples eligible for family planning services. On the worksheet section, "Current Number of Contraceptive Users Served by this Clinic," there was a total of 400 current users of contraception over the previous 12 month period. Here is how you would figure the prevalence rate for Dahby at the end of the 12 month period:

$$\text{Prevalence} = \frac{\text{number of current users}}{\text{total number of MCRAs}}$$

$$\text{Prevalence} = \frac{400}{2,000} = 400 : 2,000 = 0.2 \text{ or } 20\%$$

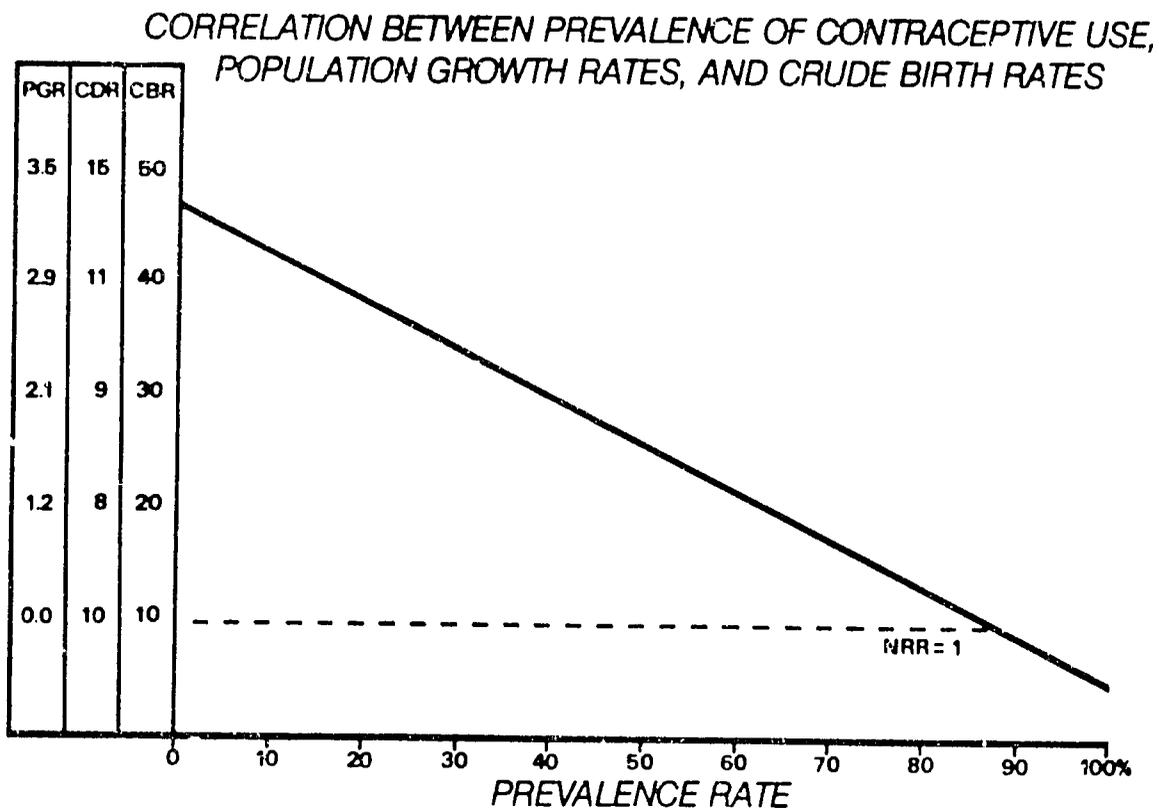
### Correlation Between Prevalence of Contraceptive Use, the Population Growth Rate, and the Crude Birth Rate

The following line graph illustrates this correlation for the village of Dahby. The prevalence rate should be periodically plotted along the sloping line. The mark indicating prevalence should be dated so progress during intervals can be measured and tracked.



### Practice Questions

1. The village of Teebah has a current population of 9,000 people. The total number of current contraceptive users is 180. What is the prevalence of contraceptive use in Teebah at this point in time?  
\_\_\_\_\_ %
2. On the graph below, mark the point where the prevalence rate and the crude birth rate meet. Assume that Teebah has a CBR of 3.5%. Date the point marked on the sloping line, Teebah, 12/84 to show the date of the evaluation.



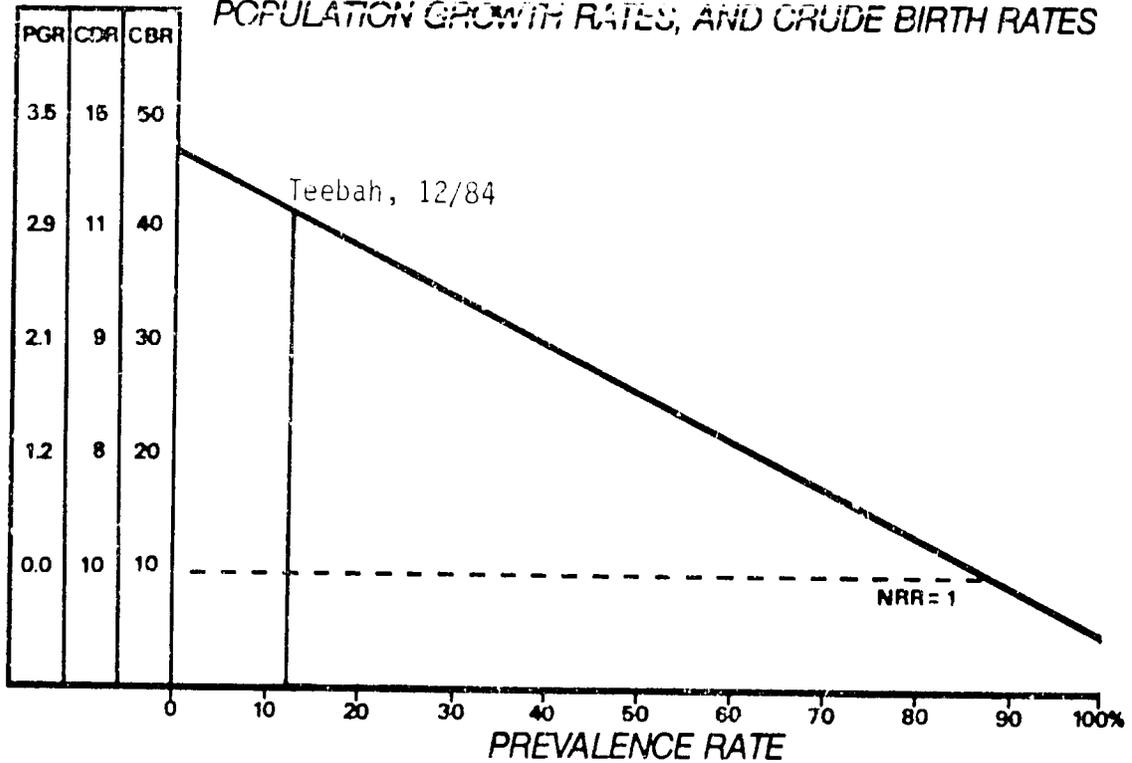
**To the Learner:** Turn the page to check your answers.

### Answers to Practice Questions

1. Prevalence =  $\frac{\text{current contraceptive users}}{\text{total number of MCRAs}} = \frac{180}{1,500} = 0.12$  or 12%

2.

**CORRELATION BETWEEN PREVALENCE OF CONTRACEPTIVE USE, POPULATION GROWTH RATES, AND CRUDE BIRTH RATES**



**To the Learner:** If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 6 on the next page.

## 6. Planning for the Future

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### Learning Objectives:

At the end of this information section, you will be able to:

1. list at least three health advantages for the village and for Married Couples of Reproductive Age (MCRAs) who practice family planning on a regular basis; and
  2. explain the advantage of setting a specific goal for increasing the prevalence of contraceptive use in a village over a period of time.
- 

In Information Section 1, you learned that evaluation is a guide. The results of evaluation can tell you how far you have come and where you need to go with your family planning program. When you figure the prevalence of contraceptive use in your village at a given point in time, you will know specifically where you are starting and where you need to go with your program. The prevalence rate can help you set specific goals for increasing contraceptive use among MCRAs and thus increasing the prevalence rate in your village. There are significant health benefits to the people in your village if you do this.

### **What are the health benefits of increasing the prevalence of contraceptive use?**

A large number of pregnancies can endanger a woman's health and also the health of her infant. Family planning and child spacing enable MCRAs to control and limit the number of children they have. There are a number of health benefits if this is done.

The safest ages for childbirth are when the woman is between 20 and 32 years old. Before or after that, there are greater health risks for both children and mothers. There is a significant risk of mortality and morbidity for both women and their infants when childbirth occurs at very young ages, near the end of the woman's reproductive years, or when births are not adequately spaced. The risks to the mother of many closely spaced births include death as a result of childbirth or pregnancy, placenta previa, hemorrhage and rupture of the uterus. Family planning and child spacing can contribute to the survival and health of the mother and her infant in these situations.

Family planning can also favorably influence the reduction in the number of fetal deaths, infant and child mortality, child malnutrition and ill health, and birth defects. These risks to mothers are universal, but they are particularly acute where health care services are limited

and nutritional levels, inadequate. Maternal malnutrition adds to these risks, and is in turn aggravated by repeated pregnancies. Family planning significantly contributes to improved maternal and child health by enabling women to delay or space childbearing or avoid unwanted pregnancies. Furthermore, a woman with fewer children and with children who have been spaced several years apart has more time to care for these children. When the women and children of a village are more healthy, the whole village benefits.

### A Plan for Increasing the Prevalence of Contraceptive Use

Increasing the prevalence of contraceptive use in your village can favorably influence the health and welfare of your village. If you currently have a prevalence rate of 10%, make a plan to increase this rate 4% each year for the next four years. Here is an outline of a family planning program in a village of 12,000 people showing the number of current users of contraceptives that must be added over a four-year period.

| Year | Population Size | MCRA  | Prevalence Rate | Number of Current Users |
|------|-----------------|-------|-----------------|-------------------------|
| 1    | 12,000          | 2,000 | 10%             | 200                     |
| 2    | 12,300          | 2,050 | 14%             | 290                     |
| 3    | 12,600          | 2,100 | 18%             | 380                     |
| 4    | 12,900          | 2,150 | 22%             | 470                     |

The projection of population size in the outline increases based on a Population Growth Rate of 2.5% per year. Consequently, the numbers of MCRA's increase as well.

#### Summary:

Setting specific goals for your family planning program based on evaluation results can keep your program moving forward. Small planned increases in the number of continuing contraceptive users as well as in the number of new acceptors can add up to significant gains towards your goal to reduce the fertility rate of your village. These gains will also contribute to the general health and welfare of your village.

### Practice Questions

1. List at least three health advantages for the MCRA in a village who practice family planning.
2. What is the advantage of setting specific goals to increase the prevalence of contraceptive use in a village?

**To the Learner:** Turn the page to check your answers.

## Answers to Practice Questions

1. Health advantages of family planning include any of the following:

### Health advantages for the mother:

1. decrease in risk of mortality and morbidity for very young women, women near the end of their reproductive years and for women with too many closely-spaced pregnancies
2. maternal malnutrition less aggravated
3. decrease in risks of death, hemorrhage, placenta previa, and rupture of the uterus faced by women with many closely spaced births

### Health advantages for the child:

1. reduction in the number of fetal deaths
  2. reduction in the number of birth defects
  3. reduction in infant and child mortality
  4. reduction of child malnutrition and ill health
2. Setting specific goals for your family planning program can keep your program moving forward. Small gains each year add up to significant contributions over time to reducing the fertility of your village and consequently favorably influencing the health and welfare of the people in your village.

**To the Learner:** Turn the page to check your answers. If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, go to section 7 on the next page.

## 7. Advantages of Prevalence Programming

---

### Learning Objectives:

At the end of this information section, you will be able to:

1. list at least three advantages of measuring family planning program performance using the evaluation method, prevalence programming.
- 

In the previous information sections of this learning module, you have learned to implement an evaluation method called "prevalence programming." You may have used other evaluation methods in the past. Following are seven advantages for using prevalence programming to evaluate the results of your family planning program:

1. You learn what percentage (%) of MCRAs are currently protected against unwanted pregnancies.
2. You can learn if your clinic's family planning services are now serving more or fewer persons - as a percentage of MCRAs - than last year.
3. This method enables one to compare performance among clinics in terms of family planning caseload (prevalence) so that high performance clinics can be rewarded and low performing clinics can be given special help such as more training and better supervision.
4. This method allows one to do some comparison among districts by comparing prevalence rates.
5. This method allows the introduction of an easily understood method of target-setting that will meet family planning program objectives to reduce birth rates and population growth rates.
6. This method of evaluation stimulates field workers and clinic staff to pay more attention to maintaining satisfied contraceptive users (continuing contraceptive users) rather than focusing almost exclusively on recruiting new acceptors.
7. Use of this method will also stimulate clinic staff to offer more effective methods as they concentrate on prevalence, or continuing contraceptive use, rather than primarily on new acceptors.

### Practice Questions

1. List at least three advantages for using the evaluation method, prevalence programming, to measure family planning programs?

**To the Learner:** Turn the page to check your answers.

## Answers to Practice Questions

1. Advantages to using prevalence programming can be any three of the following:
  1. gives % of MCRAAs currently protected against unwanted pregnancies
  2. tells you if your program is serving more or fewer people than last year
  3. enables one to compare performance among clinics
  4. enables one to compare performance among districts by comparing prevalence rates
  5. enables one to set targets or goals for the program
  6. stimulates field workers to pay more attention to maintaining current users
  7. stimulates clinic staff to provide more effective methods of contraception

**To the Learner:** If you missed any of the answers to the questions, go back to the information section and study it again. When all of your answers are correct, you have finished the information section of this learning module. Study the sections briefly again and then take the Post-Test on the next page.

## Post-Test

**To the Learner:** This test will tell you how much you have learned from this self-instructional module. After taking the test, check your answers on the pages following the test. Be sure to use a separate sheet of paper for recording your answers.

1. What is "evaluation"?
2. What are two good reasons for evaluating family planning programs?
3. What are the two general parts of an evaluation program?
4. What does the evaluation program, "prevalence programming" measure?
5. (Fill in the blanks) MCRA's who are using contraceptives now are called \_\_\_\_\_.
6. (Fill in the blanks) MCRA's in the family planning program for the first time and have not used contraceptives before are called \_\_\_\_\_.
7. As part of the evaluation method, prevalence programming, which kind of contraceptive user will you count?
8. (Fill in the blanks) To measure the prevalence of contraceptive use in your village, you must divide the number of \_\_\_\_\_ by the number of \_\_\_\_\_.
9. What two kinds of data must you tabulate from your village records to use the evaluation method, "prevalence programming"?
10. You are a doctor or nurse or field supervisor in the village of Manif. Using the following population data and contraceptive use data, fill out the Program Prevalence Worksheet on pages 45 and 46. The results will be the prevalence of contraceptive use in the village of Manif at the end of a 12 month period in 1984.

### Population Data for the Village of Manif

Population size according to the 1976 census = 9,850  
Population Growth Rate = 2.5% per year  
Number of births in 1984 = 422  
Number of deaths in 1984 = 122

### Contraceptive Use Data for the Village of Manif-Previous 12 Months of 1984

---

| Contraceptive Type                              | Number Distributed Over<br>Previous 12 Month Period |
|---|---|
| pills (monthly cycles)                          | 2925  |
| condoms (pieces)                                | 1500  |
| tubal ligations, vasectomies,<br>hysterectomies | 5   |
| foam tablets/cream applications                 | 2000  |
| injectible contraceptives                       | 0   |
| diaphragms                                      | 8   |
| IUDs  | 34  |

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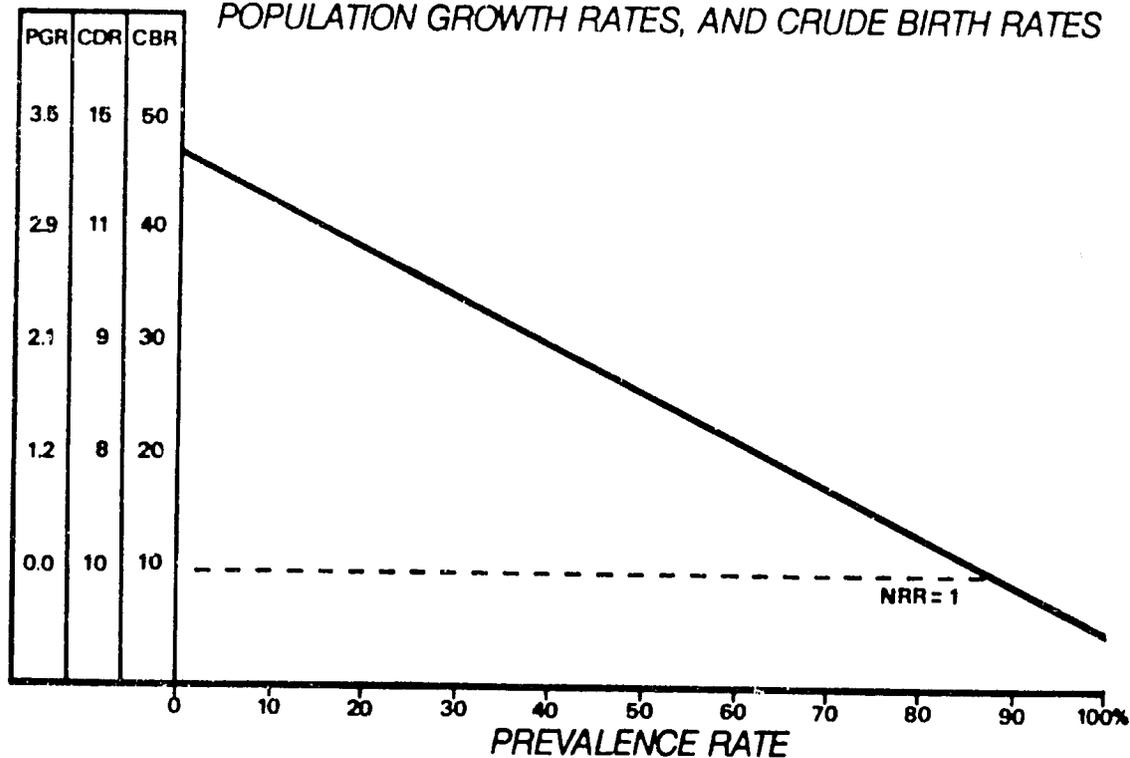


### ESTIMATING CURRENT IUD USERS

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |              |
|----------------------|----------------|---------|---------|---------|---------|--------------|
| Number of Insertions |                |         |         |         |         |              |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |              |
| Current Users        |                |         |         |         |         | <b>TOTAL</b> |

11. Plot the prevalence rate and the crude birth rate for the village of Manif on the following line graph. Label the mark "Manif, 1984."

*CORRELATION BETWEEN PREVALENCE OF CONTRACEPTIVE USE, POPULATION GROWTH RATES, AND CRUDE BIRTH RATES*



12. List at least 3 health advantages for the Married Couples of Reproductive Age in a village who practice consistent family planning.
13. What is the advantage of setting goals for specific increases in contraception prevalence for your village?
14. List at least three advantages of using the evaluation method, "prevalence programming," to measure your family planning program.

## Answers to Test

1. Evaluation is a process one uses to measure program performance.
2. Two good reasons for evaluating family planning programs:  
(1) gives one a measure to see how much one has accomplished and  
(2) increases professionalism.
3. Two general parts of an evaluation program: (1) set the goal for your program, and (2) measure your progress.
4. Prevalence programming measures the prevalence of contraceptive use in a population at a given point in time. Prevalence is the percentage of eligible couples (MCRA) actually using contraception at a given point in time.
5. current users
6. new acceptors
7. current users
8. current users.....Married Couples of Reproductive Age
9. population data and contraceptive use data
10. (See next page for answer to #10: Program Prevalence Worksheet.)

10.

## Program Prevalence Worksheet

### 1. Calculate Current Year Population Size

a. Population at most current census (A) 9,850b. Current year 1976  
Subtract census year 1984 = (B) 8

Multiply (A)  $\times$  1.025 for (B)# of years = Current Population Size 12,001  
(assumes PGR of 2.5% per year)

### 2. Calculate Number of MCRA\* in Current Population

MCRA =  $\frac{\text{current population size}}{6}$  Number of MCRA 2,000

(\*MCRA = Married Couples of Reproductive Age In Egypt MCRA's = approx. 16% or 1/6 of the population. MCRA are the same as Married Women of Reproductive Age (MWRA))

### 3. Calculate Number of Current Contraceptive Users Served by this Clinic

a. current pill users 225  
(total # of pill cycles distributed in past 12 months - 13)b. current condom users 15  
(total condom pieces distributed in past 12 months - 100)c. tubal ligations, vasectomies, hysterectomies 5  
(cumulative # in this area)d. current foam/cream application users 20  
(total # distributed in past 12 months - 100)e. users currently protected by injectibles 0  
(cumulative injections given over previous 3 months)f. current diaphragm users 8  
(total # prescriptions over previous 12 months)g. current IUD users 27  
(complete table)

Add numbers in a. through g. = Total Number of Current Users 300

### 4. Calculate Current Prevalence of Contraceptive Use

Prevalence =  $\frac{\text{number of current users}}{\text{total number of MCRA}}$  Prevalence 15%

### 5. Calculate Crude Birth Rate (CBR)

CBR =  $\frac{\text{number current year births}}{\text{total current population}}$   $\frac{422}{12,001}$  Crude Birth Rate 3.5%

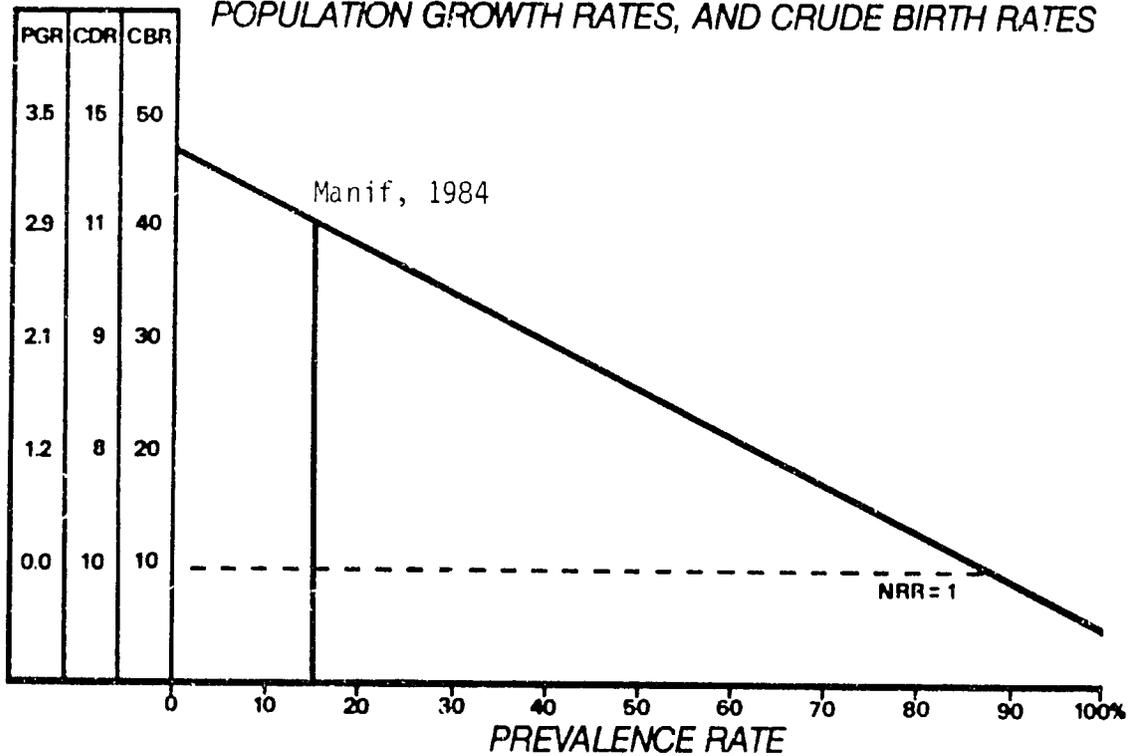
### 6. Mark the Graph Where the Prevalence Rate and the CBR Meet

### ESTIMATING CURRENT IUD USERS

| Time Period          | Past 12 months | 2 years | 3 years | 4 years | 5 years |                    |
|----------------------|----------------|---------|---------|---------|---------|--------------------|
| Number of Insertions | 34             |         |         |         |         |                    |
| Estimate % Now Using | 80%            | 70%     | 60%     | 50%     | 40%     |                    |
| Current Users        | 27             |         |         |         |         | <b>TOTAL</b><br>27 |

11.

### CORRELATION BETWEEN PREVALENCE OF CONTRACEPTIVE USE, POPULATION GROWTH RATES, AND CRUDE BIRTH RATES



12. Health advantages of family planning include any three of the following:

Health advantages for the mother:

1. decrease in risk of mortality and morbidity for very young women, women near the end of their reproductive years and for women with too many closely-spaced pregnancies
2. maternal malnutrition less aggravated
3. decrease in risk of death, hemorrhage, placenta previa, and rupture of the uterus faced by women with many closely spaced births

Health advantages for the child:

1. reduction in the number of fetal deaths
  2. reduction in the number of birth defects
  3. reduction in infant and child mortality
  4. reduction of child malnutrition and ill health
13. Setting specific goals for your family planning program can keep your program moving forward. Small gains each year add up to significant contributions over time to reducing the fertility of your village and consequently favorably influencing the health and welfare of the people in your village.
14. Advantages to using prevalence programming can be any three of the following:
1. gives % of MCRAs currently protected against unwanted pregnancies
  2. tells you if your program is serving more or fewer people than last year
  3. enables one to compare performance among clinics
  4. enables one to compare performance among districts by comparing prevalence rates
  5. enables one to set targets or goals for the program
  6. stimulates field workers to pay more attention to maintaining current users
  7. stimulates clinic staff to provide more effective methods of contraception