
PART III

Chapter 10

**REPRODUCTIVE AND
PERINATAL HEALTH**

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I. Introduction

In this chapter, reproductive health is considered not only an important and inherent element in the overall health of the human being but also an investment in human capital, which makes feasible and facilitates efforts aimed at bringing about changes in production patterns and achieving equity and sustainable development, to which families, communities, and societies aspire.

Reproductive health has been defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity in all matters relating to the reproductive system and to its functions and processes."¹ Reproductive health therefore is related to systems, functions, and reproductive processes in all stages of life. It is a concept that is related more to quality of life than to mere survival.

The concept of reproductive health implies that people have the option to lead a responsible and satisfying sex life and that they have the capability to reproduce and the freedom to decide when and how often to do so. Implicit in this last condition are the rights of men and women to be informed and to have access to safe, effective, affordable, and acceptable fertility regulation methods of their choice.² Also inherent in the concept of reproductive health is the right of access to health care services that will enable women to experience pregnancy, childbirth, and the puerperium safely and provide couples with the opportunity to obtain a positive outcome from their union in terms of survival and well-being for both children and parents. It also encompasses the right of couples and individuals to have sexual relationships without fear of contracting a sexually transmitted disease, including HIV infection and AIDS, as well as the right to maintain a sexual life without coercion or exploitation. Reproductive health also helps to ensure that, in the future, the children born to recent and current generations will have an equitable capacity for learning and work and will thus be able to exercise their right to participate in social development.

II. Situation in Latin America and the Caribbean

The situation of reproductive and perinatal health in Latin America has not improved noticeably in the last five years. Epidemiological analysis of the health status of the region's population reveals that the most vulnerable groups continue to be women—especially women of childbearing age—children, and adolescents, who are considered to be at the highest risk of becoming ill and dying.

In 1995 the estimated population of Latin America and the Caribbean was 449 million. The population growth rate in the early 1990s was 2.0% per year in Latin America and 1.5% in the Caribbean, which means that the population in these two regions will double in 30 and 46 years, respectively. At the same time, as a result of a process of rapid urbanization, 76% of the total population will live in urban areas by the year 2000.

¹ United Nations. Report of the International Conference on Population and Development (Cairo, 5-13 September 1994). New York: United Nations; 18 October 1994. (Document A/CONF. 171/13).

² By consensus of the Member States of the United Nations, in no case should abortion be promoted as a method of family planning. (United Nations. *op cit.*)

The total fertility rate was about 3.5 children per woman of childbearing age in the early 1990s, although in some countries—Bolivia, Guatemala, Honduras, Haiti, and Nicaragua, for example—it continues to be more than 4.8. Women of childbearing age (15 to 49 years of age), children, and adolescents make up 71.2% of the population—that is, more than 319.4 million people.

Maternal and child health problems have been exacerbated by the rapid growth of urban areas and in particular of urban slum areas, where it is estimated that 93 million Latin Americans are living in poverty. Of the rural population of approximately 200 million, 70% are poor and 30% are indigent. At least 130 million people in Latin America and the Caribbean lack access to health services and 90 million of them are women of childbearing age or children.

1. Perinatal mortality and low birthweight (LBW)

In addition to the effects of environmental, socioeconomic, and educational factors on morbidity and mortality, several causes originating in the perinatal period are responsible for most of the illnesses and deaths that occur during the reproductive period. These causes are:

- 1.1 Malnutrition (maternal-fetal);
- 1.2 Infection (uterine, fetal, and neonatal);
- 1.3 Premature rupture of membranes (with or without infection);
- 1.4 Prematurity, due to spontaneous premature birth, a pathological or iatrogenic condition, induction of labor, or Cesarean section;
- 1.5 Chronic hypertension or pregnancy-induced hypertension (toxemia, with or without premature detachment of the placenta or placental infarction);
- 1.6 Dystocia and iatrogenic causes during childbirth (trauma; administration of oxytocin, anesthetics, analgesics, and other drugs; routine amniotomy; and abuse of Cesareans, among other causes);
- 1.7 Fetal-neonatal hypoxia (due, for example, to accidents of the umbilical cord or aspiration of meconium); and
- 1.8 Congenital anomalies.

Apart from acute fetal hypoxia, prematurity, iatrogenic causes—with the serious problems that they entail for the child—birth trauma caused by inadequate care during childbirth, and congenital anomalies in the fetus, the rest of the causes mentioned are those that produce low birthweight (prematurity and fetal growth retardation). These causes are responsible for the vast majority of neonatal deaths during the first week of life and for growth and development disorders and neurological sequelae.

Research coordinated by the Latin American Center for Perinatology and Human Development, based on more than 400,000 births, found the incidence of low birthweight to be 9% (between 4.6% and 14.8%) and that of very low birthweight (< 1,500 g) to be 1.2% (between 0.6% and 2.6%). These rates are double those registered in the developed countries. The early neonatal death rate (i.e., death during the first week of life) is also higher in the Latin American countries.

In maternal and child health centers in Latin America, 80% of early neonatal deaths are associated with low birthweight and 50% with very low birthweight. This situation has remained virtually unchanged. Given the contribution of LBW to neonatal mortality, it can be assumed that interventions to prevent low birthweight will have a significant impact in lowering mortality rates.

2. Adolescent mortality

Among the five leading causes of death of adolescents aged 15 to 19 years, accidents rank first in 17 countries, suicide ranks between second and fifth in 13, and homicide between second and fourth in 14 countries. In two of these countries, complications of pregnancy, childbirth, and the puerperium are among the 10 leading causes of death of women in this age group. At least 16% of children are born to women between 15 and 19 years of age; the problem is greater still in the Caribbean, where 27% of children are born to adolescent mothers.

3. Prenatal coverage and maternal mortality

The countries of the region can be classified in four different categories based on analysis of maternal mortality rates and percentages of births attended in health care institutions.³ This type of analysis reveals the relationship that exists between the specific health care interventions in this area and their impact on the final outcome.

In 22 countries for which information is available, complications of pregnancy, childbirth, and the puerperium rank among the 10 leading causes of death among women of reproductive age (15 to 49 years); in 11 of these countries, this cause ranks among the first 5 causes of death. In this age group, accidents, suicide, and homicide are also important causes of death.

Despite the improvements achieved, coverage of prenatal care remains inadequate in Latin America and the Caribbean. Of the estimated 12 million births for the five-year period 1990-1995, only 65% of the mothers received any type of prenatal care, with sizable variations between countries. Coverage of institutional care for childbirth is 75%. Four million births (28%) continue to occur outside of health care institutions and are attended by traditional birth attendants—some trained, some not—or a family member.

As for the prevalence of contraceptive use, it is estimated at 60% among women of childbearing age (15 to 49 years) who are married or living with a male partner in the countries for which this information is available. This figure represents 70% of the population of the region. However, the proportion varies between countries, between rural and urban areas, and between different socioeconomic groups.

4. Situation of maternal and child health services

The rates and structure of child, maternal, and adolescent morbidity and mortality reflect the demographic and epidemiological transition that is taking place across the region, albeit with sig-

³ See Table 3 of Chapter 1, "Situation and Trends of Maternal and Child Health in Latin America and the Caribbean," in this publication (Yunes and Díaz, 1994).

nificant variations between and within countries. Morbidity and mortality are also influenced by the quality of health services, the availability of the necessary resources for prevention, and access to the level of care needed to resolve specific health problems.

The general level of efficiency of public-sector maternal and child health services has remained at about 67%, with no improvement registered in the last two years, which means that most of these services are still below the level considered satisfactory ($\geq 80\%$). Major deficiencies persist in the areas of management, administration, programming, and, especially, community participation. In addition, as an effect of the crisis and subsequent economic adjustment measures, a relative deterioration in the quality of health service personnel has been observed.

Based on the foregoing considerations, it can be concluded that the reproductive health status of the population is determined by the degree of socioeconomic development, the stage of the demographic and epidemiological transition under way in the region, and the capacity of the services to meet the needs of the population. Outlined below is a proposal for developing and implementing a plan for reproductive health at the local level.

III. Essential Elements for the Development of a Plan of Action on Reproductive Health

Before implementing any health care program, and even before establishing any objectives, setting goals, or formulating strategies, there are certain essential steps that should be taken in order to have a clear vision of the environment in which the program will operate and explicitly delimit the scope of the interventions in accordance with realistic possibilities and current and/or potential resource availability.

From the standpoint of reproductive health programs, the development of a plan of action should be preceded by a situation assessment, which should include most of the data mentioned below. If these are not available, existing information at the national or international level could be used, always with the understanding that if some data are missing, a special effort should be made to ensure that they can be collected in the future. Such efforts, in addition to ensuring that subsequent assessments will be more accurate, will provide the base for continuous monitoring and evaluation of reproductive and perinatal health programs at the local level.

1. Delimitation of the scope of the program

In order to plan and program the activities to be carried out, it is necessary to establish a geographic description of the local health system, utilizing maps that show the location of the health infrastructure and the most vulnerable groups. The demographic and epidemiological characteristics of the population should be analyzed, as should the social framework and resources for resolving health problems in general and reproductive and perinatal health problems in particular.

2. Description of the situation and the target population

It is necessary to identify the most affected groups (generally those who are poorest), estab-

lish a list of problems and prioritize them, and evaluate the possibilities for obtaining adequate resources to address the problems, including financial, human, and technological, as well as whether they correspond to impact or process. For this purpose, there is a wide range of techniques which permit different levels and complexity of analysis: from the evaluation of absolute, relative, and attributable risks in the population to the analysis of years of potential life lost (YPLL) and/or disability-adjusted life years (DALYs). Consensus techniques, such as the Delphi technique and technical and/or community consensus groups, can also be used to identify health problems and analyze them in terms of magnitude, social importance, vulnerability, and the costs involved in their reduction and control, taking into account the problems that have the greatest effect on the population and that can be solved at the local level with the resources that are currently or potentially available.

3. Description of the available health structure

The situation assessment and the development of a plan of action should include, to the extent possible, data on the various institutions that make up the local health system—for example, the ministry of health, social security institutions, municipal services, and private practice, among others—as well as institutions in sectors such as education, labor, agricultural extension, and non-governmental organizations.

4. Minimum parameters for a reproductive health situation assessment and for the development of operational plans

A reproductive and perinatal health program at the local level should be the result of systematic study of demographic, epidemiological, and social conditions in the geographic area in which the program is located. It is important to determine, as accurately as possible, the baseline for the program. To this end, it is recommended that the study of general health conditions in the local system include an analysis of the historical trend of as many of the following parameters as possible in order to gain a better understanding of the reproductive and perinatal health situation, as well as some of its determinants.

- Total population and population by 5-year age groups and by sex (population pyramid);
- Birth rate;
- Mortality rate;
- Annual population growth rate;
- Period in which the population will double;
- Total fertility per woman;
- Age-specific fertility, by age group and disaggregated by year in the group aged 15 to 19 years;
- Urban and rural population;
- Rates of maternal mortality/morbidity in urban and rural areas;
- Causes of maternal mortality/morbidity in urban and rural areas;
- Rates of child mortality/morbidity disaggregated by component;

- Causes of child mortality/morbidity disaggregated by component;
- Rates of early perinatal or neonatal mortality/morbidity in urban and rural areas;
- Causes of early perinatal or neonatal mortality/morbidity in urban and rural areas;
- Rates of infection/cases of:
 - syphilis
 - gonorrhea
 - HIV-AIDS
 - other sexually transmitted diseases (STDs);
- Prenatal care by trimester in which the first consultation takes place and number of consultations per pregnancy;
- Percentage of deliveries attended in hospitals and public, private, or social security health care facilities;
- Percentage of deliveries attended by trained and untrained traditional birth attendants at the state (departmental or provincial) and local levels;
- Percentage of "clean deliveries" attended by family members;
- Percentage of Cesarean deliveries;
- Percentage of literacy and primary school completion by sex;
- Percentage of female heads-of-household;
- Percentage of women who are gainfully employed;
- Number of women in public or leadership positions;
- Health personnel;
- Health infrastructure;
- Existence of organized communities.

NOTE: If the local health system is small, and working with rates or ratios would prove difficult, absolute numbers can be used.

Based on the assessment of reproductive and perinatal health conditions of the population at the local level and the analysis of priorities and available resources, interventions will be planned and programmed to improve the conditions that exist at the time the assessment is undertaken.

IV. Dimensions and Implications of Reproductive Health at the Local Level

In order to talk about an integrated approach to reproductive health at the local level, it is necessary to first take into account three major aspects or dimensions of reproductive health care:

- **Vision:** To contribute to the maximum development of human potential through the delivery of care for the reproductive health needs of the population, in accordance with requirements at various stages of life, the aim being to facilitate the participation of individuals and couples in eco-

conomic and social development efforts, as well as in the enjoyment of socially generated wealth.

- **Policy:** To protect the well-being of families, couples, and individuals, in order to achieve optimum reproductive health in the population, improving the investment of society in human capital.
- **Mission:** To establish population-based reproductive health activities with a view to achieving 100% coverage of the needs of the groups targeted, which will translate into levels similar to those found in the most developed countries of the Region of the Americas and among the groups that are economically most well-off.

It is also necessary to take into consideration both the target population and the priorities that reproductive health programs should include at the local level.

1. Beneficiaries

- 1.1 The entire society, in the case of activities aimed at promoting positive and responsible reproductive health behaviors;
- 1.2 Rural populations, especially indigenous and socioeconomically deprived groups;
- 1.3 Socioeconomically disadvantaged and marginalized urban populations;
- 1.4 Women at the age extremes of the reproductive period and those with high fertility, closely spaced pregnancies, and more than three children;
- 1.5 Men and women of all ages and all social strata;
- 1.6 The entire population, in the case of specific sexual abuse and violence prevention initiatives.

2. Priorities

The relative priority of the activities will depend in each case on the situation found in the preceding assessments. Priority interventions may include the following:

- 2.1 Educating the population and ensuring its participation in the propagation of a culture of positive reproductive health behavior;
- 2.2 Saving lives and limiting the harm caused by obstetric and perinatal emergencies, including abortion, birth asphyxia, low birthweight, as well as immediate differentiated care for high-risk obstetric and perinatal cases, high-risk sexual behaviors and pregnancies, and cervical cancer;
- 2.3 Reducing or preventing risks through counseling on reproductive health; application of risk approaches prior to conception; appropriate care during the prenatal period, childbirth, and the puerperium; and immediate care for newborns;
- 2.4 Care for normal cases, through family planning; early and appropriate care during the prenatal period, childbirth, and the puerperium; postpartum and post-abortion family planning; and prevention of diseases of the urinary and reproductive systems, including HIV infection and AIDS and other sexually transmitted diseases.

V. Objectives, Goals, and Activities

1. General objective

To promote reproductive health care for the population and contribute to the reduction of maternal and perinatal morbidity and mortality by increasing the coverage and quality of services.

2. Specific objectives for the year 2000

- 2.1 To reduce maternal mortality by 50% with respect to 1990 levels;
- 2.2 To increase the use of effective family planning methods to 70% among women of child-bearing age who are married or living with a male partner, or among their partners;
- 2.3 To increase by 40% the proportion of sexually active adolescents who use appropriate methods for the prevention of STDs and unwanted pregnancies;
- 2.4 To reduce perinatal and neonatal mortality by 30% with respect to 1990 levels;
- 2.5 To stabilize and/or reduce rates of HIV infection and AIDS; the prevalence of syphilis, especially congenital syphilis; and the incidence of gonococcal and chlamydial infections.
- 2.6 To reduce hospital mortality from abortion by 30%;
- 2.7 To reduce the incidence of neonatal tetanus to zero.

In addition to the foregoing objectives, several numeric and qualitative goals are proposed, as are the **activities** or **functions** corresponding to each operational component, with a view to presenting an organized view of the objectives and the means of achieving them (Table 1).

Each health system should, based on available resources, precisely determine which interventions are optional in the area of women's health and which are considered **essential** at a given time. In this way, optional interventions that could be deferred until more resources become available will not be programmed, thereby displacing some essential interventions that might be difficult to implement. For example, action should not be taken to increase the contraceptive options available in health services located in areas in which malaria is endemic until protocols for malaria prophylaxis and treatment in pregnant women have been established.

VI. Strategies

1. Political/legislative strategies

- 1.1 Advocacy aimed at ensuring that the importance of reproductive and perinatal health is duly recognized and that this area receives the priority it deserves in society and among political and technical decision-makers;

Table 1
Goals and Activities or Functions for a Reproductive Health Program by Operational Component

OPERATIONAL COMPONENTS	GOALS	ACTIVITIES/FUNCTIONS
Care prior to conception	<ul style="list-style-type: none"> • Detect and manage morbidity during the reproductive process in a timely and appropriate manner (an estimated 40 of every 1,000 women of childbearing age experience some type of morbidity in a given period) • Vaccinate 100% of women of childbearing age living in areas with high incidence of tetanus • Continually measure the quality of reproductive health care provided by health services and implement proposed changes • Ensure equitable access to nutrition, health services, and complete primary education for every female child • Ensure access to information, education, and counseling to enable all adolescents, whether male or female, to experience their sexuality in a healthy and responsible manner and to obtain services that cover their reproductive health needs 	<ul style="list-style-type: none"> • Education for family life • Family planning • Nutrition, prevention and treatment of anemia • Tetanus immunization • Prevention of STDs and cancer of the reproductive system
Family planning	<ul style="list-style-type: none"> • Ensure that every woman who wishes to become pregnant has at least one consultation prior to conception • Increase the contraceptive options available to the population at different stages of reproductive life and in accordance with individual needs • Increase the contraceptive options available in the community to 3 at the primary care level (LAM, barrier methods, and oral contraceptives); 5 at the secondary level (the preceding 3 plus IUD and injectable contraceptives); and 7 at referral levels (the preceding 5 plus Norplant and surgical methods) 	<ul style="list-style-type: none"> • Health promotion and education in sexuality, reproduction, and fertility • Provision of at least seven contraceptive options • Identification and management of normal and undesirable side effects of contraceptives • Education on the causes and prevention of infertility due to inflammatory and sexually transmitted diseases

continues

OPERATIONAL COMPONENTS	GOALS	ACTIVITIES/FUNCTIONS
Prenatal care	<ul style="list-style-type: none"> • Ensure that 100% of pregnancies are detected and that women with low-risk pregnancies have at least 4 prenatal visits (the ideal number is 5) with trained personnel, following the guidelines developed by the Latin American Center for Perinatology and Human Development. 	<ul style="list-style-type: none"> • Identification of risks and detection and management of complications of pregnancy : abortion, ectopic pregnancy, hypertensive disease of pregnancy, eclampsia, anemia, antepartum hemorrhage, premature rupture of membranes, abnormal presentation or position of the fetus, STD in the mother • Nutrition, prevention of anemia, immunization against tetanus, and health education
Care during childbirth	<ul style="list-style-type: none"> • Ensure that 100% of births are attended by trained personnel in a clean environment and increase the percentage of births attended in hospitals 	<ul style="list-style-type: none"> • Ensure the detection of 100% of obstetric emergencies and take the necessary initial measures or refer immediately to the level of complexity required by the case
Postpartum care	<ul style="list-style-type: none"> • Ensure that ____%* of women have a postpartum visit 40 days after childbirth 	<ul style="list-style-type: none"> • Examination of genitalia, uterine involution, detection of retained placental fragments and postpartum hemorrhage, postpartum family planning
Care for abortion	<ul style="list-style-type: none"> • Ensure timely attention at the appropriate level for all cases of threatened abortion, abortion in progress, and complete, incomplete, or complicated abortion • Reduce general and hospital mortality from abortion, hemorrhage, infection, and eclampsia 	<ul style="list-style-type: none"> • Care for spontaneous abortion, induced abortion, threatened abortion, abortion in progress and complete, incomplete, or complicated abortion, as well as post-abortion family planning
Care for newborns (healthy and sick)	<ul style="list-style-type: none"> • Provide timely and appropriate care for normal, low-birthweight, and small-for-gestational-age infants • Reduce low birthweight to below ____%.* 	<ul style="list-style-type: none"> • Resuscitation, care for the umbilical cord, temperature monitoring, care of the eyes and prevention of purulent ophthalmia, immediate establishment of breastfeeding and “rooming-in” of mother and newborn, examination and vaccinations, maintenance of hydration, temperature, and airways • Attention to low-birthweight and small-for-gestational-age infants, respiratory distress syndrome, infection, omphatlitis, conjunctivitis, and congenital disorder

* NOTE: It is recommended that each locality establish its own goal (_*), although it is desirable that the ultimate goal in all cases be universal coverage (100%)

continues

OPERATIONAL COMPONENTS	GOALS	ACTIVITIES/FUNCTIONS
Sexually transmitted diseases	<ul style="list-style-type: none"> • Provide reproductive health and sex education to the entire population 	<ul style="list-style-type: none"> • Care for and symptomatic treatment of vaginal and urethral discharge; laboratory confirmation through serology or immunology; care for pelvic inflammatory disease, genital ulcers in males and females, chancroid, chlamydia, HIV/AIDS; and treatment of contacts
Education and prevention	<ul style="list-style-type: none"> • Ensure access for the entire population to information and services to prevent the occurrence of pregnancy too early, too closely spaced, or too late, and to prevent STDs, violence, and sexual abuse. • Ensure access to reproductive health information and services for all men in order to involve them more actively in their own reproductive health and in that of their partners and offspring, as well as to encourage them to participate more responsibly in the care of the home and the education and upbringing of their children • Progressively incorporate sex education into the curriculum of primary and secondary schools 	<ul style="list-style-type: none"> • Education, prevention, and treatment or timely referral of patients with precancerous lesions and cervical cancer, especially in women over the age of 35 • Prevention and reporting of sexual abuse and violence, with referral to alternative programs

* NOTE: It is recommended that each locality establish its own goal (_*), although it is desirable that the ultimate goal in all cases be universal coverage (100%)

- 1.2 Development of a political commitment to reproductive health;
- 1.3 Provision of information to legislative bodies and promotion of legislation relating to reproductive health;
- 1.4 Authorization for import, production, sale, and distribution of special drugs;
- 1.5 Political, administrative, technical, and budgetary decentralization of actions at the levels of regions, areas, and reproductive health units;
- 1.6 Promotion of a participatory, preventative, multisectoral, and interdisciplinary approach to reproductive health care;
- 1.7 Mobilization of public, social security, private, NGO, and civil society resources.

2. Financial strategies

- 2.1 Channeling of tax revenues for the acquisition of critical inputs for reproductive and perinatal health;
- 2.2 Promotion of alliances for joint work between government and private entities, NGOs, and civil society;
- 2.3 Tax exemptions for drugs, equipment, supplies, and other inputs needed for reproductive and perinatal health care;
- 2.4 Subsidies to facilitate access to services for disadvantaged populations or those with limited purchasing power;
- 2.5 Sliding-scale charges based on ability to pay; provision of some services free of charge and payment for others.

3. Service strategies

- 3.1 Progressive enhancement of coverage and quality of care, with priority to the highest-risk groups and situations;
- 3.2 Organization and regional structuring of reproductive health care based on a risk approach, programming reproductive health care by levels of complexity in accordance with the availability of technology, human resources, and physical facilities (see Table 2);
- 3.3 Establishment of guidelines for reproductive health care based on epidemiological realities and availability of local resources, also taking into account available technology, the design of protocols and flow charts, description of equipment and essential staff, and adjustments in staff functions necessary for the operation of the service;
- 3.4 Provision of necessary supplies, drugs, and equipment in accordance with the guidelines;
- 3.5 Reduction of medical barriers to reproductive health care and delegation of functions to nursing personnel and to nursing and community auxiliaries, with adequate training and supervision;
- 3.6 Identification of units that possess the necessary conditions to be developed as centers of excellence that can provide ongoing training and education and continually upgrade the skills of the technical and administrative health personnel assigned to the program. Where

educational institutions, schools, or universities exist in the health field, these should be developed on a priority basis in order to favor the integration of academic and practical training;

- 3.7 Study of alternative models for the provision of reproductive health care, for example, maternity homes or birthing centers, community distribution of contraceptives, or provision of services in the workplace;
- 3.8 Strengthening of first-level referral hospitals to enable them to fulfill the seven basic functions;⁴
- 3.9 Training and development of multidisciplinary human resources that will make it possible to achieve the coverage and quality stipulated in the guidelines;
- 3.10 Improvement of the quality of reproductive health care through cultivation of appropriate attitudes in the health care team; efficiency in the use of resources; effectiveness and/or impact in terms of reduction of reproductive health problems and encouragement of healthy, prevention-oriented, and socially accepted sexual behaviors;
- 3.11 Reduction of the incidence of complications associated with contraceptive use; STDs and AIDS; pregnancy, childbirth, and the puerperium; abortion; and unwanted pregnancies;
- 3.12 Enhancement of the quality of care for newborns, promoting "rooming-in" of the infant with the mother, establishment of exclusive breastfeeding, postpartum and post-abortion family planning, and early discharge, particularly in low-risk cases;
- 3.13 Promotion of education in family planning for individuals, couples, and families;
- 3.14 Monitoring and evaluation of reproductive health care through the use of information systems (perinatal information system, health and fertility surveys, and others).

4. Social participation strategies

- 4.1 Formation of interinstitutional committees on reproductive health;
- 4.2 Involvement of the community in the formation of local committees on reproductive health so that community representatives can express their expectations and opinions and also take part in the situation assessment and identification of interventions, as well as in the formulation, management, monitoring, and evaluation of activities;
- 4.3 Development of health promotion and education with a view to fostering attitudes, behaviors, and lifestyles in the community that are favorable for reproductive health, the practice of self-care, and specific prevention measures necessary for a responsible reproductive life;
- 4.4 Development of programs with a gender approach.

⁴ The basic functions include therapeutic management of (1) septic shock; (2) transfusions; (3) Cesarean section; (4) hysterectomy; (5) family planning through surgical methods or contraceptive implants; (6) evacuation of stillbirths; and (7) anesthesia, curettage, and evacuation of the uterus.

5. Monitoring and evaluation strategies

- 5.1 Review of existing and potential sources and systems of information (vital statistics and health services, perinatal information system) in order to obtain the data needed to make timely and carefully considered decisions;
- 5.2 Use of epidemiological and systematic operations research on health conditions and reproductive health services for the population living in the area, as well as allocation of budgetary resources;
- 5.3 Ongoing evaluation of the quality of care (efficiency, missed opportunities, model for quality of care in reproductive health);
- 5.4 Promotion and official support for the creation of local committees for epidemiological surveillance of reproductive health of the population to enable continuous monitoring and evaluation of the situation and to make the necessary adjustments in order to make the interventions more effective;
- 5.5 Establishment of information systems that will facilitate the improvement of quality of care and referral and back-referral, as well as ongoing epidemiological surveillance of reproductive and perinatal health (through the perinatal information system).

6. Managerial strategies

- 6.1 Planning, programming, budgeting, and evaluation of the reproductive health program and its coherent functioning within the overall system;
- 6.2 Recruitment, hiring, training, and development of human resources, and design and operation of a subsystem of supervision and guidance;
- 6.3 Maintenance of facilities and equipment;
- 6.4 Logistics, equipment, inputs (supplies and drugs);
- 6.5 Decision-making and intrasectoral and intersectoral coordination;
- 6.6 Leadership in the health field in general and in reproductive and perinatal health in particular.

VII. Stages for Implementation of the Strategies

An historical analysis of the development of both national and local health systems and services indicates that, to a greater or lesser extent, there is a long tradition of the existence of maternal and child health programs and that these programs constitute one of the mainstays of public health programs in most of the countries. However, although significant progress has been achieved, the benefits of maternal and child health programs have still not been extended to the entire population, and especially to the groups that most need them: the poor living in urban slum areas of large and medium-sized cities and scattered rural populations, including indigenous groups.

1. Integrated approaches to reproductive health

There is a serious problem of quality in the delivery and the efficiency of reproductive health services, as a result of which these services are split up among multiple programs (which is different from programmed activities), with a consequent reduction in the possibilities for appropriate, integrated, and more efficient care that will have a greater impact on the health of the groups targeted by these programs. An example of this fragmentation is the existence of separate programs for prenatal care, family planning, detection of STDs and prevention of HIV/AIDS, and cancer screening, among others. In reality, these health interventions could be organized under an integrated program of services targeting a single recipient group—in this case women. This obviates the need for multiple physical spaces and also prevents duplication of equipment and specific personnel (who sometimes end up being underutilized). In addition, the integration of activities eliminates the need to have several different schedules of services, with some services offered only on certain days of the week, which substantially increases the potential for missed opportunities and is not in accord with the expectations and needs of users.

In order to determine the priority, time frame, and speed with which the strategies should be implemented, it will be necessary to conduct an audit of current activities and programs, identifying the strong and weak points in the system and services, and determine, based on the local situation, which of the proposed strategies, or other strategies suggested by the health team, are most appropriate to strengthen the reproductive health program and when they should be applied.

Experience indicates that when health personnel at the local level concentrate on just two or three strategies, only modest progress is made toward the integration of services. An effective and innovative proposal for the integration of activities in reproductive health will require the application of a variety of strategies in different spheres.

However, if the minimum additional resources required for the integration of activities are not available, sometimes it may be better not to attempt it, since there is the risk that programs and services that were functioning reasonably well will be weakened. By adding increasingly complex activities without first undertaking a reorganization or ensuring the addition of new inputs needed to carry them out appropriately, programs and services diminish, not strengthen, their quality and efficiency.

2. Development of an operational plan for organization at the local level

Once the data have been collected and analyzed to determine the reproductive health situation and its priority within the overall health context, and once priorities have been established within the area of reproductive health, the next step is to design or redesign the organization of health services at the local level so as to not only respond coherently to needs and expectations, but also to produce positive impacts on the health status of the entire population living in the geographic area of the proposed program.

In the organization and development of operational plans at the local level, the relationships

between the different levels of technical complexity and response capacity in the health system should be emphasized. In these plans, use should be made of resources existing not only in the health sector but also in other sectors and, especially, resources in the community itself and in civil society.

The basis for development of the reproductive health care system is recognition that all individuals should have access to the system (universal access) in accordance with their particular condition and at the level at which their health problem can be solved (equity). It is recognized that, if families and the community, volunteer and traditional health agents, health promoters, and trained birth attendants are properly prepared, not only will they promote education and self-care in reproductive health, but they will be able to identify obstetric-gynecological and perinatal risks and emergencies. Care can thus be given immediately, or the patient can be promptly referred to the appropriate level of the health care system, in particular for progressive and differentiated care. When this premise is repeated at the various levels of complexity within the system, the possibility of access for all individuals to the appropriate level of care is established, thus giving concrete expression to the concept of equity in health.

Bearing in mind the foregoing considerations, the system might be designed as shown in Table 2.

3. Efforts toward integrated care at the local level

The following elements or factors will contribute to the success of reproductive health care at the local level.

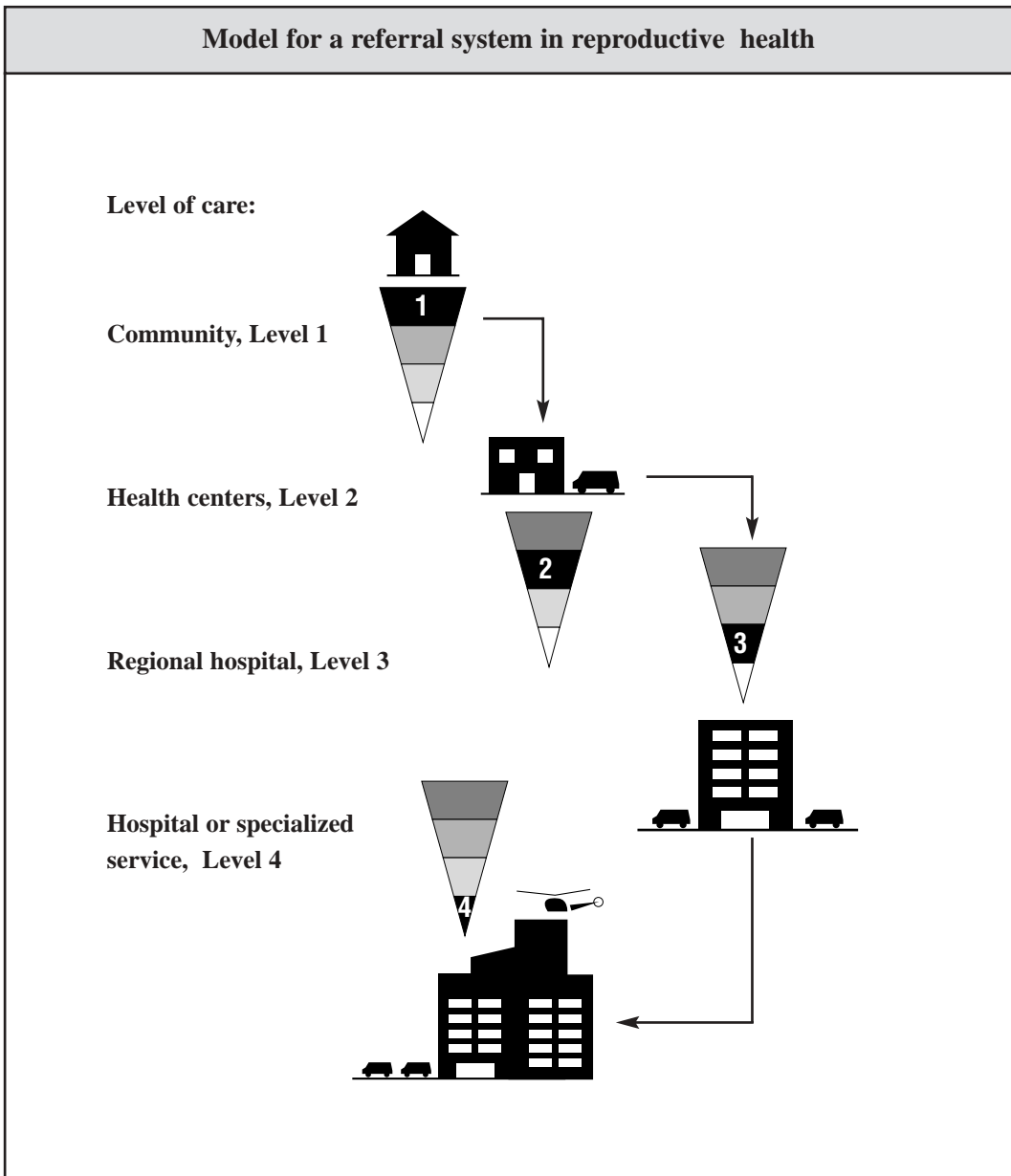
- 3.1 An integrated approach to reproductive health care, the first step toward which should be an effort at vertical integration, which means ensuring continuous care for the population targeted by reproductive health programs, starting at the family and community levels and progressing to health centers, regional hospitals, and specialized hospitals, as required.

This approach can be better understood when it is accepted that it is possible to attend cases that are low-risk or without complications in the community. At the same time, however, it is necessary to ensure immediate access to higher levels of care in health centers, regional hospitals, or specialized hospitals, as the case warrants.

Efforts to organize the different levels within an effective referral and back-referral system, clearly define their functions, establish protocols for differentiated care, and ensure good communication will lead to better quality of care provided by better qualified personnel.

- 3.2 A second effort at integration should be aimed at ensuring continuity of care in the horizontal sense, which means addressing reproductive health needs throughout the life cycle, including care for women and children that goes beyond the disconnected or isolated care they receive for pregnancy, childbirth, contraception, or episodes of STD.

The proposal presented in this chapter is rooted in a vision of care that begins prior to conception and continues throughout childhood, emphasizing reproductive health concerns during preadolescence, adolescence, and the reproductive years, so that this period occurs under the best possible conditions and the foundation is thus laid for good health during the post-reproductive years.



- 3.3 The third effort at integration entails carrying out different interventions targeting the same user at the same visit. For example, immunization against tetanus, screening for STDs, promotion of breast-feeding, treatment of anemia, and prenatal monitoring are activities that can be carried out during a single home or health unit visit.

4. Development and maintenance of the referral system

In addition to the preceding efforts, it is necessary to clearly define the functions and responsibilities that are to be delegated to the various levels of care and categories of personnel. Table 2 shows how a system might be organized according to progressively more complex levels of care. Although this table is not exhaustive, it includes the levels, functions, categories of personnel, physical structure, and basic flow chart for referral and back-referral. These are the elements that comprise reproductive and perinatal health care at the local level. Any modifications in this proposed system will depend on local health care personnel and will be based on their experiences or on more in-depth consultation of the abundant literature that exists on the subject.

5. Continuing education and training of personnel

One of the key requirements for the operation of a system of reproductive and perinatal health care is for the personnel to know when, how, and who is primarily responsible for making decisions. To this end, it is recommended that there be protocols indicating the sequence of diagnosis, treatment, and referral so that, without losing sight of the elements of clinical case management, the criteria for referral and back-referral are clearly established.

In order for the referral system to function effectively, communication between personnel in health units, and between the various levels of the system, is extremely important. The protocols should also specify the documentation that should accompany patients, both when they are referred and when they are back-referred to their normal place of residence.

Provision of the training, supervision/guidance, and continuing education required for personnel to know and manage patient care procedures is invaluable, not only because it contributes to in-service training, but also because it facilitates relationships between the levels that make up the system. Consultation between these different levels, either through reciprocal visits or by radio, also fosters mutual trust and cooperation.

With a view to increasing the opportunities for resolving complicated cases, health personnel at the local level should be trained to initiate emergency and life-support measures as close as possible to the community or family level. Such measures include oral and intravenous hydration and administering saline or glucose solution or plasma extenders, where possible. Maintenance of airways and administration of anticonvulsants, as well as the initiation of antibiotic therapy as close as possible to the community, will help to improve the prognosis for many cases.

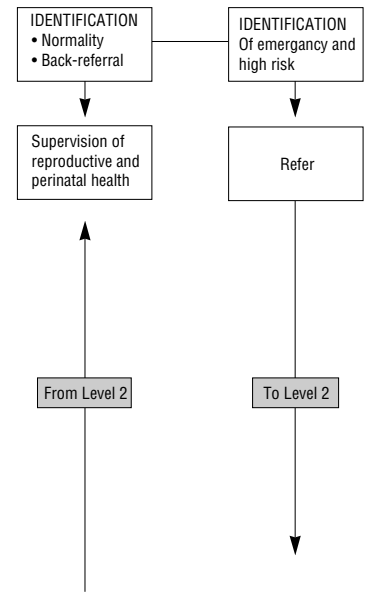
When resources permit, it is advisable to consider the possibility of maintaining special maternity houses for pregnant women, located near regional hospitals. These houses would be community-managed and would provide a place for women, especially those at high risk, to stay during the final stage of their pregnancies in order to ensure that delivery can be accomplished in a hospital setting if necessary.

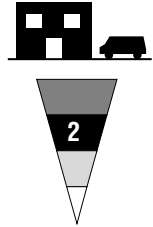
LEVEL OF CARE	POPULATION	FUNCTIONS	FUNCTIONAL STRUCTURE	HUMAN RESOURCES	MATERIAL RESOURCES
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Community Level I

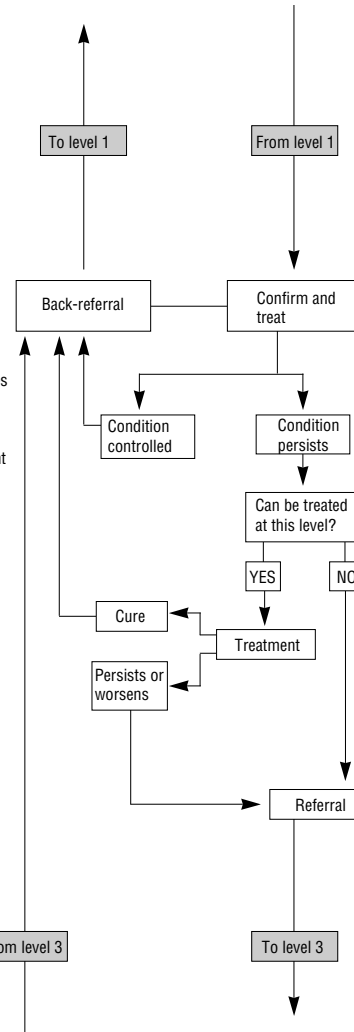


- | | | | | |
|--|--|--|---|---|
| <ul style="list-style-type: none"> • Entire population • Adolescents • Couples • Pregnant women • Parturient women • Puerperal women • Newborns | <ul style="list-style-type: none"> • Home visits • School visits • Workplace visits • Training in FP, supplies barrier methods, referrals • Education of pregnant women/referral, folic acid iron supplements • Detection and referral of obstetric and perinatal emergencies especially hemorrhage, edema, severe headache, premature rupture of membranes, labor lasting > 8 hrs. • Very small children • Screening and referral/ high-risk obstetric and perinatal cases • Supervision of normal pregnancy, childbirth, and puerperium by health personnel • Identification, prevention, and symptomatic treatment of STD's/HIV/AIDS • Identification/referral of infertility • Identification of individuals at risk or victims of sexual abuse and violence • Promotion of immunization and vaccination against tetanus • Promotion of exclusive breastfeeding for 6 month | <ul style="list-style-type: none"> • Nonexisting • Clinic • Maternity homes | <ul style="list-style-type: none"> • Health promoter • Trained traditional birth attendant • Teachers/students • Agricultural extension agents • Natural leaders • Women's groups | <ul style="list-style-type: none"> • Educational materials • Record of activities • Folic acid • Ferrous sulfate • Contraceptive foams • Condoms • Oral contraceptives • Equipment for clean delivery • Benzathine penicillin • Checklists of contraindications • Scale • Stadiometer |
|--|--|--|---|---|



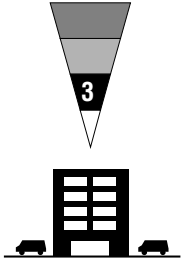


LEVEL OF CARE	POPULATION	FUNCTIONS	FUNCTIONAL STRUCTURE	HUMAN RESOURCES	MATERIAL RESOURCES
Health centers Level 2	All of the above, plus: • Sexually active individuals • Referrals from the community • Back-referrals from Levels 3 and 4 • Referred cases	All of the above plus • Assessment of weight • Assessment of risk • Assessment of obstetric emergencies • Differentiated treatment for referrals from Level 1 • Outpatient treatment • Care for uncomplicated births • Care for newborns • Symptomatic treatment of ulcers and urethral or vaginal discharge • Tetanus immunization • Provision of injectable contraceptives • Supply of or referral for IUDs • Referral for implants or sterilizations • Training and supervision of community resources • Education, screening, and/or referral for infertility • Performance and interpretation of pelvic exams • Counseling • Identification of women at high risk • Identification of nulliparous women < 17 years, especially single women • Promotion of clean delivery and delivery close to an institution • Identification of abortion, ectopic pregnancy	• Health center • Birthing center • Instructional capacity at this level	• Physician • Nursing auxiliary with the ability to treat shock Human resource capable of: • Administering intravenous fluids and plasma expanders • Attending births • Using oxytocic agents • Performing urinary catheterization • Repairing tears/ performing episiotomy • Fetal monitoring record • Manually extracting the placenta	All of the above plus: • Examination room/ physician's office • Gurney • Refrigerator for vaccines • Scales • Hemoglobin assessment methods • Injectable contraceptives • IUD insertion equipment • Injection equipment • Venipuncture equipment • Sphygmomanometer • Intravenous fluids • Antibiotics • Protocols and guidelines for risk management in emergencies and normal conditions • Analgesics • Oxytocic agents • Anticonvulsants • Fetal monitoring equipment • Suturing equipment • Lighting • Protocols for the management of obstetric and newborn complications



LEVEL OF CARE	POPULATION	FUNCTIONS	FUNCTIONAL STRUCTURE	HUMAN RESOURCES	MATERIAL RESOURCES
Health Centers (Cont.)		<ul style="list-style-type: none"> • Organization of blood donors • Administration of intravenous solutions or plasma extenders • Confirmation, treatment, or referral of hypertension, edema and proteinuria • Administration of diazepam • Initiation of antibiotics for rupture of membranes >12 hours prior to onset of labor • Identification and referral of presentation and position problems, multiple pregnancies, postpartum hemorrhage/infection • Management of threatened abortion, incomplete abortion, and abortion in progress 			

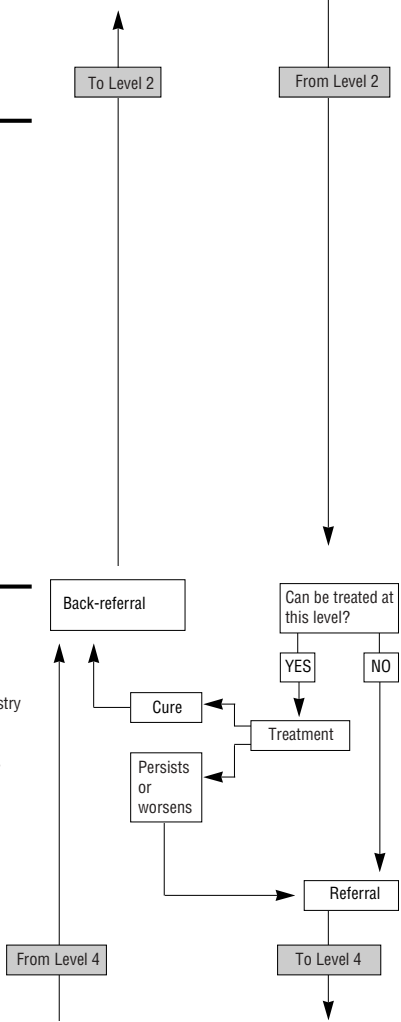
Regional Hospital Level 3

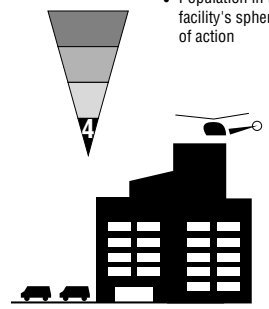


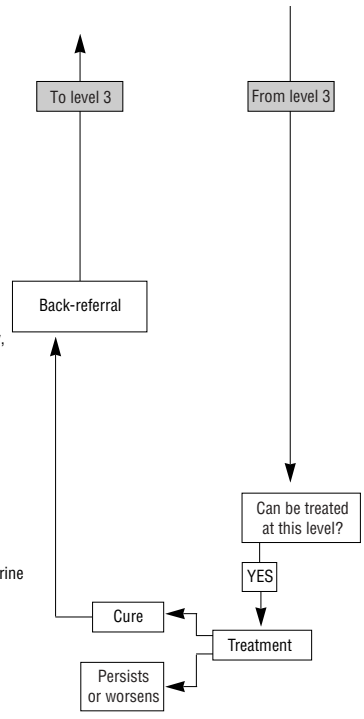
All of the above, plus referred cases

- All of the above, plus:
- Implants
 - Sterilization
 - Management of side-effects and contraception
 - Supervision of Level 2
 - Diagnosis, referral of infertility
 - Diagnosis and treatment of PID, STD's/HIV/AIDS
 - Counseling
 - Basic obstetric functions

- Maternity hospitals
- Regional hospitals capable of managing: multiple pregnancy without risk of premature delivery, septicemia, hemorrhage, shock, cesarean sections/ hysterectomy, surgical and other contraceptive methods
- Pediatricians
- Obstetricians-gynecologists
- Laboratory technicians
- Anesthetists
- Nurses
- Nursing auxiliaries
- Nutritionists
- Social workers
- Outpatient clinic
- Hospital facility
- Operating room
- Laboratory with blood, urine, and blood chemistry analysis capabilities
- Anesthesia
- Transfusion capabilities



LEVEL OF CARE	POPULATION	FUNCTIONS	FUNCTIONAL STRUCTURE	HUMAN RESOURCES	MATERIAL RESOURCES
Hospital or specialized health service Level 4 	<ul style="list-style-type: none"> Referrals from level 1,2 and 3 Emergencies and cases that arrive without referral Population in the facility's sphere of action 	<p>All of the above through outpatient and specialist consultations, plus:</p> <ul style="list-style-type: none"> Side effects and/or problems related to management and use of contraceptives. Septic shock, diffuse intravascular coagulation Severe eclampsia (diastolic BP> 100) Diagnosis and treatment of sterility Exchange transfusion Threatened premature labor (<32 weeks) Intrauterine growth retardation Hemolytic disease of the newborn Diabetes Heart disease 	<ul style="list-style-type: none"> Specialized obstetrics/ gynecology service Hospital with obstetrics/ gynecology and perinatology departments (Both serving as post-graduate teaching facilities and providing intensive care for women and newborns) 	<ul style="list-style-type: none"> Perinatologists/ neonatologists Obstetricians/ gynecologists Specialized nurses Specialists in internal medicine and intensive care 	<ul style="list-style-type: none"> Incubators Laboratories capable of processing blood, urine, blood chemistry, immunology, and phospholipid tests, cultures, electrolyte determination Antibiotics prescribed on the basis of cultures and second-line antibiotics Exosurf® (to promote intrauterine fetal pulmonary maturation)



Since complications and emergencies cannot be foreseen and lack of timely referral only increases the potential for a fatal outcome, it is desirable for communities, together with health services, to establish mechanisms to ensure transport in case of complications or emergencies. When ambulances are available, they should be reserved for the transfer of seriously ill patients and not used for other cases. It is essential for cases referred from peripheral levels of the system to be transferred immediately to a hospital.

VIII. Supervision, Monitoring, and Evaluation

In order for a health system at the local level to function properly, it is crucial to maintain continuous and dynamic linkages between the supervision, guidance, control, monitoring, and evaluation of all tasks and activities programmed in the annual operational plans.

This will only be possible when records are kept and information is collected. The information should be analyzed at the local level so that, based on this analysis, prompt corrective action can be taken.

Management information systems and methodologies currently in existence make it possible to improve the quality of care by facilitating closer supervision of medical records and clinical decisions. In addition, these systems make it possible to analyze records in an aggregated manner by service or population-based units and establish systems for epidemiological surveillance of reproductive and perinatal health. The system developed by the Latin American Center for Perinatology and Human Development also incorporates demographic statistics and data derived from systems of epidemiological surveillance of maternal and perinatal deaths, as well as data on sexually transmitted diseases and HIV/AIDS.

The Interagency Coordinating Committee responsible for monitoring progress toward the goals of the World Summit for Children, together with national and local officials, has recommended a series of basic indicators for regularly updating the assessment of the reproductive health situation at the local level. The list of indicators is obviously not exhaustive and may need to be expanded in accordance with conditions at local levels. Nevertheless, it is recommended that only those indicators that will be analyzed and used for decision-making be maintained.

Table 3 shows some possible evaluation indicators. They are categorized according to whether they indicate where processes are headed, provide information about the quality of services, and or reveal the impact of interventions.

Table 3 Selected Indicators for the Evaluation of Impact, Process, and Quality in Reproductive Health				
YEAR	INDICATOR	IMPACT	PROCESS	QUALITY
WOMEN				
	Total fertility (children per women)			
	Age-specific fertility per 1,000 women aged 15-19			
	Maternal mortality per 100,000 live births			
	Number of cases of neonatal tetanus			
	Prevalence of contraceptive use in women of childbearing age			
	Percentage of prenatal coverage			
	Percentage of institutional births			
	Percentage of cesarean sections			
	Percentage of pregnant women vaccinated with tetanus toxoid			
	Percentage of women receiving the VDRL test			
	Percentage of efficiency in obstetric services			
CHILDREN				
	Perinatal, neonatal and perinatal mortality by component per 1,000 live births			
	Percentage of low birthweight			
	Index of missed opportunities for growth and development monitoring			
	Percentage of efficiency in pediatric services			
ADOLESCENTS:				
	Mortality from abortion per 100,000 population			
	Mortality from other obstetric causes per 100,000 population			
	Percentage of population with access to services			
	Percentage of covered population			
Source: Program on Family Health and Population, Division of Health Promotion and Protection, Dr. José A. Solis, Pan American Health Organization. Washington, D.C.; 1994.				

IX. Research

The importance of research should be underscored. Not only does it contribute to the development of human resources and services, but it also provides a means for continued improvement and updating of knowledge about the reproductive health situation at the local level. In addition, research affords the opportunity to evaluate interventions and new models, as well as to assess the utility and efficiency of services.

However, it is important not to seek to expand coverage without also seeking to enhance quality of care, one aspect of which is the perception of the reproductive health program on the part of the users of the services and society as a whole. Table 4 suggests several examples of areas, methodologies, and applications for research in reproductive health aimed at enhancing care in this important area within maternal and child health.

Table 4 The Contribution of Research to the Improvement of Reproductive Health at the Local Level		
AREAS OF RESEARCH	RESEARCH METHODOLOGIES	APPLICATION
Demographic studies	<ul style="list-style-type: none"> • Descriptive demographics • Health situation projections 	<ul style="list-style-type: none"> • Identification of problems • Priority setting • Planning
Epidemiological studies	<ul style="list-style-type: none"> • Abortion studies • Case-control studies • Records 	<ul style="list-style-type: none"> • Identification of long-term benefits and collateral effects • Identification of risk factors • Health monitoring
Sociological/anthropological studies	<ul style="list-style-type: none"> • Surveys • Conceptual models • Interventions • Behavioral studies • Random clinical studies 	<ul style="list-style-type: none"> • Health planning • Community participation in services • Evaluation of interventions or treatments • Evaluation of screening studies
Health systems and services research	<ul style="list-style-type: none"> • Epidemiological studies • Controlled clinical studies • Anthropological studies 	<ul style="list-style-type: none"> • Development of new health system
Source: Program on Family Health and Population, Division of Health Promotion and Protection, Dr. José A. Solís, Pan American Health Organization. Washington, D.C.; 1994.		

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* Some of the procedures and experiences mentioned in this chapter can be found in these publications, which can be obtained from Dr. José Antonio Solís, Pan American Health Organization, Division of Health Promotion and Protection, 525 Twenty-third Street, NW, Washington, DC 20037. Tel. (202) 974-3261.

