

Background information  
on Healthy Mothers

Goal: To continue to improve maternal and infant health and to help achieve the goal of reducing infant mortality to fewer than nine deaths per 1,000 live births by 1990.

-- Promoting Health, Preventing  
Disease: Objectives for the  
Nation, U.S. Department of  
Health and Human Services, 1980

### BACKGROUND

The health of an infant and the subsequent health of the adult is greatly influenced by the health and behavior of the expectant mother during the nine months preceding birth. It is during this period when the fetus is the most vulnerable that efforts must be made to protect the mother and child.

The two principal threats to the survival of the infant and its good health afterwards are low birth weight and congenital birth defects. Two thirds of all those who die in infancy are of low birth weight. Congenital abnormalities, including all those with genetic origin, a severe environmental insult in utero, or a birth injury are also responsible for early death and poor health. In addition, low birth weight is associated with increased occurrence of mental retardation, growth and developmental disorders and disorders of the central nervous system.

Reducing the incidence of low birth weight and birth defects through intervention with the mother before and during pregnancy is a high priority for promoting infant health in the United States. Although we do not completely understand how to prevent low birth weight, we do know that diet, social and economic status, marital status, the age of the mother, use of alcohol, cigarettes, and drugs, and prenatal health services affect birth weight and health of the mother and child. For example, black women and teenagers, those who are at greatest risk of delivering a low birthweight infant, are least likely to obtain any or early prenatal care.

Reducing the incidence of congenital abnormalities requires genetic counselling to identify the risk status of the parents, and establishing prenatal diagnosis for those women at risk. While diagnostic testing is presently limited to a small number of inherited conditions, testing is available for high risk groups once their vulnerability has been identified. Environmental hazards that can cause congenital defects include radiation, drugs (including medications), alcohol, infectious agents, and workplace and household exposures to toxic and teratogenic substances. Although the period of greatest danger is during the early weeks of fetal development, even before a woman realizes she is pregnant, it is important to avoid these hazards throughout pregnancy as much as possible.

HEALTHY MOTHERS, HEALTHY BABIES COALITION

In September 1981, a "Healthy Mothers, Healthy Babies" organizational conference brought together representatives of more than 36 national voluntary, professional, and government organizations to discuss combining interests and resources to improve the quality and reach of public and professional education relating to prenatal and infant care. The conference was co-sponsored by the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics, the American Nurses Association, the March of Dimes, the National Congress of Parents and Teachers, and the U.S. Public Health Service. At that conference, Richard S. Schweiker, Secretary of Health and Human Services, said that "by pulling together all our resources and energies, we can make "healthy mothers" a far-reaching, truly national effort. By joining forces we'll reinforce the trend of the last ten years." Out of that conference grew the Healthy Mothers, Healthy Babies Coalition, a result of interest and enthusiasm of organizations to work together in a long-term effort aimed at improving maternal and child health. This partnership of government, professional, and voluntary organizations and agencies is designed to increase the awareness of pregnant women about the importance of good health for themselves and their unborn babies.

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Achievement of this goal depends largely on provision of high quality prenatal, obstetrical, and neonatal care; preventive services during the first year of life; professional education;

and broad public information activities aimed at pregnant women and their families. Coalition members recognize that these efforts all require a long-term commitment of interest and resources. While the Coalition acknowledges the primary importance of delivery of health services, its purpose is to improve the quality and reach of public education on prenatal and infant care. Coalition members agree to work toward this goal both through the activities of their respective organizations and through collaborative efforts undertaken by the Coalition.

An important part of the Coalition's activities will be to develop better methods of sharing information, especially about effective educational materials and programs. In addition to information exchange, the Coalition will seek opportunities to work together in disseminating materials through many channels to relevant target audiences-pregnant women, women planning pregnancy, teenagers, fathers and other family members, and minorities. And finally, in a time of limited resources, the Coalition will organize efforts to share production of high-quality print, broadcast and film materials.

The Coalition is an informal association of more than 50 groups with shared goals. There are no dues or formal membership requirements, however, all national members meet these criteria:

- o a charter, purpose or constituency that  
is national in scope or broadly represents

- a special population group or groups and has a significant commitment to prenatal and/or infant care;
- o a structure of state and/or local affiliates, or another type of "network" to reach constituents at the regional, state or local level;
- o a commitment to make this network available to help disseminate materials and information about "Healthy Mothers, Healthy Babies."

The first steering committee meeting for the Coalition met March 23, 1982 to chart future activities for this partnership. Between quarterly steering committee meetings, three sub-committees meet to develop Coalition policy, explore "networking" opportunities between national and local Coalition affiliates and encourage joint development of educational materials. National members are kept informed of Coalition progress through a quarterly newsletter published by the American College of Obstetricians and Gynecologists; local chapters of member organizations receive the newsletter through their national office.

Current cooperative activities between Coalition members include:

. A series of resource packages prepared by the U.S. Department of Agriculture (USDA), U.S. Department of Health and Human Services (DHHS), and the March of Dimes. The packages, prepared for health, food assistance, and other related nutrition programs, focuses on the special needs, interests, and lifestyles of teenagers. The packages include lesson plans for pregnant teenagers, posters and booklets, and are made available to state agencies administering the Women, Infants, and Children programs.

. A national breast feeding promotion directed to health providers, expectant mothers, and the general public. Two federal departments, USDA and DHHS, have joined forces with six professional organizations and several voluntary agencies to promote the practice of breast feeding to help lead to an increase in proportion of mothers who breast feed their infants at hospital discharge from 45 percent to 75 percent and at six months of age from 21 percent to 35 percent. The program will address the lack of knowledge by health care providers, the lack of widely available information for the public and weak or nonexistent support systems through joint development and distribution of professional and public educational materials. A teleconference at approximately 100 sites on breast feeding and infant and maternal nutrition will introduce the campaign to health professionals.

*Plan ahead*

. a campaign to promote the use of seat belts among expectant mothers. The leading cause of death to pregnant women

in the United States is automobile accidents. The American College of Obstetricians and Gynecologists (ACOG), the U.S. Department of Transportation, the Nurses Association of the American College of Obstetricians and Gynecologists (NAACOG), and the American Academy of Pediatrics, (AAP) have joined to develop materials and information for the 55,000 doctors and nurses who work with expectant mothers and young children. ACOG and NAACOG will work with AAP and other groups at the local level to reach physicians and other health professionals who could speak to groups on the need for seat belt use during pregnancy.

. a series of posters and information cards for clinics serving low-income, new or expectant mothers. Six posters and accompanying cards cover nutrition, smoking, breast feeding, alcohol, use of medications, and the importance of regular medical care in English and Spanish. Clinics who subscribe to the series receive a new poster and a supply of postcard-size health cards every two months. Sponsors of the program include the U.S. Public Health Service, the American College of Obstetricians and Gynecologists, the March of Dimes, the Licensed Beverage Information Council and Gerber Foods.

<sup>2</sup>  
language

. radio spots with the Healthy Mothers, Healthy Babies theme featuring Surgeon General Dr. C. Everett Koop. The spots, in English and Spanish, were jointly produced and distributed by the U.S. Public Health Service and the March of Dimes.

A directory of educational materials on prenatal and infant care produced by Coalition members has been published to help assure that organizations can share resources and to identify gaps that exist for future materials development. The directory includes printed and audio-visual materials designed for the public and health professionals. Notices of new materials appear in the Coalition newsletter. The newsletter also publishes information about new or local or national educational programs, conferences and ideas to encourage Coalition members to work together.

#### U.S. PUBLIC HEALTH SERVICE EDUCATION PROGRAMS

Recognizing the need to alert pregnant women (and women planning a pregnancy) to the risks they may face, multiple Public Health Service agencies have highlighted pregnant women as target audiences for communications programming. These efforts include:

smoking - the 1980 Surgeon General's Report to Congress was devoted to women's smoking and health, including special risks to the fetus during pregnancy. Public information activities, primarily through the mass media, continue through the Office on Smoking and Health.

fetal alcohol syndrome (FAS) - acting on evidence that moderate use of alcohol can result in fetal anomalies (as well as the established risk from excessive use), the National Institute on Alcohol Abuse and Alcoholism has developed a national program aimed at pregnant women through the mass media and community channels. The FAS program, conducted through state and



local organizations, uses a variety of materials including television spots in English and Spanish to deliver the message that it is best not to drink during pregnancy. (In addition, a number of states are continuing their own FAS campaigns.)

use of medications - the Food and Drug Administration has distributed print and broadcast materials advising pregnant women to consult their physician before using any over-the-counter or prescription drug.

reproductive effects of exposure to hazardous substances - is a program under development by the National Institute for Occupational Safety and Health in cooperation with the American College of Obstetricians and Gynecologists.

healthy mothers and sexually transmitted diseases - CDC has multiple educational and screening programs addressed to health professionals and the public. Activities are underway with national voluntary organizations, and school curricular materials on STD are being developed.

maternal and infant nutrition - the Office of Maternal and Child Health, (OMCH) has co-produced information resource packets for nutritionists and other professionals with the U.S. Department of Agriculture and the March of Dimes. With these and other Coalition members, the OMCH is developing a national promotion of breast feeding.

The Office of the Assistant Secretary for Health tracks these categorical programs, links them with Coalition members and activities, conducts market research to encourage more effective

targeting to pregnant women and those planning a pregnancy, and is developing an "umbrella" campaign.

This "Healthy Mothers" campaign emphasizes the positive steps a pregnant woman can take to help herself and her new baby. These positive steps (eg., eating correctly, exercising) can offer more encouragement and incentive for a woman than programs which must tell her what not to do. This total health promotion effort is needed to explain all of the risks that the woman faces, and importantly, to help her identify which risks apply to her. The process of personalizing health recommendations may be a very important factor for a woman in deciding to take the next (action) step. In addition, winnowing out those risks that do not apply is important in preventing an overwhelming sense of loss of control. The effort emphasizes the personal control - and responsibility - a woman has over her health. Because the nine months of pregnancy is a finite time, and the woman has more incentive at this time to adhere to health advice, this can be an ideal intervention point for modifying health behavior. And healthful habits started during pregnancy may be continued afterwards, given proper reinforcement and reward. Further, this "umbrella" campaign provides the opportunity for addressing - in perspective - new risks and new advice as it becomes available. The public is already confused as a result of myriad reports of new health risks - some vital to their health status, some very remote risks. This

information program is designed to help a woman understand relative risks to combat the fatalism resulting from too many negative health reports.

PHS "HEALTHY MOTHERS" CAMPAIGN OBJECTIVES

This "Healthy Mothers, Healthy Babies" public information effort is designed to promote a public/private sector partnership to:

- provide information promoting healthy behavior to pregnant women and to women planning a pregnancy (directly and through intermediaries); - increase their awareness and understanding of relative health risks and personal responsibility for their health and the health of their infant;
- motivate these women to take action to protect their health, and to seek counsel/assistance when needed.

MESSAGES AND TARGET AUDIENCES

Messages are based on the preventive services for the pregnant woman recommended in Healthy People, the Surgeon General's report on health promotion and disease prevention published in 1979. These services include history taking, physical examination, laboratory exams and counselling, with referrals as necessary and desired. Information messages address issues for which the woman largely has personal control, including the importance of regular prenatal care, nutrition prior to conception and during pregnancy, cigarette smoking, use of

alcohol, drugs, and caffeine, avoidance of x-rays/environmental risks, signs of abnormal pregnancy, physical activity and exercise, preparation for labor and delivery, nutrition of the infant (including breast feeding) and preparation for infant care (including obtaining a safe car-restraining device and obtaining immunizations).

Specific messages are tailored to each target audience, based on their level of knowledge and attitudes towards health and pregnancy, their lifestyle and the kinds of information they are most eager to obtain. Primary target audiences are pregnant women (especially those women less likely to seek prompt and regular medical care), women planning a pregnancy, and teenage girls. Although some messages developed for this campaign should be directed at all pregnant women, there are at least three groups of pregnant women who are especially at risk: women with a known medical risk (genetic, chronic disease, over 35); women in lower socio-economic groups; and pregnant teenagers. Special attention is being devoted to reaching these women.

#### Women Medically at High Risk

Infants born to women with toxemia and uterine infections have a four to five times higher mortality rate than others. For mothers with such medical conditions as diabetes, hypertension or kidney or heart disease, there is a higher risk of bearing babies who will either not survive their first year or be severely

*High  
Risk  
Women*

compromised - a risk which early competent medical care can reduce. Sexually transmitted diseases adversely affect many pregnancies, causing abortion, congenital defects, neonatal deaths and maternal morbidity and deaths. Certain birth defects such as severe brain and spinal cord defects and Down's syndrome can sometimes be anticipated in high risk women.

Women in these categories need special information; this information may best be delivered through a health professional. And, in most cases, these women should know about their risks before becoming pregnant.

#### Women Socially at High Risk

Maternal and infant mortality records show striking demographic variations:

The maternal mortality rate for blacks was about 3 times that for whites in 1976;

The rate of infant mortality for the total population was 13.0 per 1,000 live births in 1979; the mortality rate for black infants was 92 percent higher than for whites in 1978;

Infant mortality rates for individual states ranged from 9.5 to a high of 18.2 in 1977;

Infant mortality rates for individuals in major cities in 1977 ranged from 10.0 to 27.4; 22 of the 26 major cities had higher rates than the national average of 14.1 in 1977.

Nearly two-thirds of the infants who die are low birth weight babies. Maternal factors associated with a high risk of low birth weight babies are: age (17 and under, 35 and older), race, high number of pregnancies, limited education, low socio-economic status, smoking, alcohol abuse, drug consumption, and lack of prenatal care. High quality prenatal, delivery, and postnatal care can decrease a newborn's risk from pregnancy complications, low birth weight, developmental problems, or death.

Many infants in the United States are born to women who are poorly prepared for childbearing: in 1976, at least 29 percent of women giving birth made no prenatal visit during the first trimester. Six percent had had no prenatal care during either of the first 2 trimesters. And yet, about 80 percent of women at high risk of having a low birth weight infant can be identified in the first prenatal visit, and action can be taken to reduce the risk.

Poor nutrition is a possible correlate of low birth weight. Nutritional supplementation programs (such as the Special Supplemental Food Program for Women, Infants, and Children) may help ensure a better pregnancy outcome. Data from developing countries suggest that an adequate diet during the last weeks of pregnancy may even be able to offset the effect on birth weight of earlier severe dietary deficiencies.

An analysis of birth weight distribution according to socio-economic status reveals a clear relationship between birth outcomes and socio-economic background; the birth weight of black infants of higher socio-economic status is comparable to that of whites.

Clearly, education alone cannot correct socially-influenced problems leading to high risk pregnancies. However, where prenatal care services, diet supplementation, income support, minimum housing and other social services are accessible, information programs can contribute to higher awareness of these services (and tell them where services are available). Therefore, these women are the primary target of new PHS "Healthy Mothers, Healthy Babies" efforts.

#### Women Planning a Pregnancy

Even before they become pregnant, women need to know about factors that may affect the health of their future babies. While providing information about risks of using cigarettes, alcohol and drugs is an important part of prenatal care, many women are pregnant for several weeks before knowing they are - and it is at the very early stages that the fetus is most vulnerable.

Early on, too, the fetus can be affected by toxic chemicals and infectious agents. Moreover, exposure to ionizing radiation above a certain level in the first week or two of pregnancy increases risk of spontaneous abortion and subsequent exposure, especially during weeks two and through six, increases risk of malformations and some childhood cancers, including leukemia.

Family planning involves more than the question of "when" to have a child; for some people, the question is whether. Couples at high risk of conceiving a child with an inherited disorder may wish to consider whether or not to have children. In some cases

(sickle cell anemia, Tay-Sachs disease, hemophilia) carrier detection is possible through analysis of blood samples prior to pregnancy. Women with chronic diseases including diabetes, coronary artery disease, kidney disease, or hypertension are at special risk and need to be aware of their extra care requirements before becoming pregnant. Women in hazardous occupations need to know the special dangers they face. And all women planning a pregnancy should be sure that they are protected against rubella.

#### Teenagers

One out of five infants are born to teenage women. Less than one-third of the births to women ages 15 to 19 are wanted when they occur: therefore, for sexually active teenagers, the primary focus of efforts should be on the prevention of unwanted pregnancy.

Infants born to young teenagers have a low birth weight incidence about 1 1/2 times the national average. The 1977 rate of premature delivery for mothers under 15 was 24.3 percent, almost 3 times the national average of 8.8 percent. Thus, prenatal advice and supervision are especially important for teenagers, yet they are less likely than any other age group to start care in early pregnancy. Part of the explanation for this may be that 85 percent of the very young mothers are not married, and therefore, may delay facing the fact of their pregnancy. Counselling and outreach programs are needed to teach them the importance of early prenatal care and to help them deal with their situation.



In addition to these women, other target audiences include spouses and "concerned others," health professionals, health teachers, and school nurses.

#### Health Professionals

Surveys of the American public repeatedly show that physicians are considered the best sources for health information. And while for many Americans physicians and other health professionals are their primary sources of health information, these same surveys suggest that physicians do not provide as much information to their patients as their patients want. For any woman already in the health care system, the health professional should be the best source of information regarding health during pregnancy because the information will be trusted, relevant, delivered directly, and can be reinforced or reexplained during subsequent contacts.

Within the health professional community, primary efforts are addressed to obstetricians/gynecologists, family planning clinics, family physicians, neighborhood health centers, pediatricians caring for adolescents, nurses, nurse mid-wives, school nurses, and pharmacists jointly with professional and voluntary Coalition member agencies.

Messages aimed at health professionals inform them about the campaign and remind them of the importance of counselling pregnant patients; encourage them to discuss with patients the special care they should take of their health during pregnancy; and assist health professionals by offering materials to give patients to reinforce counselling.

### Health and Home Economics Teachers and School Nurses

For the majority of teenage girls, the school environment is a clear and direct route for transmitting health information. Appropriate ways of incorporating "Healthy Mothers" messages (for future mothers) and materials into health curricula and other school programs are being investigated, to include the school lunchroom environment, the school athletic program, before school and after school clubs.

### Spouses and Concerned Others

For many health decisions, the effect of that health decision on a loved one, or their opinion of the health action, may have a significant impact on an individual's decision to take action. For a pregnant woman, a spouse's concern about her health and the health of the new baby may play a major role in helping form a woman's decision, or reinforcing that decision. Therefore, partners are clearly an audience for this health information. The extent of their influence, and the roles of "significant others" such as parents and friends, are being explored with the target audiences as a part of the market research conducted to help formulate messages and strategies for the "Healthy Mother" campaign.

### PROGRAM DEVELOPMENT

Development of the national "Healthy Mothers, Healthy Babies" campaign includes market research and materials production by the Office of the Assistant Secretary for Health, development of categorical programs by various Public Health Service agencies, and cooperative efforts with other members of the Healthy Mothers, Healthy Babies Coalition.

The aim of research has been to determine the most efficient ways to reach women of child bearing years and especially women of low socio-economic status, with prenatal care information. First, a target audience analysis was undertaken to review secondary data about these issues:

- . What sources of health information and credible health spokespersons are used by lower socio-economic groups?
- . What are credible sources of, and spokespersons for, nonhealth information among lower socio-economic groups?
- . What are potential access points for reaching these groups (such as the media, family and friends, the health provider system)?
- . What are the differences or similarities in effective communication channels/strategies between urban and rural lower socio-economic groups as well as between other potentially significant groupings (such as teenagers versus more mature women, Blacks versus Mexican Americans, monolingual versus bilingual women)?
- . What kinds of health information or health education is needed or desired by the target audience?
- . What motivating factors are important to the target audience for seeking health information or health care?

Following this review, a series of focused group interviews were conducted to explore the present knowledge and sources of prenatal care, the utility of materials, information, and services that are available, and possible channels of communication that might be used to motivate these women to participate more fully in the health care system.

Due to limited resources available, these investigations were limited to Mexican American and Black women of childbearing age. In addition, interviews were conducted with health care providers to ascertain their opinions on the information needs of the target population and their assessment of the effectiveness of current health promotion messages and distribution channels. Finally, an analysis of mass media use by women of child bearing age was undertaken to determine which media channels could be used to reach the target audiences.<sup>1</sup>

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<sup>1</sup> Copies of these research reports are available by writing Elaine Bratic, Healthy Mothers Project, Office of Public Affairs, Hubert Humphrey Building, 200 Independence Avenue, S.W., Room 721H, Washington, D.C. 20201.

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Materials have been developed first to introduce the public and health professionals to this new program, and then to begin to reach target audiences in accordance with market research results. Whenever possible, new materials development and promotion is conducted with one or more Coalition members, or other private sector groups. Materials have been produced for dissemination through the following channels:

prenatal care clinics (and other health care settings catering to the target audiences) - a Directory of all relative Public Health Service education materials, and a series of six prenatal care posters and information cards;

print - a series of six newspaper columns in English and Spanish on prenatal care authored by the Surgeon General. Similar columns were produced with the National Medical Association and the National Newspaper Publishers Association for Black newspapers. With the help of Gerber Foods, placement of prenatal care articles in consumer magazines;

radio - a series of radio spots recorded by the Surgeon General and delivered to radio stations by the March of Dimes. Similar materials have been produced for Spanish stations;

television - joint production with other Coalition members of a modular television show suitable for local origination.

FUTURE DIRECTION

The continuing "Healthy Mothers, Healthy Babies" activities by the Public Health Service will largely be directed by Coalition consensus. Development of the Coalition bibliography has allowed investigations to begin about gaps in current prenatal education programs. Work to fill these gaps will be undertaken by the Public Health Service along with other Coalition members. It is this joint review, planning, production and promotion that will permit the most efficient use of resources, including the valuable linkages Coalition members maintain within local communities. It is this kind of cooperation which will reinforce public recognition of the importance of good health care during pregnancy. Only with the combined forces of the professional, voluntary, and government Coalition members can we begin to reach our 1990 Health Objectives for the Nation.

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