The Family Planning Manager

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MANAGEMENT STRATEGIES FOR IMPROVING SERVICE DELIVERY

Using National and Local Data to Guide Reproductive Health Programs

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Editors' Note

Since the 1994 International Conference on Population and Development (ICPD) in Cairo, family planning managers are rising to the challenge to offer a broader scope of reproductive health services to their clients. This means that in addition to providing family planning services, more programs are offering a wider range of basic health services for women, infants, and adolescents, including well-baby care, the prevention and treatment of reproductive tract infections, and counseling for the prevention of HIV, among others. In order to plan, implement, and monitor the effectiveness of these services, managers need to understand and use a broad spectrum of data from the national and local level.

This issue of *The Family Planning Manager* explores information that managers must understand and use in expanding their services, and it provides guidelines for developing and using a reproductive health indicator panel for tracking the progress of their programs. Two supplements accompany this issue. The *Guide to National and Local Reproductive Health Indicators* provides managers with a list of key national and local indicators and discusses the meaning of each indicator. The second supplement, *1997 World Population Data Sheet*, published by the Population Reference Bureau, presents demographic data for 198 countries around the world in an easy-to-use chart. Both supplements can be used to help develop your indicator panel and can be kept for further reference.

—The Editors

The Family Planning Manager

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Understanding the Importance of Using Data to Guide Your Program

At the 1994 Cairo International Conference on Population and Development (ICPD) a global consensus was reached urging that *women's health become a principal goal of population policy*. The ICPD Programme of Action emphasizes the critical contribution that women make in caring for the welfare of their families and communities. It states that women have a right not only to health care, but also to good health and a greater control over their own reproductive lives. It also reflects the growing belief that family planning programs can be most effective when they are linked with broader reproductive health initiatives. Promoting the general health and welfare of women increases their chances for education and employment, and educated, working women tend to delay childbearing. Then when women do become mothers they tend to have smaller, healthier families. Because of the relationship between the overall health and welfare of the mother and that of her infant, integrating broader health and reproductive health services with family planning services is critical to achieving national health goals.

These interrelationships have implications for family planning services and management information needs. To achieve women's health, family planning managers need to adopt strategies for integrating family planning counseling, information, education and communications (IEC), and contraceptive services, with education and services that promote safe motherhood, child health, and the primary health care of women. Family planning managers can no longer measure the performance of their program on only fertility and contraceptive use. They need to combine specific measures derived from their services with broad measures about the welfare of women and children to obtain a more comprehensive assessment of women's health within the context of the family, the community, and the nation.

To help managers address this broader mandate, this issue discusses the information that managers must understand and use in expanding their services. It provides guidelines for developing and using an indicator panel for tracking the progress of their reproductive health programs. The issue explains how you can find national and local indicators to use in the indicator panel and how you can use these data to guide your expanding program. Finally, it shows how to keep your indicator panel updated so that you can use it to plan and track progress in your program.

Two supplements accompany this issue, the *Guide to National and Local Reproductive Health Indicators* and the *1997 World Population Data Sheet*. The *Guide to National and Local Reproductive Health Indicators* provides managers with a list of key national and local indicators that can be used in the indicator panel and discusses the

meaning of each indicator and how it can be used to track progress. The *1997 World Population Data Sheet*, published by the Population Reference Bureau, presents important demographic data for 198 countries around the world. These supplements can be used to help determine the indicators your program will focus on, and provide a reference for understanding the situation in your own country.

The guest editors for this issue are Judy Seltzer and Steve Solter. Judy Seltzer is Deputy Director of the Management Training Program at Management Sciences for Health (MSH). Ms. Seltzer has worked in over a dozen countries providing technical assistance in project management, strategic planning, research, management training, and has developed a curriculum for training managers to understand and use data to guide their programs. Dr. Solter is Principal Program Associate in MSH's Strengthening Health Services Program. An epidemiologist, Dr. Solter has lived and worked in numerous countries in Asia over the last 25 years, developing and managing health programs, and most recently specializing in family planning and maternal and child health. The editors would also like to thank Chapin White for his assistance in researching this topic and providing graphic assistance, and our colleagues who provided critical review for this important issue.

The Scope of Reproductive Health Services

The ICPD conference focused the world's attention on reproductive health. Since ICPD, many family planning managers have been expanding the scope of their programs to include additional services for women and children. Although the specific services included under the reproductive health umbrella vary from place to place, in addition to traditional family planning, the following section provides a list of the types of services a comprehensive reproductive health program might provide.

Maternal Health

- Prenatal care, safe delivery, and postpartum care
- Treatment of infertility
- Comprehensive family planning service delivery and post-abortion counseling
- Diagnosis and treatment of complications of pregnancy, delivery, and abortion
- Women's nutrition and gynecologic health care, including cervical cancer screening

Infant Health

- Immunizations of pregnant women and infants
- Counseling of mothers about infant care
- Infant health care, including acute respiratory infection (ARI), malaria, and diarrheal diseases

Infant Nutrition

- Encouragement of and assistance with breastfeeding
- Micronutrient supplementation

Adolescent Health

- Education and counseling on human sexuality, responsible parenthood, and contraceptive services
- Adolescent nutrition
- Counseling about the risk and prevention of reproductive tract infections (RTIs), sexually transmitted diseases (STDs), HIV/AIDS, and adolescent pregnancy

RTI/STD/HIV Services

- Counseling for and diagnosis and treatment of nonsexually transmitted reproductive tract infections (RTIs)
- Screening, syndromic treatment, and prevention of sexually transmitted diseases (STDs) for men and women
- Prevention of HIV/AIDS and, where possible, diagnosis and case management

Developing a Reproductive Health Indicator Panel

If you are broadening the scope of reproductive health services in your family planning program, you will be redesigning existing services as well as planning and implementing new services. As you develop these services, you will need to set reproductive health goals and objectives for your program, monitor progress toward achieving these objectives, and evaluate the short- and long-term results of your service delivery activities.

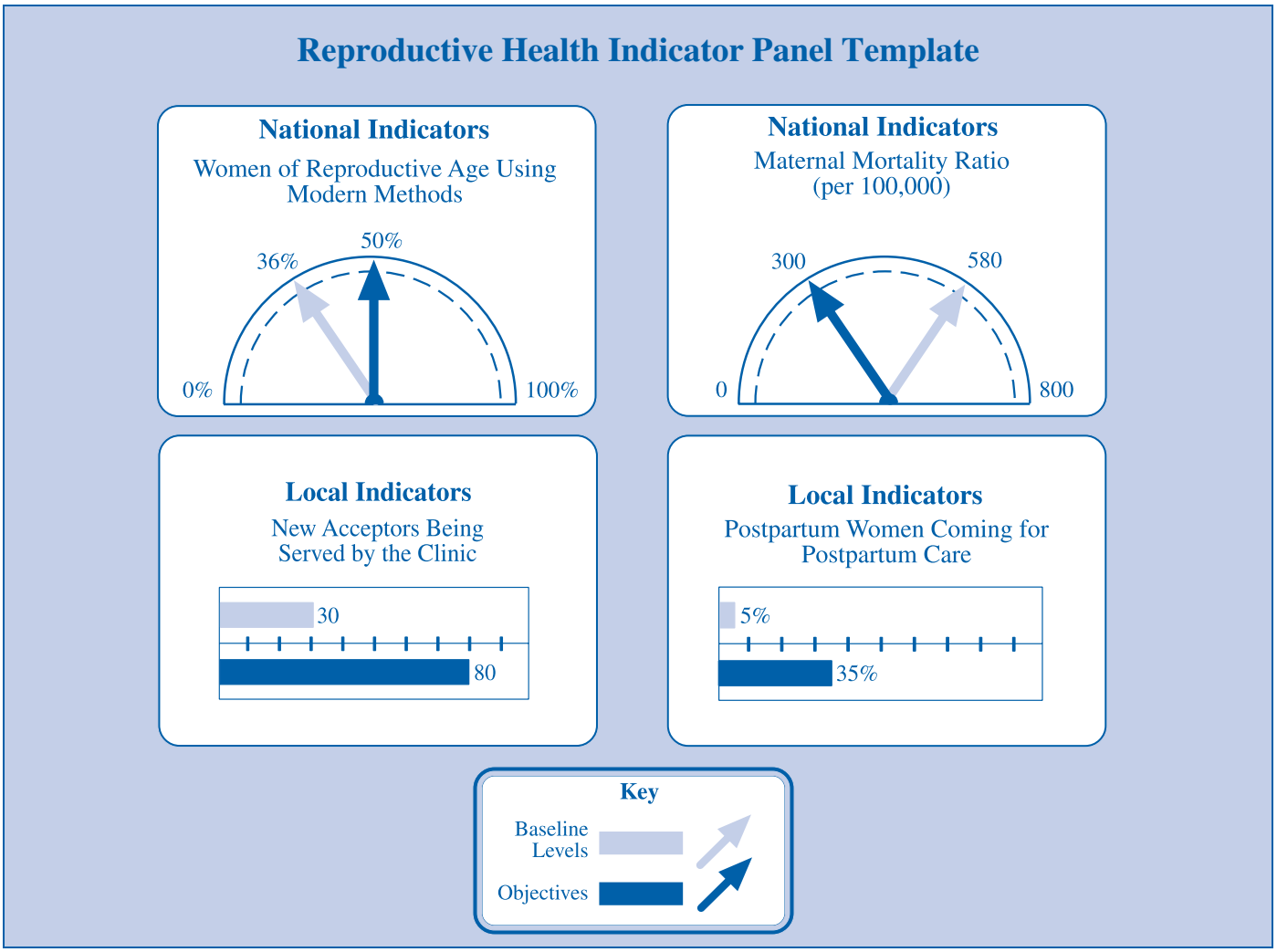
Using an indicator panel to monitor the effectiveness of your reproductive health program will help you see, all in one place, your current program achievements compared with your objectives for numerous different program areas. Depending on how you choose to design your indicator panel, it can even tell you how much progress you have made over time. All this information will help you to make appropriate decisions to guide and improve your program. Having up-to-date information about your program's progress in one easy reference is the key to being attentive to your program so that you, as a manager, can immediately take steps to correct problems (or perpetuate success) to make your program powerful and effective.

There are three main types of data you will need for your indicator panel:

- key national and local indicators;
- current baseline data for each key service area or local health indicator you have selected to track in your program;
- measurable objectives for each local indicator you will track.

The following sample diagram shows how these data will be used on the indicator panel.

Reproductive Health Indicator Panel Template



Creating Your Indicator Panel

To create your indicator panel, you will need to:

- Divide your indicator panel into sections corresponding to national and local reproductive health areas;
- Review national and local sources of data and select health and service delivery indicators that will help you plan your program and monitor its effectiveness;
- Note the current status and national goal for each national indicator;
- Establish a baseline showing current performance for each local indicator and develop objectives for each indicator;
- Collect and analyze data on a periodic basis so that you can answer the question, "How is my program doing now?";
- Revise your objectives if needed, based on data or outside circumstances;
- Formulate specific questions and gather further information to answer "What do I need to change, add, or replace, and how?" so that the program advances;
- Make programmatic changes as needed to meet your objectives.

Determining the Program Areas to Include in Your Panel

First, you will need to divide your indicator panel into the reproductive health program areas that pertain to your existing services and any services you are planning to offer in the near future. The areas may be as few as one or two or as many as a full complement of reproductive health program areas such as family planning, maternal health, infant health, infant nutrition, adolescent health, and RTI/STD/HIV services.

Once you have identified the main program areas, you will be ready to add indicators for each program area that you will track regularly to monitor your progress toward meeting your established objectives. Your indicator panel will include both national and local reproductive health indicators. The national indicators will provide "the big picture," and a context for you and your staff to understand how your program fits in the larger national health situation. The local indicators will provide a more precise view of how your program is doing and the extent to which you are progressing toward achieving your local program objectives.

Selecting Indicators for Your Panel

After you have divided your indicator panel into your reproductive health program areas, you will need to select key indicators and review sources of data for these indicators that will help you monitor the progress of your program. In selecting indicators, it is not necessary to be comprehensive. You should start with indicators related to services that you and your staff think are important to your reproductive health program.

National indicators. You should select some national indicators that relate to the primary goals of your reproductive health program and ones that you expect your program will contribute toward improving. Your program will most likely be too small to make a noticeable difference in the data for these national indicators, but they can serve to put your program's objectives and progress in the context of the national situation.

International and national organizations produce some of the most accessible sources of indicators and data for countries, and regions within countries. These sources can give program managers an idea of the current status of family planning, maternal health, infant health, infant nutrition including breastfeeding, adolescent health, and RTI/STD/HIV services in their country. The following box provides a list of some sources of national level indicators and data.

Sources of National and Regional Reproductive Health Data

Following is a listing of several easily accessible sources of the national level and/or regional reproductive health data. These publications present information on key health and reproductive health indicators for most countries in the world. For each of these data sources, it may possible to receive data in forms other than the way they have been published. For instance, although data may have been printed for the country as a whole, you may be able to obtain a set of raw data that you can analyze by urban and rural areas.

Population Reference Bureau's *World Population Data Sheet*. This wall chart provides a helpful overview of population and reproductive health indicators and data for all countries and territories with populations of 150,000 or more. Produced annually, the data sheet draws on data from the United Nations Population Division and its Statistical Office, the International Programs Center of the United States Bureau of the Census and the Council of Europe. A copy of the *1997 World Population Data Sheet* is included as a supplement to this issue.

Demographic and Health Surveys (DHSs). These country surveys provide managers in 47 countries with the single most comprehensive source of national and regional demographic and health data. In these countries, at least one large nationwide household survey is conducted approximately every five years, covering population data, and maternal and child health (MCH), family planning, and other health-related information. For each survey, the results are presented in detail, with information often broken down by rural and urban areas and by region or province. Macro International, Inc., funded by the US Agency for International Development, provides local researchers with technical assistance and support in conducting and analyzing the surveys.

With each new survey, questions have been expanded to reflect a shift from family planning to more integrated reproductive health programs. As a result, many recent DHSs include reproductive health data such as: treatment of childhood illnesses; knowledge, attitudes, and practices toward AIDS; prevalence of female genital mutilation; domestic violence; and surveys on male attitudes and behavior. *For example, the DHS for Colombia was expanded to include data on domestic violence and knowledge regarding the transmission and prevention of AIDS. The third Egyptian DHS, unlike earlier editions, includes data on who (husband, wife, or both) makes reproductive decisions and the prevalence of and attitudes toward female genital mutilation.*

Centers for Disease Control (CDC) Reproductive Health Surveys. Similar to the DHSs, these country surveys have been produced since 1991 with the technical assistance of CDC's Division of Reproductive Health for 15 countries or territories. They include surveys of females and males or of young adults about reproductive health, demography, family planning, or maternal and child health. Countries for which surveys have been completed are: Belize, Costa Rica, the Czech Republic, the Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mauritius, Moldova, Nicaragua, Paraguay, Puerto Rico, Romania, and Russia (3 cities).

UNICEF: *The State of the World's Children*. Produced annually, this volume provides country-level data on a wide array of indicators covering nutrition, health, education, demography, economics, and the status of women. These data are based on surveys conducted by the World Health Organization, the Rockefeller Foundation, the World Bank, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations Population Division and Statistical Office, UNICEF, and the Food and Agricultural Organization of the United Nations (FAO). By listing countries in order of the magnitude of their rates for some indicators, this volume makes it easy to determine what are considered low and high rates for these indicators and to see where a country's health program might need to be improved.

United Nations: *Demographic Yearbook*. This annual publication provides demographic and health statistics for about 250 countries and regions. Summary demographic data is accompanied by detailed data on fertility and mortality.

World Health Organization (WHO): *The World Health Report 1997.* Each year the WHO selects a different focus for its *World Health Report.* The 1997 report focuses on chronic diseases and their risk factors, causes, trends, and treatments. For each of eight chronic diseases, the report provides epidemiological data, treatment options, preventive measures, and a description of the WHO's activities in combating chronic diseases. Previous *Reports* have focused on such topics as rankings of the major causes of morbidity and mortality worldwide, and the recent advances and challenges in combating infectious diseases.

Pan American Health Organization (PAHO): *Health Conditions in the Americas*. This two-volume quadrennial publication provides a regional analysis of recent changes in the epidemiological situation in the Americas, as well as country-specific reports on health conditions and problems. Epidemiological data is combined with an analysis of health delivery systems and resources at regional and country levels.

World Bank: *World Development Report 1997.* The focus of the *World Development Report 1997* is the role and effectiveness of national governments in a rapidly changing world. Using examples from around the world, the report highlights several elements that are crucial to the building of a more effective government.

Local indicators. The local indicators you choose should be specific to the services that you offer or plan to offer. You should select indicators that are most critical to your program and representative of the services that you provide in the areas of family planning, maternal health, infant health, infant nutrition, adolescent health, and RTI/STD/HIV services. These local indicators will generally be operational indicators that you will use to set objectives for your program and track progress toward meeting those objectives. By using these indicators to monitor your program's achievements, you will be able to identify areas where there may be service delivery problems, as well as where your activities have been successful, and allow you to implement improvements in services when they are needed.

Choose local indicators that relate to existing services and new services that:

- are high priority for your local area;
- can be added, given your existing capacity and resources;
- are efforts in which your clinic can play a lead role as provider or coordinator.

Some local indicators for each of these reproductive health areas are presented in the box on the next page. Once you have selected the local indicators for your indicator panel you can quantify the indicators using data from service records, client or population surveys, and on-site client surveys.

Sample Local Reproductive Health Indicators

Family Planning

- Percentage of new contraceptive acceptors
- Percentage of continuing contraceptive users
- Contraceptive method mix
- Number of referrals for long-lasting or permanent contraceptive methods
- Percentage of family planning clients provided with appropriate information on all available options

Maternal Health

- Percentage of pregnant women receiving and taking iron and multivitamins
- Percentage of prenatal women seen at least once during their first trimester
- Percentage of pregnant women having three or more prenatal visits
- Access to emergency obstetric care
- Percentage of postpartum women coming for postpartum care

Infant Health

- Percentage of pregnant women seen who are immunized against tetanus
- Percentage of women coming in for a postpartum visit who are counseled on family planning, infant nutrition, child immunization, infant diarrhea, and early signs of pneumonia
- Percentage of infants with cough managed appropriately at health facilities
- Percentage of infants brought into clinic who are fully immunized through 12 months

Infant Nutrition

- Percentage of infants who at their four-month well-baby visit are being exclusively breastfed
- Percentage of mothers who after delivery of their child are given appropriate counseling regarding breastfeeding

Adolescent Health

- Number and percentage of adolescents served in a youth program
- Percentage of sexually active adolescents (based on school-age surveys)
- Percentage of adolescents who have begun childbearing
- Percentage of abortions performed for adolescents

RTI/STD/HIV Services

- Percentage of clients with a reproductive tract infection (RTI) treated on site with appropriate antimicrobials
- Percentage of women of reproductive age (WRA) with RTIs
- Percentage of men with RTIs
- Percentage of clients with RTIs provided with appropriate counseling regarding prevention of RTIs

You can use this list or develop your own indicators for each of the important reproductive health services that you want to track in your program. You should select indicators that reflect program priorities and ones for which the necessary data to quantify them is readily available or can be relatively easily obtained.

For more information on national and local indicators and an explanation of their meaning, please refer to the accompanying supplement, *Guide to National and Local Reproductive Health Indicators*. For a listing of key national statistics, please refer to the accompanying supplement *1997 World Population Data Sheet.* Additional sources of national data are also listed beginning on page 22 in the box "Obtaining National Reproductive Health Data."

After selecting the indicators you will track in your program, enter them onto the indicator panel. The Sample Reproductive Health Indicator Panel shown on the next page incorporates some basic local reproductive health indicators together with some related national indicators.

Key Terms and Definitions

Data: Data are raw numbers or other findings which, by themselves, are of limited value to decision makers. *For example, the number of girls in one province who are enrolled in elementary or secondary school means little to decision makers until this is analyzed and compared with the total number of school age girls who live in the province, or compared with the number enrolled during the previous year.*

Information: Information is the result of organizing, processing, and interpreting data in a way that puts them into context, uncovers patterns or problem areas, and thus transforms data into facts that are useful to decision makers. *For example, the number of maternal deaths in several regions becomes useful information when you compare it with the number of deaths from the previous year, compare it against the number of births, find a pattern indicating the cause of most of the deaths, or conduct other such analyses.*

Indicator: An indicator is a numerical measure that provides information about a complex situation or event. When you want to know about a situation or event and cannot study each of the many factors that contribute to it, you can select indicators that best summarize the situation. By observing or measuring these indicators, you will get a good idea whether the situation or event is normal, above normal, or below normal. *For example, to understand the general health status of infants in your country, you would look at a few key indicators that have been agreed on by epidemiologists and health providers to represent the health status of infants in any country, such as the infant mortality rate, percentage of infants with low birth weight, and the mean length of birth intervals, which can affect the care of the infant.*

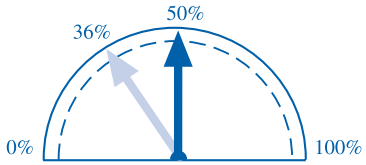
An indicator is often expressed as a rate. A rate is a measure of an event (numerator) within a specific population (denominator) during a specific period of time (usually one year), multiplied by a constant (usually 1,000 or 100,000). *For example, the infant mortality rate is the number of infants that die in the first year of life (numerator) among all live births (denominator) in a specific one-year period, multiplied by 1,000.*

Sample Reproductive Health Indicator Panel

Family Planning

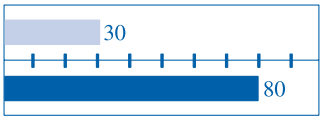
National Indicators

Women of Reproductive Age Using Modern Methods

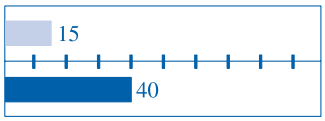


Local Indicators

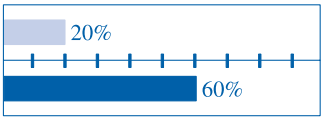
New Acceptors Being Served by the Clinic



Referrals for Long-Lasting Methods



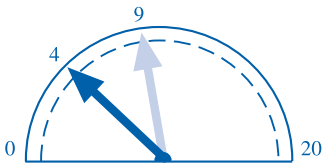
Continuing Users



RTIs/STDs

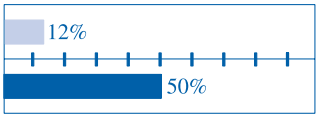
National Indicators

STD Prevalence (per 100)



Local Indicators

RTIs/STDs Treated on Site



Key

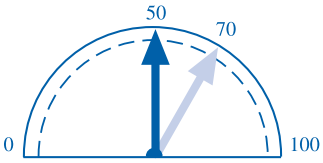
Baseline Levels

Objectives

Infant Health

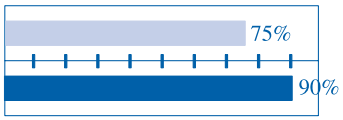
National Indicators

Infant Mortality Ratio (per 100,000)

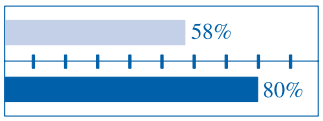


Local Indicators

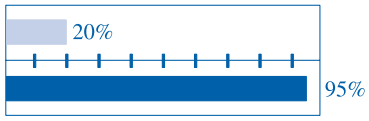
Fully Immunized Infants



Women Fully Immunized Against Tetanus



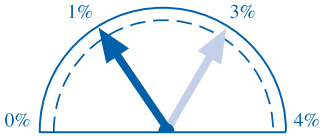
Postpartum Women Counseled on Treatment of Diarrhea and Recognition of Pneumonia



Infant Nutrition

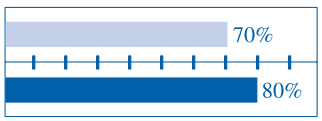
National Indicators

Infants Severely Underweight



Local Indicators

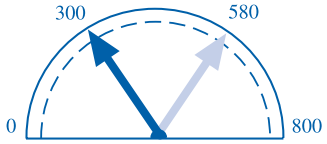
Infants Exclusively Breastfed at least Four Months



Maternal Health

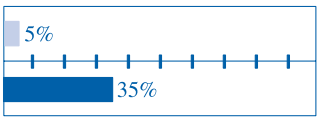
National Indicators

Maternal Mortality Ratio (per 100,000)



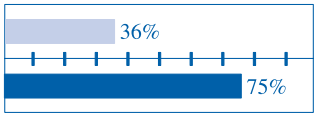
Local Indicators

Postpartum Women Coming for Postpartum Care



Local Indicators

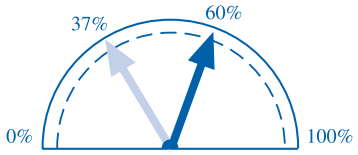
Pregnant Women Who Have Received Iron and Multivitamins



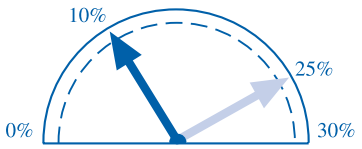
Adolescent Health

National Indicators

Female Secondary School Enrollment

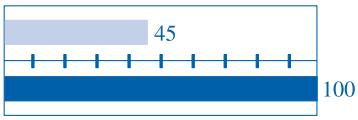


Adolescent Girls Who Have Begun Childbearing



Local Indicators

Adolescents Served by Program



You can use this sample indicator panel as a guide for developing your own indicator panel. In designing your own, you can make it as simple or elaborate as you want. Its simplest form might be a chart that shows the current situation in your program and the desired objective for each of your reproductive health indicators. In this sample indicator panel, the national indicators reflect the current situation compared with five-year goals, and the local indicators reflect baseline data compared with one-year objectives.

You should update the data in your indicator panel periodically so that it reflects the achievements of your program or alerts you to problems that need to be addressed. This way you can see how close you are to reaching your objectives and always have a ready reference and tool for you and your staff to use to monitor your program's progress.

Establishing Performance Baselines

You can get some of the baseline data for your indicator panel from the same sources that you have already reviewed in selecting your national indicators. These data tend to be collected once every few years. Data for your local indicators should be drawn from easily accessible sources such as service records, small on-site clinic or hospital surveys, results of focus group sessions, existing government records, or existing community surveys.

Some data, such as the percentage of postpartum women coming for postpartum care, the number of adolescents served in a youth program, and data for the family planning indicators, can be obtained from your program's routine service registers. Other data, particularly those that are needed for your new reproductive health service areas, can also be obtained through your service records if you have instituted data collection and recording practices for these services.

When you want to learn more about a particular client practice or trend, you can decide to conduct occasional exit interviews or ask the registration clerk to ask each client a few questions at the time of registration over a certain period of time, such as a month. This is an easy and effective way to learn about a particular aspect of your program or client practice in a short period of time. *For example, you may want to know more about number and percentage of infants being served by the clinic who are exclusively breastfed, or the percentage of pregnant women who take iron and multivitamins. By asking clients to answer some targeted questions during their visit to the clinic, providers not only can collect the data they need, but also have the opportunity to do on-the-spot counseling if needed.*

Using the data that you have collected or reviewed, establish a baseline level of performance for each local indicator and mark them on the indicator panel. These baselines will help you be realistic as you establish the objectives for each indicator.

For more information on interviewing, sampling, and processing data, please refer to Volume V, Number 3 of *The Family Planning Manager*, "Assessing the Impact of Training on Staff Performance."

Setting Objectives for Each Indicator

You will need to set objectives for each local indicator that you have decided to track. In the case of national statistics you may want to choose indicators for which national goals have been identified and note both the current national status and the national goal as stated in your government's national plans.

To set objectives for your local program indicators, you should work with your clinic staff, your supervisor, and central-level staff to set reasonable objectives. Your program or organization may have already identified objectives for the indicators you have chosen; if not, you can contact other clinics in your area to find out what their data show so you can get some perspective and set reasonable objectives. In addition, you can look at some of the national or regional statistics (if available) to give you a sense of where your program stands in relation to data taken from a wider area. Depending on whether your program is a rural or urban program and what types of clients you serve, the national or regional-level statistics may be higher or lower than yours, but these should be regarded only for perspective, not as an indication of what your objectives should be.

Once your objectives have been set you can use these to measure your achievements over the time period you specify. You should also take the opportunity to discuss the objectives with all your staff so that they know the importance of the indicators and how they can use them to improve the program.

Analyzing Your Indicator Panel Data

To use your control panel to track program progress, you will need to analyze your service data and other local data periodically and note the changes on your indicator panel. It is not necessary to make changes in the national data on your panel unless a new national survey has been completed and the data have changed. Generally this will be only once every several years.

Although you will be collecting much of the service data related to the local indicators on a routine basis, you should aggregate and analyze it periodically (quarterly or semi-annually) so that you can monitor your achievements. How often you analyze the data will depend on cost and personnel constraints, how soon changes in the data for the indicator are likely to appear, and whether there is another outside source that collects the data you need, such as another program in either the public or the private sector. Each time you aggregate and analyze your service statistics and calculate rates and percentages, enter the new data on your indicator panel.

Once you have plotted the data for the indicators on your control panel, you will be able to see how your program is doing by comparing the current situation with the previously established baseline and objective for each indicator. If there is no improvement or the situation for a particular indicator has worsened considerably, then you will need to take steps to determine the possible reasons and take action to reverse the trend. In some cases you may have set your objectives too high. This may be true particularly for indicators that require that clients make a major change in their attitudes and traditional customs which can take many years to show a significant change. In the case that you find that you are exceeding your objectives, you should identify what is working well so that you continue the practice. You should also consider whether you set the objective too low and, if so, set a higher objective for that indicator.

Interpreting Local Indicators: A Look at Numerators and Denominators

When monitoring the performance of your program through your local indicators, it is important to consider what numbers you are using in the numerator and the denominator. The denominator that you use in any indicator determines the breadth of the population you are measuring, and the numerator is a subset of the denominator. *For example, you may decide that you are interested in looking at the number of pregnant women served in your clinic who are immunized against tetanus (numerator) out of the total number of pregnant women who are served by your clinic (denominator).* This measure will tell you the percentage of all pregnant clients (served by your clinic) who are immunized against tetanus. It does not, however, tell you anything about how well you are reaching all pregnant women in your local community in providing this service. In this case, if you changed the denominator to include all pregnant women in the community you would find that your performance would be much lower since the number of women in the denominator will be much larger.

When you use a denominator that represents the larger group in the community (rather than only clients served by your clinic) it will be harder to show high performance, but it will give you a much better indication of how well you are covering the needs of your community. For some indicators it may be more important to know how well you are serving the clients who come to your clinic and for other indicators it may be more important to know how well the entire population in your catchment area is being served. The latter is more difficult to measure accurately, since it is likely that your clinic is not the only clinic providing services to the population.

For more information on collecting and analyzing service data, please refer to Volume I, Number 2 of *The Family Planning Manager*, "Using Service Data: Tools for Taking Action," and Volume II, Number 1, "Using CQI to Strengthen Family Planning Programs."

Using the Indicator Panel to Make Decisions

Once you have analyzed and interpreted the data for all the indicators in your panel, you can see how well your program is doing in reaching your objectives and whether there is reason to take action or make changes in services to improve the performance of any particular indicator. In reviewing the situation reflected in the indicator panel, you may want to take one or more of the following actions.

- Develop possible ideas or hypotheses to explain why an indicator is not in a normal range of your objective.
- Seek more information to confirm which hypothesis is correct. This may require doing further analysis of the data you have, asking clinic managers, staff, or clients more questions, or making field visits to observe what is going on.
- Make improvements in services once you have the detailed information you need to determine what kind of improvements will work.

Among service improvements, you may consider improving coordination between existing services, introducing new services that will improve the quality of your family planning and reproductive health services, or finding ways to expand access to your services and/or increase demand for the services. These changes might be accomplished by developing new guidelines and protocols, coordinating visits to other service delivery sites, providing on-site training, integrating services and referral systems, identifying and remedying missed opportunities, or redesigning services to reach new groups.

The following section illustrates how you can use the indicator panel to monitor your progress, determine where changes are necessary, and make decisions about the kinds of changes that would help to improve the program.

How to . . .

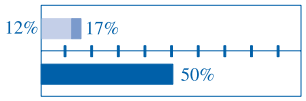
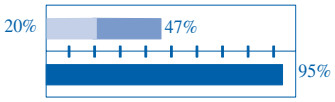
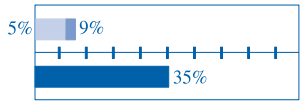
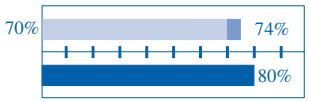
Use Your Indicator Panel to Guide Your Program

The following sample indicator panel, represented in a simple chart format, shows four sample reproductive health areas that a clinic has decided to track. For each area, the clinic's current situation (halfway through the year) and year-end objectives are noted.

In this example, at mid-year, the clinic has achieved only 34% of its established objective in the area of treating STDs on site. For the infant health indicator that it is tracking, it is progressing well and is right on target in having achieved nearly 50% of its objective. For the maternal health indicator, it has achieved 25% of its year-end objective, and for the infant nutrition indicator, the program appears to have been very successful, since it has achieved almost 93% of its objective for the year.

For each indicator, it is important to consider some of the causes of either poor performance or good performance. For those indicators that show less than the expected level of performance, you should consider ways in which you can make small changes in the service that would help to increase performance or identify other constraints that might be preventing you from providing the service or attracting the clients that need the service. For those indicators where the program is performing well, you should identify some of the factors are working well and be sure to continue these activities or techniques, and see whether some of the other program areas might benefit from these techniques.

The following section explains what this hypothetical clinic might be able to do to improve on the statistics shown under "current situation" in its indicator panel.

Reproductive Health Area (and achievements)	Current Situation (mid-year)	Year-End Objective
RTI/STD/HIV Services 	***17%** of clients with RTIs are treated on site with an antimicrobial.*	***50%** of clients with RTIs are treated on site with an antimicrobial.*
Infant Health 	***47%** of new mothers are counseled on the treatment of diarrhea and recognition of pneumonia.*	***95%** of new mothers are counseled on the treatment of diarrhea and recognition of pneumonia.*
Maternal Health 	**9%** of postpartum women are coming for postpartum care.	**35%** of postpartum women are coming for postpartum care.
Infant Nutrition 	***74%** of infants are being exclusively breastfed at the time of their four-month well-child visit.*	***80%** of infants are being exclusively breastfed at the time of their four-month well-child visit.*

Key: = Baseline data
= Current situation
= Objective (year-end)

Potential Management Actions

Under-treatment of RTIs. To address the problem of under-treatment of RTIs on site, you would need to find out why the treatment is not given. If your clinic does not have a laboratory and your staff think laboratory analysis is necessary for diagnosis, it would help to have them visit a clinic where providers have successfully introduced on-site diagnosis without a laboratory and on-site treatment, so that they can provide similar services. In addition to site visits, you may need to purchase antimicrobial drugs and have your staff trained in syndromic diagnosis.

Counseling and treatment of diarrhea and pneumonia. Although the clinic has done well in this area according to the indicator panel data, you may want to check to see whether the service providers are consistent in counseling mothers about infant diarrhea and pneumonia. If you find that there is room for improvement, you could designate two afternoons in the clinic as MCH clinic sessions for on-the-job training. In preparation for the training, you should review clinic guidelines and case management protocols on client counseling and work with clinical trainers and supervisors to revise the protocols as necessary.

Women coming for postpartum care. The clinic has not been very successful in getting women to come to the clinic for postpartum care following the birth of a child. This may be due in part to the distance from their homes to the clinic, a lack of understanding of the importance of follow-up visits for the health of the mother and child even if both mother and child seem to feel healthy, or the fact that it is a change in traditional social customs. A low-cost improvement could be made by putting more emphasis on counseling mothers in their prenatal visits or at delivery about the importance of coming for postpartum visits to learn about how to prevent infant health problems, how and when to receive appropriate immunizations for the child, and how to prevent unplanned pregnancies.

Breastfeeding infants. While the program appears to be doing very well in achieving their objectives for this indicator, the percentage of women breastfeeding has barely increased from the 70% baseline. To check up on these data and increase the percentage of infants who are being exclusively breastfed when they come for their four-month well-child visit, you may decide to use exit interviews with mothers of any child under four months to see she is still exclusively breastfeeding her infant. The person conducting the interview could counsel the woman on the spot about breastfeeding, if appropriate, or if she does breastfeed her infant, question the mother about where and when she learned about the feeding practices she uses, to identify opportunities where other new mothers could receive breastfeeding counseling.

Keeping Your Indicator Panel Up to Date

A well-designed indicator panel is useful for charting your clinic's progress toward achieving program objectives and having an impact on the health status of your client population. To keep your indicator panel useful as you make service improvements, you should regularly update local program data (every six months) and make changes to the national data when national statistics change. Throughout this process, you should involve your staff in using the indicator panel to:

- Check your progress toward meeting program objectives for each indicator and identify where you have shown improvement and where you have not;
- Identify the possible reasons for good performance, continue to focus attention in these areas, and identify other program activities that might improve the lower-performing areas;
- Set more ambitious objectives when your services have achieved existing goals or choose new indicators and corresponding objectives;

- Add new indicators when you initiate new services or a new component to an existing service that you particularly want to track.

Expanding the scope of the services you provide to your clients is important to meeting the reproductive health goals of your country. With an increase in services you, as a manager, face a greater challenge in tracking and improving the performance of your program. Developing and using an indicator panel such as the one presented in this issue can be a powerful monitoring instrument for your program. In addition, it can help you identify the service areas that need special attention, inform your staff about both national and local service needs and problems, educate your staff about the larger context of the work that they do every day, and help them understand and appreciate the changes and impact that result from their work.

Reviewers' Corner

A forum for discussing additional applications of FPM concepts and techniques

On how managers use data… *Several reviewers responded,* "We use data in preparing short- and mid-term plans as well as in analyzing and addressing special program concerns and for developing proposals for new projects. On a regular basis, we use national and local data to justify a project, prioritize activities, rationalize interventions, monitor progress, and to evaluate change."

On making better use of local data… *One reviewer suggested,* "There is a need for managers to make better use of regional- and local-level data that are often available. In our programs we are promoting the use of simple computer programs, such as EPI-Info, to assist managers in analyzing new program data including pre- and post-test data showing the effectiveness of specific training activities."

On the accuracy of local data… *One reviewer warns,* "Several of the mentioned sources of local data can give very different results depending on which methodologies were used to collect the data. Managers should be aware of these issues especially when they are comparing national, regional, and other local data. For example, data based on social surveys may be quite different from those based on service statistics."

On the importance of monitoring… *One reviewer stressed,* "Managers should focus on the importance of using the national reproductive health indicators to help set goals, and the local indicators to monitor the effectiveness of program implementation. Many programs don't have a good monitoring plan in place; this is where the concept of an indicator panel is very applicable. Good monitoring ensures a meaningful evaluation."

On the importance of making more regional data available… *One reviewer advises,* "Although many managers set quarterly or annual targets for their programs and the data they collect help to inform them about how well the program is achieving those targets, most managers fail to recognize how the progress relates to the overall picture, such as the population at large. Therefore, there should be more of an effort to collect and make regional data available so that managers can relate their program interventions to a larger scale."

Obtaining National Reproductive Health Data

The following organizations publish and distribute publications that provide survey data. Many of these publications are free of charge and will help you to understand the situation in your own country, compare data between countries on different key indicators, and set reasonable targets for your own program in relation to national goals.

Organization: Macro International

Publications: Macro International, Inc. provides the *Demographic and Health Surveys.* Current surveys are free of charge while out-of-print copies cost $25 US. Raw data sets can also be obtained for customized analyses by downloading them from the World Wide Web for free, contacting local in-country researchers, or Macro International who will ship a magnetic tape, Bernoulli cartridge, or floppy diskette. There is a charge of $50 US for customers in developing countries to cover the cost of sending materials.

Mailing Address: Macro International, Inc.
Demographic and Health Surveys
Attn. Publications
11785 Beltsville Drive, Suite 300
Calverton, MD 20705-3119 USA

Telephone: (301) 572-0958 **WWW Address:** www.macroint.com

Fax: (301) 572-0993 **E-mail Address:** reports@macroint.com

Currently, DHSs are available free of charge for the following countries:

Bangladesh	Egypt	Morocco	Senegal
Bolivia	Ghana	Namibia	Tanzania
Botswana	Guatemala	Niger	Togo
Brazil	Indonesia	Nigeria	Trinidad and Tobago
Burkina Faso	Jordan	Pakistan	Tunisia
Burundi	Liberia	Paraguay	Turkey
Cameroon	Madagascar	Peru	Uganda
Colombia	Malawi	Philippines	Yemen
Dominican Republic	Mali	Rwanda	Zambia

Organization: United Nations

Publications: The UN offers a large number of publications on population, demography, management of family planning programs, morbidity and mortality, and economic development. Several publications, such as the *Demographic Yearbook* and the *Compendium of Social Statistics and Indicators*, include country-specific demographic and population statistics.

Mailing Address: United Nations Publications
2 UN Plaza, Room DC2-853
Dept. C001
New York, NY 10017 USA

Telephone: (800) 253-9646 **WWW Address:** http://www.un.org/Pubs

Fax: (212) 963-3489 **E-Mail Address:** publications@un.org

Organization: The Population Reference Bureau

Publications: PRB distributes the *Population Handbook*, a primer on basic demographic terms and concepts, and the *World Population Data Sheet*, a wall chart providing current demographic and socio-economic indicators for 175 countries. The *1997 World Population Data Sheet* is included with this issue.

Mailing Address: Population Reference Bureau, Inc.
1875 Connecticut Ave., NW, Suite 520
Washington, DC 20009-5728 USA

Telephone: (202) 483-1100 **WWW Address:** http://www.igc.apc.org/prb

Fax: (202) 328-3937 **E-mail Address:** popref@prb.org

Organization: The World Bank

Publications: World Bank publications provide social, environmental, demographic and economic data and analysis on over 200 countries.

Mailing Address: The World Bank
PO Box 7247-8619
Philadelphia, PA 19170-8619 USA

Telephone: (202) 473-1155 **WWW Address:** http://www.worldbank.org/html/extdr/pubs.htm

Fax: (202) 522-2627 **E-mail Address:** books@worldbank.org

Organization: Center for International Health Information (CIHI)

Publications: CIHI publishes country-specific *Health Statistics Reports* and *Country Health Profiles* for all the developing countries which are assisted by the US Agency for International Development.

Mailing Address:
Center for International Health Information
1601 N. Kent St., Suite 1014
Arlington, VA 22209 USA

Telephone: (703) 524-5225 **WWW Address:** http://www.cihi.com/publist.htm

Fax: (703) 243-4669 **E-mail Address:** info@cihi.com

Organization: United Nations Children's Fund (UNICEF)

Publications: UNICEF publishes annual reports such as *The State of the World's Children* and *The Progress of Nations*, as well as *Country Profiles* which contain country-level statistical data on major social indicators.

Copies of UNICEF publications are available through UNICEF Field Offices and National Committees. For help locating the nearest UNICEF representative, contact the UNICEF affiliate office listed below.

Mailing Address:
633 Third Ave.
23rd Floor
New York, NY 10017 USA

Telephone: (212) 824-6275 **WWW Address:** http://www.unicef.org/apublic

Fax: (212) 824-6299 **E-mail Address:** netmaster@unicef.org

Organization: World Health Organization (WHO)

Publications: The WHO publishes a wide variety of publications on health topics ranging from the risks posed by environmental toxins to reform of the public sector health-delivery system.

Mailing Address:
WHO/DSA
1211 Geneva 27
Switzerland

Telephone: (41 22) 791-48-57 **WWW Address:** http://mentor.who.ch/programmes/pll/pll_index.html

Fax: (41 22) 791-24-76 **E-mail Address:** publications@who.ch

Organization: Centers for Disease Control and Prevention (CDC), Division of Reproductive Health

Publications: The CDC publishes reports providing results from national Reproductive Health Surveys.

Mailing Address: Division of Reproductive Health (K-35)
Centers for Disease Control and Prevention
4770 Buford Highway, NE
Atlanta, GA 30341-3724 USA

Telephone: (770) 488-5260 **WWW Address:** http://www.cdc.gov

Fax: (770) 488-5965 **E-mail Address:** hig1@cdc.gov

Organization: Pan American Health Organization (PAHO)

Publications: PAHO publications include *Health Statistics from the Americas*, the quadrennial *Health Conditions in the Americas*, the *Revista Panamericana de Salud Pública/Pan American Journal of Public Health*, as well as scientific publications and technical papers on a wide array of health issues.

For information on how to contact a local PAHO sales representatives, contact the PAHO office listed below.

Mailing Address: Publications Program
PAHO
525 23rd St., N.W.
Washington, DC 20037 USA

Telephone: (202) 974-3000 **WWW Address:** http://www.paho.org/english/DBI/pubinfo.htm

Fax: (202) 338-0869 **E-mail Address:** paho@pmds.com

Organization: United Nations Population Fund (UNFPA)

Publications: UNFPA produces the annual *State of World Population Report*, and other technical reports on population and family planning. UNFPA also publishes *Populi*, a quarterly magazine that is available free of charge in English, French, and Spanish.

Mailing Address: United Nations Population Fund
220 E. 42nd St.
New York, NY 10011 USA

Telephone: (212) 297-5020 **WWW Address:** http://www.unfpa.org/pubs.html

Fax: (212) 557-6416 **E-mail Address:** ryanw@unfpa.org

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Checklist for Using National and Local Data to Guide Reproductive Health Programs

- [ ] Discuss with your supervisor and your staff the types of reproductive health services your program can offer based on national and local priorities and needs, and available local and program resources.
- [ ] Determine your program's reproductive health priorities, goals, and objectives.
- [ ] Create an indicator panel to help you monitor your progress in reaching your reproductive health objectives.
- [ ] Divide your indicator panel into the reproductive health areas your program is addressing.
- [ ] Decide on national population and health indicators and local program indicators for your indicator panel and use available data (or collect it, if necessary) to determine the baseline status for each indicator.
- [ ] Determine objectives for each local indicator and note national goals for each national indicator.
- [ ] Periodically aggregate and analyze your service data to see how well you are moving toward meeting your objectives.
- [ ] Determine what follow-up data and information are needed to allow you to pinpoint specific causes of problems, or reasons for success.
- [ ] Make changes in services where performance is low in order to progress toward the program's objectives.
- [ ] Periodically review the objectives you have set for each indicator and adjust the objectives if they are unrealistic.
- [ ] Replace initial indicators on the panel with new indicators where performance is high and can be maintained or when discontinuing or adding services.

The Family Planning Manager is designed to help managers develop and support the delivery of high-quality family planning services. The editors welcome any comments, queries, or requests for subscriptions. Please send to:

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The Family Planning Manager

CASE SCENARIOS FOR TRAINING AND GROUP DISCUSSION

Tracking the Progress of Reproductive Health Services in the Highland District

The room became quiet as Dr. Tasmakorn, new Director of the National Reproductive Health Program approached the podium. Dr. Tasmakorn was opening a workshop of sixty District Health Officers. After some introductory remarks, Dr. Tasmakorn began, "Once again we need your help in making important changes in our program. Historically, the aim of our national family planning program has been to reduce population growth by setting targets. Our mandate is changing. In keeping with the principles of the International Conference on Population and Development (ICPD), our emphasis has shifted toward enabling couples and individuals to receive a broad range of services so that they are able to space their children and limit the size of their families. We believe that by offering a wider range of basic health services for women, infants and adolescents, including well-baby care, the prevention and treatment of reproductive tract infections, and counseling for the prevention of HIV we will achieve and even surpass the targets we set in past years.

The challenge you face in our consolidation of vertical programs into an integrated reproductive health program, is to select the specific service areas that your program will offer in order to best meet the needs of the clients in your catchment area. To help you select these service areas, you will need to review national and local data. Using these national population, reproductive health, and primary health data, combined with local service data, will help you select indicators to guide your decisions as you expand your services to meet the reproductive health needs of your clients. Aside from helping you identify the reproductive service areas that will comprise your program, analyzing these data on an ongoing basis, will help you to respond to the following questions: *What is the status of our program? What are the highest priority needs in our area? How will we know that we're on the right course? How quickly are we reaching our objectives?*"

Turning to a flipchart, Dr. Tasmakorn said, "The purpose of this workshop is to review how you will track the progress of your program. Though we won't cover all of this in this workshop, this process includes the activities listed on the flipchart."

1. *Identify the main reproductive health program areas;*
2. *Identify national and local indicators for each program area;*
3. *Develop baseline objectives for each indicator;*
4. *Prepare an indicator panel that will allow you to compare the current situation with the objectives you've set over time.*
5. *Collect and analyze data on a periodic basis and enter data on the indicator panel;*
6. *Determine how well you are meeting the objectives for each indicator and devise a management action that you can implement to improve your program.*

Case Scenario:Tracking the Progress of Reproductive Health Services

Dr. Tasmakorn continued talking for several more minutes and then opened the session to questions from the audience.

"How will we make the changes to our programs?" asked Dr. Tan, a recently hired District Officer with considerable experience in family planning.

"It's really not that different from what you are already doing, but you will need to develop a broader action plan for expanding services," replied Dr. Tasmakorn. "You will need to take into consideration the population, reproductive health, and primary health indicators that characterize the districts in each region and then select appropriate objectives to best meet the needs of your clients."

"The indicators refer to the entire country," said Dr. Kanthapang, a District Officer who had worked in maternal and child health for many years before joining this program. "How do we select indicators for the district levels?"

"There is actually a quite a bit of data available to you at the local level," responded Dr Tasmakorn. For example, most of your family planning programs have routinely collected service statistics, which give you information on the number and type of contraceptives received and dispensed during a specific time period, the number of new acceptors, the percent of continuing clients, etc. Data for other programs can be obtained from small or on-site clinic or hospital surveys, existing government records, or existing community surveys. In selecting local indicators make certain that they relate to existing services and new services that are a high priority for your area and can be added to your program with your existing capacity and resources. As more resources become available you will be able to phase in additional services."

Dr. Tasmakorn concluded his remarks and the workshop participants broke into small groups.

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As Regional Officer for 333, Dr. Suchai had met Dr. Tasmakorn at many Ministry meetings. She admired him and thought he had done an excellent job of presenting the new mandate and setting the stage for the transition. Dr. Suchai had three District Officers working in her region. They all sat down around a small table, and Dr. Suchai made a few comments about what Dr. Tasmakorn had said. Then she turned to Dr. Tan, Dr. Kanthapang, and Dr.Vuthy from the Highland District. "In order to try to meet the objectives for this workshop, I would like to begin by identifying the main reproductive health program areas for The Highland District and then identify local indicators for each program area. Once we've done that, we can look at the data that each of you brought with you and see how they relate to each of the indicators we identify. Finally, we need to work together to establish year-end objectives."

The group worked together for the next day and a half of the workshop and put together charts showing the indicators currently being used in their districts, current data, and a year-end objective for each indicator. The following table shows the information that they compiled for the Highland District.

Case Scenario: Tracking the Progress of Reproductive Health Services

Reproductive Health Area	Indicators for Highland District	Current Data for Highland District (January–March)	Year-End Objective
Family Planning	Number of new contraceptive acceptors	212 women 75 men	650 women 180 men
	Contraceptive method mix	orals injectables condoms	orals injectables condoms IUDs
Infant Health	Percentage of infants brought into clinic fully immunized for age	80%	90%
	Percentage of women seen adequately immunized againt tetanus	45%	70%
	Postpartum visit—percentage of women counseled on infant diarrhea	no data	
Maternal Health	Percentage of postpartum women coming for postpartum care	44%	75%
	Perentage of pregnant women seen during first trimester	11%	50%
Infant Nutrition	Percentage of infants at four-month well-baby visit who are exclusively breastfed	65%	85%
RTI/STD/HIV Services	Percentage of women of reproductive age with reproductive tract infections	no data	
	Percentage of men with reproductive tract infections	no data	
Adolescent Health	Percentage of births to adolescent women	15%	10%

Case Discussion Questions:Tracking the Progress of RH Services

1. **For each indicator, identify two possible sources that the program might have used to collect the data.**
2. **Looking at Highland District's year-end objective for one indicator in each reproductive health area, determine how well the program is doing for that indicator, given that they are currently at the end of the first quarter of the year.**

Reproductive Health Area	Indicators for District	Current Data for District (January–March)	Year-End Objective	Progress During First Quarter
Family Planning	Number of new contraceptive acceptors	212 women 75 men	650 women 180 men	
Infant Health	Percentage of infants brought into clinic fully immunized at first birthday	80%	90%	
Maternal Health	Percentage of pregnant women seen during first trimester	11%	50%	
Infant Nutrition	Percentage of infants at four-month well-baby visit who are exclusively breastfed	65%	85%	
RTI/STD/HIV Services	Percentage of women of reproductive age with reproductive tract infections Percentage of men with reproductive tract infections	no data no data		
Adolescent Health	Percentage of births to adolescent women	15%	10%	

3. **Given the program performance for each indicator, list possible management actions that would help the program achieve its objectives for each indicator.**
4. ***Bonus Question:*** **Using the *1997 World Population Data Sheet* that accompanies this issue, select five indicators from your country and determine what the national goals are for each indicator that you have selected.** (This question can only be answered by you, by checking your national population policy or national population plan document published by your government.)

Case Analysis: Tracking the Progress of Reproductive Health Services

1. For each indicator, identify two possible sources that the program might have used to collect the data.

Reproductive Health Area	Indicators for Highland District	Sources of Data
Family Planning	Number of new contraceptive acceptors	Record reviews to track number of new acceptors receiving supplies from the clinic Household surveys to track the number of new acceptors in your catchment area receiving supplies from other clinics, pharmacies, etc.
	Contraceptive method mix	Inventories to monitor the receipt and distribution of methods Record reviews to look at demand
Infant Health	Percentage of infants brought into clinic fully immunized at first birthday	Well-baby cards WHO surveys
	Percentage of women seen adequately immunized againt tetanus	Record reviews WHO surveys
	Postpartum visit—percentage of women counseled on infant diarrhea	Exit interviews with mothers Observation of provider
Maternal Health	Percentage of postpartum women coming for postpartum care	Review lists from local hospitals, maternity clinics, and independent birth attendants Compare these lists with clinic records to monitor women seen at clinic for post- partum care
	Percentage of pregnant women seen during first trimester	Record should be flagged as soon as a woman is diagnosed as pregnant. This record should be reviewed monthly Household surveys of pregnant women by outreach workers to identify pregnant women and find out when and where they are receiving prenatal care

Case Analysis: Tracking the Progress of Reproductive Health Services

Reproductive Health Area	Indicators for Highland District	Sources of Data
Infant Nutrition	Percentage of infants at four-month well-baby visit who are exclusively breastfed	Focus group survey with mothers of infants under four months old to gather information about why mothers do and don't exclusively breastfeed their children during the first four months. One-on-one interview with mothers during well-baby visits to collect data to be entered on the child's well-baby card.
RTI/STD/HIV Services	Percentage of women of reproductive age with reproductive tract infections Percentage of men with reproductive tract infections	Survey all women coming to clinic and if they report symptoms, follow up with exam and treatment. Lab tests based on symptoms to ascertain existence of RTI. Clinical history/record Survey all men coming to clinic and if they report symptoms, follow up with exam and treatment.
Adolescent Health	Percentage of births to adolescent women	Record review for clinic or hospital births Household surveys to detect non-clinic births

Case Analysis: Tracking the Progress of Reproductive Health Services

2. Looking at Highland District's year-end objective for one indicator in each reproductive health area, determine how well the program is doing for that indicator, given that they are currently at the end of the first quarter of the year.

Reproductive Health Area	Indicators for District	Current Data for District	Year-End Objective	Progress During First Quarter
Family Planning	Number of new contraceptive acceptors	212 women 75 men	650 women 180 men	32%—Meeting objective 41%—Slightly ahead of objective
Infant Health	Percentage of infants brought into clinic fully immunized at first birthday	80%	90%	88%—Exceeding objective, look for factors that may be contributing to success that could be applied in other program areas
Maternal Health	Percentage of pregnant women seen during first trimester	11%	50%	22%—This objective may be too ambitious by year-end
Infant Nutrition	Percentage of infants at four-month well-baby visit who are exclusively breastfed	65%	85%	76%—Look for factors that may be contributing to the success and try and apply them in other areas
RTI/STD/HIV Services	Percentage of women of reproductive age with reproductive tract infections Percentage of men with reproductive tract infections	no data no data		
Adolescent Health	Percentage of births to adolescent women	15%	10%	150%—Target may be too ambitious by year-end

3. Given the program performance for each indicator, list possible management actions that would help the program achieve its objectives for each indicator.

When analyzing your progress toward meeting objectives, you need to consider some of the causes of poor performance or good performance. Try to identify factors, both internal and external, that may be preventing you from reaching your objective and some strategies that may help to improve performance. When you are meeting your objectives, identify factors that you think are contributing to your success and see whether some of these activities could be used in other program areas. If you are exceeding your objectives, you may decide to adjust your objectives.

Case Analysis: Tracking the Progress of Reproductive Health Services

Reproductive Health Area	Indicators for Highland District	Current Data for Highland District (January–March)	Year-End Objective	Management Action
Family Planning	Number of new contraceptive acceptors	212 women 75 men	650 women 180 men	*Review the DHS to find out what the public thinks of family planning and to identify obstacles to implementing program changes.*
Infant Health	Percentage of infants brought into clinic fully immunized at first birthday	80%	90%	*Continue checking the immunization card of each infant who enters the clinic.*
Maternal Health	Percentage of pregnant women seen during first trimester	11%	50%	*Conduct a focus group with women of reproductive age to develop strategies for an IEC campaign targeted at women in their first trimester.*
Infant Nutrition	Percentage of infants at four-month well-baby visit who are exclusively breastfed	65%	85%	*Conduct ongoing community outreach to homes and work sites of pregnant and lactating women to encourage breastfeeding.*
RTI/STD/HIV Services	Percentage of women of reproductive age with reproductive tract infections Percentage of men with reproductive tract infections	no data no data		*Work with clinic team to determine exactly what is to be measured by this indicator. Work with statistician to include this indicator as part of the MIS. Establish your clinic as an RTI screening site for sexually active women. Train all providers involved in prenatal care, deliveries, and abortion procedures in the prevention and treatment of iatrogenic infections.*
Adolescent Health	Percentage of births to adolescent women	15%	10%	*Establish peer counseling groups.* *Work with schools in developing family life education programs that include sex education.* *Establish a program at the clinic for adolescents, providing privacy and female counselors.*

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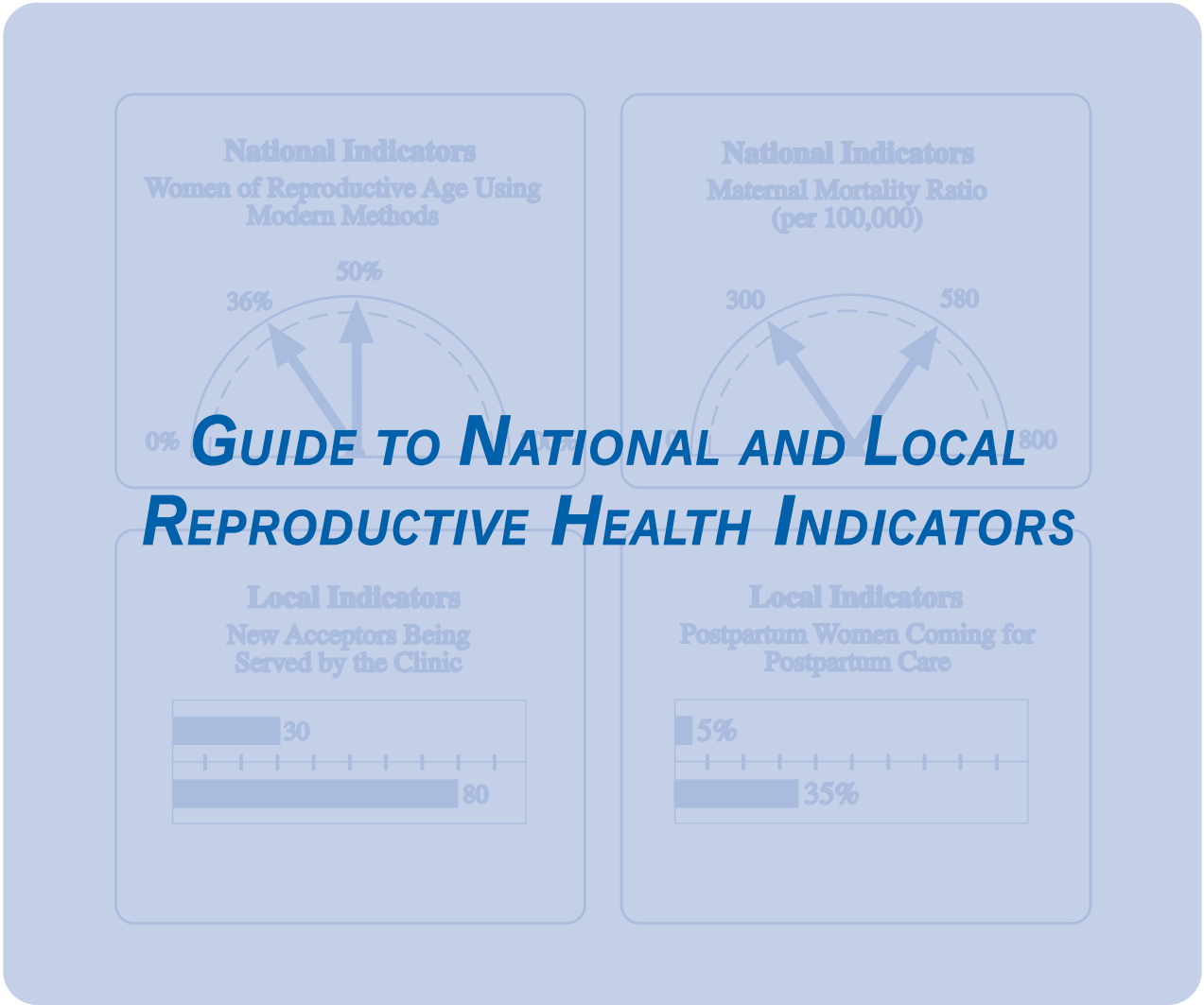

GUIDE TO NATIONAL AND LOCAL REPRODUCTIVE HEALTH INDICATORS

A supplement to *The Family Planning Manager*
Volume VI, Number 2, Summer 1997

A supplement to *The Family Planning Manager*
"Using National and Local Data to Guide Reproductive Health Programs" Volume VI, Number 2, Summer 1997

Guide to National and Local Reproductive Health Indicators

In This Supplement

To effectively manage reproductive health programs, managers should use indicators to set objectives, help identify problem areas, and monitor progress in their reproductive health services. This supplement to *The Family Planning Manager*, "Using National and Local Data to Guide Reproductive Health Programs," is designed to serve as a reference that you, as a manager, can use to understand and explain to your staff the meaning of a number of commonly-used reproductive health indicators. It can also be used to help you and your staff select national and local indicators that you will track in your program. This guide is divided into two main sections:

- **Using the reproductive health indicators table.** This section presents a table of sample reproductive health indicators and explains the meaning of each national- and local-level indicator listed. In addition, for each local-level indicator, suggestions are offered for how to interpret and use the data to make program improvements.
- **Calculating reproductive health indicators.** This section explains how each major national-level indicator is calculated and offers comments on how to calculate local-level indicators.

Using the Reproductive Health Indicators Table

The table "Sample Reproductive Health Indicators" presents sample national and local reproductive health indicators for six reproductive health areas: family planning, maternal health, infant health, infant nutrition, adolescent health, and RTI/STD/HIV services. A column titled "What does it mean for reproductive health?"gives the context in which each indicator is commonly interpreted. National-level indicators can give you valuable information about the national program status, and local indicators can be used to assess how well your program is doing and indicate what you need to do to improve performance. Therefore, for the local indicators, a column titled "How can I use the data?" is also provided, which suggests some reasons why data for the indicator may be high or low and offers some possible program improvements to help your reproductive health program achieve an impact on the health of your local area's population.

Sample Reproductive Health Indicators

Family Planning—National Level

Indicator	What does it mean for reproductive health?
Contraceptive prevalence rate (CPR)	Contraceptive prevalence refers to women of reproductive age (usually 15-49 years) who are currently using a contraceptive method. This indicator helps managers explore method mix and the effectiveness of information, education, and communication (IEC) messages. In some countries, this indicator gives a better idea of women's interest in contracepting when it is limited to married women and women in union, since other women in these countries might be less sexually active. It may be calculated for only modern methods (oral contraceptives, barrier methods, IUDs, injectables, implants, sterilization, condoms, and natural family planning), or it may also include traditional methods. CPR can also be computed for each individual type of modern method.
Age-specific fertility rates (ASFRs)	These annual rates of births to women of reproductive age (usually 15-49), divided into five-year age intervals, measure fertility very precisely and are useful in defining fertility trends in different age groups. They are particularly helpful in assessing the impact of family planning programs on younger age groups who tend to have higher fertility, older age of marriage, and more educational opportunities.
Total fertility rate (TFR)	This rate reflects the average number of children who would be born to a woman during her childbearing years if current age-specific birth rates remained constant during the woman's lifetime. It summarizes the level of fertility in a country and is useful for monitoring long-term decline in fertility.
Percentage approving of family planning	This indicator is a percentage of survey respondents of both genders who say they approve of the use of contraception for spacing births or preventing pregnancy, or approve of family planning information in mass media. Sometimes the respondents are further classified by background characteristics. It identifies how receptive the target population is to family planning and is particularly useful in countries where the CPR is relatively low and family planning programs are in early stages of development. If CPR is low and the approval rate is high, there is likely to be significant unmet need.
Percentage desiring a child within two years	This is the percentage of respondents who respond that they would like to have a child, and if so, within two years. Respondents may be classified by gender, limited to women, or limited to women in union, and may be further classified by number of living children, age of respondent, place of residence, or education. The measure informs a program manager of reproductive intentions of different groups, women's interest in limiting the number of children in their family, and potential discrepancies between partners in desire for more children. It gives important insight into the degree of unmet need for contraception.
Percentage of unmet need for family planning	This is the percentage of women who are not using contraception out of all women who have a need for contraception because they do not desire any children within two or more years. If data are available, the denominator may be further refined to exclude infertile women, women who are currently pregnant, and amenorrheic women who intended a pregnancy or were using contraception. This indicator is based on a woman's desire not to have a child soon. In many countries this is determined from responses to a question asked only of women in union. Data for this indicator generally provide strong support for reaching demographic goals by meeting individual women's and couples' needs with broader, more accessible reproductive health services of higher quality.

Sample Reproductive Health Indicators		
Family Planning—Local Level		
Indicator	**What does it mean for reproductive health?**	**How can I use the data?**
Percentage of new acceptors	This percentage of men and women of reproductive age in the population who are new acceptors is used in family planning clinics to see if the program is achieving its objectives and to assess how well clinics are reaching new clients with services over time. A low percentage could indicate that 1) potential clients are unaware of services, 2) clinic location or hours are inconvenient, 3) prices are too high, 4) potential clients have heard about a lack of privacy, 5) rumors and misinformation are keeping potential clients away, or 6) family planning services in the area have met client demand. High numbers of new acceptors that increase your overall number of clients raise the possibility that service quality may decline and continuing users may be lost.	If your clinic has a low percentage of new acceptors, you need to ask further questions to identify the main causes and then implement appropriate changes, such as 1) outreach, 2) a more convenient schedule, 3) sliding fee scale or special payment plans for poorer clients, 4) private areas for exams and counseling, 5) IEC, or 6) changes that enable your clinic to fill a market niche not filled by others. You can then use this indicator to monitor the effects of the changes you have implemented. For high numbers, you should monitor whether service quality is being maintained and whether continuing users are declining (or dropouts are increasing).
Percentage of continuing users (Percentage of dropouts)	The percentage of clients who are continuing users is used in family planning clinics to assess whether clients find clinic services acceptable. Low percentages of continuing users (or high percentages of dropouts) could indicate service problems that discourage clients from continuing their use of contraceptives (such as stockouts or inadequate counseling and follow up) or the availability of contraceptive supplies elsewhere.	If your percentage of continuing users is low compared with your new acceptors, you need to determine whether client dissatisfaction with services or more attractive services and supplies of contraceptives elsewhere are drawing your clients away and, if so, the causes of these. You can then use this indicator to monitor whether the service improvements you make result in an increase in continuing users.
Contraceptive method mix	This measure shows the percentage of different types of contraceptives selected by clients and thus reflects the preference of clients against the range of methods offered. Method mix should include short-term methods, long-acting methods, referrals for permanent methods, and any methods offered through clinic-affiliated CBD programs. This indicator needs to be compared with the diversity of clients' stages of reproductive life and clients' risk of exposure to STDs and HIV to determine the appropriateness of the mix. This indicator can be used to see if there is a relationship between IUD selection or condom selection and risk of STDs and HIV.	If your method mix represents a narrow range of contraceptives, but your clientele is diverse, or if the mix is inappropriate for the needs of your clients, then investigate whether these problems are due to provider bias, insufficient training, or shortages in supplies. Find out also if clients' misconceptions about certain methods that would be suitable for them are causing them to not select those methods. Determine method mix objectives, adopt actions to help broaden or reconfigure a method mix, and use this indicator to monitor the effect of these actions.

Sample Reproductive Health Indicators

Maternal Health—National Level

Indicator	What does it mean for reproductive health?
Maternal mortality ratio	This measures the proportion of women dying as a result of complications of pregnancy, childbirth, or during the 42-day period after the termination of a pregnancy, to the total number of live births in a given year. It indicates the risk of women dying from complications of pregnancy or childbirth. While sometimes difficult to quantify, it raises questions about access to and adequacy of prenatal, delivery, and postpartum and post-abortion care, as well as maternal socio-economic status.
Maternal morbidity ratios by cause	Ratios of new cases of unhealthy maternal conditions reported during a given time interval to the number of live births help managers focus on such disorders as anemia, vaginal bleeding, and other obstetrical or gynecological problems. Analyzing the pattern for all maternal diseases and unhealthy conditions will reveal the most common causes of maternal morbidity and suggest needs for special clinical training and essential drugs.
Percentage of women receiving prenatal care at least once by trained personnel	The estimated percentage of pregnant women who have had at least one prenatal visit with trained personnel is a quick, useful measure of maternal health when it is difficult to obtain data for maternal mortality and morbidity. If prenatal services are well used, a manager may instead use indicators which identify the frequency of prenatal visits: percentage of women having at least three prenatal visits, and percentage of women having at least one prenatal visit in the first trimester.

Maternal Health—Local Level

Indicator	What does it mean for reproductive health?	How can I use the data?
Percentage of pregnant women *receiving* iron and multi-vitamins/ Percentage of pregnant women *taking* iron and multi-vitamins	These percentages can indicate that fetuses are not receiving the nutrients they need to develop normally. When taken by pregnant women, iron and multivitamin tablets ensure the fetus is getting a healthy supply of minerals and vitamins. Most countries have policies regarding the number of tablets of these minerals and vitamins that pregnant women should take. Even when policies are followed, some women avoid them because of such side effects as gastric irritation, constipation, and black stools caused by iron.	You can monitor the implementation of program policies concerning the number of tablets staff should be dispensing at prenatal visits. Your staff should also determine whether clients are actually taking these supplements by asking prenatal women questions during their visits or during exit interviews about the medications they take. By asking about reasons for not taking these medications, staff will learn the information they need to offer appropriate nutritional counseling.
Access to emergency obstetric care	This indicates with a yes or no whether emergency obstetric care for treating women with obstructed labor, postpartum or post-abortion hemorrhaging, or sepsis is within reach of local transport within a reasonable time.	If no emergency care is in reach of your client population, you can work with other health facilities and leaders of government and women's groups to develop closer services and/or direct transportation.

Sample Reproductive Health Indicators		
Maternal Health—Local Level *(continued)*		
Indicator	**What does it mean for reproductive health?**	**How can I use the data?**
Percentage of postpartum women coming for postpartum care	This percentage helps to measure the quality of a safe motherhood program. There should be a high percentage of postpartum women (whether they have delivered in a hospital or at home) who come to a clinic six weeks after delivery to receive critical follow up at this vulnerable time in their and their infants' lives to assess post-partum recovery and receive counseling on infant care and family planning.	If your clinic's percentage is low, you need to find out whether it is due to poor access, client disinterest, or lack of understanding about the importance of postpartum care. This information will help you develop postpartum care that is accessible and valued by mothers, that provides support for infant care, and that offers opportunities to discuss family planning options.

Sample Reproductive Health Indicators	
Infant Health—National Level	
Indicator	**What does it mean for reproductive health?**
Percentage of infants fully immunized with DPT vaccine	This is the percentage of infants who, at their first birthday, have received their third diphtheria, pertussis, and tetanus (DPT) immunization. The indicator is usually available for countries and local areas through the Expanded Programme on Immunization (EPI). It is a commonly used and easily obtainable indicator for measuring the effectiveness of infant health services.
Infant mortality rate (IMR)	The rate of death of infants during the first year of life accounts for about two-thirds of all deaths in children under five years of age in developing countries; the majority of these deaths occur in the first four to five months. The IMR summarizes infants' chances of surviving the first year of life. A high IMR suggests a lack of prenatal and postpartum care, breastfeeding, sanitary conditions, spacing of children, income, and mother's education.
Percentage of low birth weight infants	The percentage of reported live births that are under 2,500 grams reflects the overall health status of mothers and the availability, accessibility, and quality of prenatal and obstetric care. It helps managers predict infants' ability to adapt and develop normally. Sometimes the percentage of *very* low birth weight infants (under 1,500 grams) is used instead as a more specific predictor of problems.
Median length of birth intervals	The median interval of less than 24 months between successive births indicates that many women are not spacing their births and are most likely not using contraception, are using an ineffective method, or are using a method ineffectively. Close intervals can adversely affect the health of mothers, older children, or infants.

Sample Reproductive Health Indicators

Infant Health—Local Level

Indicator	What does it mean for reproductive health?	How can I use the data?
Percentage of pregnant women seen who are immunized against tetanus	This percentage reflects the degree of compliance with the current WHO definition of full protection against neonatal tetanus: two doses of tetanus toxoid for a woman at her first pregnancy, and depending on the number of years between pregnancies, one or two doses during subsequent pregnancies. A low percentage of women seen in the clinic who are immunized means a substantial number of infants of non-immunized women are at risk of dying from neonatal tetanus soon after delivery and that prenatal health services are insufficient.	If your percentage is low, you need to collect data to determine whether women are not coming for prenatal care (even though they may be coming for other services), whether staff are not giving tetanus immunizations, or whether tetanus vaccination supplies are inadequate. Then you can use this indicator to set phased objectives over time and address the main causes of low vaccination percentages so that you will be able to provide pregnant clients with this vaccination.
Percentages of women returning for a postpartum visit who are counseled on: • **family planning** • **infant nutrition** • **child immunizations** • **infant diarrhea** • **early signs of pneumonia**	A percentage of women who have received each type of counseling should be calculated to monitor whether mothers are being instructed on how to space children and limit family size, when to bring a child for immunizations, how to recognize and treat diarrhea, and how to recognize early pneumonia and bring the infant for treatment, all critical factors for protecting the health of infants and mothers. This counseling should be done at the six-week postpartum visit. Low percentages indicate that the health of infants may be at risk of dying from major causes of infant death.	If not in place, simple standards need to be developed for appropriate counseling in the areas of postpartum family planning, immunizations, and the treatment of infant diarrhea and pneumonia. Once standards have been developed, you will need to make sure that staff understand the importance of this counseling for the health of mothers and infants, that they receive necessary training in and time to do postpartum counseling, that objectives and a system for providing comprehensive counseling are established, and that the counseling given is periodically monitored during or after postpartum visits.
Percentage of infants brought into clinic who are fully immunized	Percentages less than 90% mean that immunization programs lack sufficient immunization coverage of infants. According to WHO protocols, by 12 months an infant should have received a BCG vaccination, three doses of diphtheria, pertussis, and tetanus (DPT) vaccine, three doses of polio vaccine, and a measles vaccination.	If percentages are low, you need to monitor coverage and timely immunization of infants. If other managers are responsible for child survival or maternal and child health programs, your role will be limited to supporting their efforts by providing data and assisting in coordinating necessary services.

Sample Reproductive Health Indicators		
Infant Nutrition—National Level		
Indicator	**What does it mean for reproductive health?**	
Percentage of infants severely underweight	This is the percentage of infants who are less than 65% of the median weight for their age. This indicator can warn about inadequate breastfeeding, maternal nutrition, other infant feeding practices, household budgets, or crop yields.	
Infant Nutrition—Local Level		
Indicator	**What does it mean for reproductive health?**	**How can I use the data?**
Percentage of infants brought to the clinic who are exclusively breastfed for at least 4 months	A low measure of infants who are exclusively breastfed (given breast milk and water only with no solid food up to at least four months of age) can indicate that infants may be receiving a diet that lacks nutrition and that may undermine their health. Very young children receiving solids can develop gastrointestinal problems or infections and can also choke on large pieces of food. Data for this indicator can be gathered during four-month well-baby visits or during routine immunization campaigns. Interpretation should consider the frequency of severe maternal malnutrition and the risk of perinatal HIV transmission, since both may sometimes be considered contraindications for breastfeeding.	You need to allow enough time during the four-month well-baby visit for staff to ask mothers if they are exclusively breastfeeding, to find out why not, to check whether they have a sufficient diet to breastfeed, to counsel those who have not been breastfeeding about their infant's diet, and to counsel those who have been about the transition to solid food around six months of age. If mothers are severely malnourished, they will need free supplements that they can feed their infants. Data gathered during the six-month visit about reasons for not breastfeeding can help improve the counseling about infant nutrition that mothers receive right after delivery and at the postpartum visit.

Sample Reproductive Health Indicators

Adolescent Health—National Level

Indicator	What does it mean for reproductive health?
Percentage of adolescents who have begun childbearing	Often available through Demographic Health Surveys, the percentage of girls 15–19 (or school age) who are mothers or pregnant with their first child can predict negative consequences for young mothers: complications during delivery, increased risk of unsafe abortion, not finishing school, fewer job opportunities, and sometimes social disapproval if not married. A high percentage can suggest a need to do special outreach to adolescents and gather information for designing special programs to serve adolescent needs for social interaction and for family life education, as well as provide family planning, nutrition counseling, and health care. To give a truer estimate, this percentage can be refined to include adolescents who have had spontaneous abortions, stillbirths, and children who have died. It needs to be considered with maternal mortality for adolescent girls.
Female secondary (primary) school enrollment percentage	A high percentage of girls who are enrolled in secondary (primary) school out of all girls of secondary (primary) school age usually correlates with lower fertility and adolescent mortality rates. Policymakers and donors use this measure to consider raising the age of legal marriage or providing girls with alternatives to early marriage.

Adolescent Health—Local Level

Indicator	What does it mean for reproductive health?	How can I use the data?
Number and percentage of adolescents served in a youth program	Counting the number of adolescents participating in a new youth program can be useful for tracking the level of interest and potential impact of the program over time. Providing special services to adolescents is very important but can be difficult to achieve. Youths are frequently at high risk for unintended pregnancies, septic abortions, and sexually transmitted diseases, including HIV. They also need good nutrition especially if childbearing begins at a very early age. Successful youth programs often involve young adults and adolescents as peer counselors who share their experiences with youth. It is important to analyze numbers served by sex of participants to know how well the program reaches both males and females.	A program that serves high numbers of adolescents has access to a large adolescent audience for education about sexually responsible behavior. You can compare the number served with the total number of adolescents in your community or district to determine what percentage of youths your program is reaching and to design IEC and peer outreach strategies.
Percentage of adolescents who have begun childbearing	This local indicator is the same as the national indicator but for your local area.	You need to find out the causes for early childbearing and identify what adolescent health services are provided through schools and other health facilities to identify how you can contribute toward reducing this problem.

Sample Reproductive Health Indicators	
RTI/STD/HIV Services—National Level	
Indicator	**What does it mean for reproductive health?**
STD prevalence rates	The rate of people who have been diagnosed with a specific sexually transmitted disease (STD) or syndrome at a given point in time is measured through some combination of sentinel surveillance (a system for providers to report specific events to one registry), marriage testing, and/or an effective screening program for men and women in different settings to reach specific populations. Common STDs include syphilis, genital ulcer disease, gonorrhea, chlamydia, and other infections that cause urethritis or vaginal discharge. The detection of an STD is made through laboratory analysis or syndromic diagnosis. High rates indicate high risk behavior related to the number and type of sexual partners or number of sexual encounters in a given period of time and non-use of condoms and suggest that screening and counseling would be cost-effective. They also suggest the need for risk assessment and the probable effectiveness of both syndromic management and counseling for condom use.
HIV/AIDS prevalence rate	The rate of people infected with HIV at a given point in time is generally measured through a sentinel surveillance system and will alert managers to the importance of preventive IEC and condom use. Managers should seek assistance in forecasting numbers of patients likely to need medical support at later stages of illness and plan for resources.
Nonsexually transmitted RTI prevalence rates	The rates of women suffering from a nonsexually transmitted reproductive tract infection (RTI) at a given point in time reflect infections caused by the growth of organisms in the genital tract, including bacterial vaginosis and vulvo-vaginal candidiasis; and infections from procedures (iatrogenic) during pregnancy, delivery, or abortion. High rates for iatrogenic infections suggest the need to develop strategies for obstetric improvements or the promotion of long-acting female contraceptive methods.

Sample Reproductive Health Indicators		
RTI/STD/HIV Services—Local Level		
Indicator	**What does it mean for reproductive health?**	**How can I use the data?**
Percentage of clients with an RTI/STD who are treated on site, and Percentage of clients treated with appropriate antimicrobials	Monitoring this indicator over time helps warn of potential problems in treating RTIs/STDs. To achieve effective treatment of RTIs/STDs, managers need to ensure that clients with symptoms of RTIs are treated both at the time of diagnosis and with appropriate drugs. Antimicrobials must be available and administered during the clinic visit, even if there is a charge, since clients with RTIs/STDs who are referred to a pharmacy for drugs often do not obtain them. To determine the appropriate drugs to give, providers in clinics without laboratories need to make their diagnosis and select treatment based on symptoms their clients present. Treating STDs is important not only for reducing STDs, but also for reducing HIV transmission.	Low percentages indicate to supervisors and clinic managers that they should find out if the logistics system needs improvements to ensure an adequate supply of drugs; if protocols need to be developed or revised; if staff need to be reminded of protocols; and if staff need training both in both syndromic management, or recognizing the symptoms of particular RTIs/STDs, and in selecting suitable antimicrobials.
Percentage of clients with RTIs	Prevalence surveys conducted in a number of countries indicate that up to 50% of women of childbearing age have STDs or other RTIs for which they do not seek medical care. A rise in the percentage of women and men who are detected and treated for these symptoms can have a major impact on the prevalence of STDs and may also significantly reduce the rate of HIV transmission if providers can convince women and their partners to use condoms for protection.	You need to ask women and men aged 15-64 who come into the clinic about symptoms of abnormal discharge and pain in the genital area. If the percentage is high, and you have reason to believe community rates are also high, consider incentives for women and men to come in to the clinic to be treated.

Calculating Reproductive Health Indicators

Local-Level Indicators. Local-level indicators can be calculated in the same way that national level indicators are calculated, except that the populations being counted for the numerator and denominator for each indicator will be specific to a local population. Whereas national-level indicators represent the national population, local-level indicators should represent only your local population or your clinic's client population, such as all women of reproductive age in the local population, or all female clients served by your clinic who are of reproductive age.

National-level Indicators. The following table explains how some key national-level indicators are calculated. The definitions of the calculations are drawn from the *1991 International Population Handbook*, *A Dictionary of Epidemiology*, and *The Methods and Materials of Demography*. While the table gives commonly used methods for computing these indicators, various countries may measure them in slightly different ways in order to better capture the social practices of their population.

Calculations for National-Level Reproductive Health Indicators	
Indicator	**What does it mean for reproductive health?**
Contraceptive prevalence rate (CPR)	Number of women of reproductive age (usually 15-49) using a contraceptive method *divided by* the total number of women of reproductive age *multiplied by* 100.
Age-specific fertility rates (ASFRs)	Number of live births to women in a specific five-year age group for a given year *divided by* the total number of women in the same age group for the same year, *multiplied (often) by* 1,000. For example, for the age group 15-19, the calculation would be: number of live births to women 15-19 in a given year *divided by* the total number of women aged 15-19 in the same year, *multiplied (often) by* 1,000.
Total fertility rate (TFR)	*Sum of* ASFRs, expressed in five-year age intervals, *multiplied by* five (because a woman might give birth in any given year during a five-year interval), *divided by* 1000. This calculation results in the average number of children who would be born to a woman during her childbearing years if all the age-specific birth rates remained constant during her lifetime.
Percentage approving of family planning	Number of respondents who say, in response to a direct question, that they approve of the use of contraception for spacing births or preventing pregnancy *divided by* the total number of respondents *multiplied by* 100. The same calculation is done for respondents who say they approve of family planning information in the mass media.
Percentage desiring a child within two years	Number of respondents who mention, in response to a direct question, that they would like to have a child or another child, and if so, within two years (rather than waiting longer or not having a child), *divided by* the total number of respondents, *multiplied by* 100.
Percentage of unmet need for family planning	Number of women in union not using contraception, *divided by* the total number of women in union who have a need for contraception (i.e., the number of women who do not desire a/ another child within two years *added to* those who do not desire any [more] children), *multiplied by* 100. If data are available, the denominator may be further refined by *subtracting* infertile women and currently pregnant and amenorrheic women who intended a pregnancy or were using contraception.
Maternal mortality ratio	Number of maternal deaths due to complications of pregnancy, childbirth, and the termination of a pregnancy (within 42 days) during a given year, *divided by* the total number of live births in that year, and *multiplied by* 100,000 live births. In some countries the ratio covers maternal deaths up to one year after the termination of pregnancy.
Maternal morbidity ratios by cause	Number of women who have given birth during a given year who develop pregnancy-, labor-, or delivery-related disorders, or health problems within 42 days after the termination of pregnancy, *divided by* the total number of live births, and *multiplied by* a constant, often 100,000. Can also be calculated for specific causes of morbidity in the same way.
Percentage of women attended prenatally at least once by trained personnel	Number of women having at least one prenatal visit with trained personnel, *divided by* an estimate of the total number of pregnant women, and *multiplied by* 100.
Percentage of infants fully immunized with DPT vaccine	Number of infants who, by their first birthday, are fully immunized with three doses of diphtheria, pertussis, and tetanus (DPT) vaccine, *divided by* the total number of infants one year of age, and *multiplied by* 100.

Calculations for National-Level Reproductive Health Indicators *(continued)*	
Indicator	**What does it mean for reproductive health?**
Infant mortality rate (IMR)	Number of deaths to infants under one year of age in a given year, *divided by* the total number of live births during the year, and *multiplied by* 1000.
Percentage of low birth weight infants	Number of live births under 2,500 grams during a given time period, *divided by* the number of live births during the same time period, *multiplied by* 100.
Median length of birth intervals	A listing, from least to most, of the number of months between births for all women who have given birth more than once *divided into* two equal parts. The birth interval in the middle of the list is the median.
Percentage of infants severely underweight	Number of infants who are less than 65% of the median weight for infants of the same age in the reference population, *divided by* the total number of infants measured for each age group *multiplied by* 100.
Percentage of adolescents who have begun childbearing	*Sum of* number of girls 15-19 (or school age) who are mothers or are pregnant for the first time in a given year, *divided by* the total number of girls aged 15-19 (or school age) in the same year, and *multiplied by* 100.
Female secondary (primary) school enrollment percentage	Number of girls enrolled in secondary (primary) school in a given year *divided by* the total number of girls of secondary (primary) school age in the same year, and *multiplied by* 100. For the percentage of primary enrollment in countries where girls often start primary school late, the denominator can be adjusted to include girls of older ages commonly seen in primary grades.
STD prevalence rates	Number of persons diagnosed with a specific sexually transmitted disease or syndrome at a given point in time, *divided by* the total number of people at risk in the population, and *multiplied by* 100.
HIV/AIDS prevalence rate	Number of persons infected with HIV/AIDS at a given point in time, *divided by* the total number of persons at risk, and *multiplied by* 100.
Nonsexually transmitted RTI prevalence rates	Number of women suffering from a specific reproductive tract infection (RTI) at a given point in time, *divided by* the total number of women at risk, and *multiplied by* 100.

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