

tion planning to breastfeed did not have any immediate plans to return to work. Women were more likely to return to work soon if they did not have economic support from the baby's father and if they were neither married nor planning to be. Duration of breastfeeding was also influenced by work plans, the variable most predictive of breastfeeding duration. Factors such as educational level and social support did not predict intended duration.

Embarrassment at feeding in public is more difficult to address than some of the other obstacles, particularly since women are occasionally arrested for indecent exposure while breastfeeding. In this society, women are often told to go to the restroom to breastfeed, where (implicitly) excretory acts belong.

Influences During Pregnancy

During pregnancy, family and friends may discuss breastfeeding with the woman, and their influence is reflected in some of the data already described. At this point, the health care providers enter, and can either encourage or discourage breastfeeding by their attitudes and by the information conveyed to the pregnant women. Some studies mention that women did not breastfeed because "it did not occur to them." Many others find that hospitals and clinics encouraging breastfeeding report a higher incidence. An intervention study at Roosevelt Hospital in New York revealed that prior to the onset of a prenatal breastfeeding education program, only 11% of a large Hispanic patient population intended to breastfeed. At the time of the evaluation of the program, 40% intended to breastfeed, and the majority (70%) followed through with their intentions.

Hospital-Based Influences: Delivery and the Early Postpartum Period

Regardless of ethnicity of the mother, the hospital experience strongly influences both initiation and duration of breastfeeding. Obstacles reported in the literature include: medications given during labor and delivery, delivery complications, cesarean section, baby complications, lack of early mother-infant contact and opportunity to nurse, use of stilbesterol for the suppression of lactation, offering water and formula to the breastfed newborn, restricting maternal access to the baby, restricting feedings to every 4 hours, lack of support for overcoming engorgement, sore nipples, not giving nursing mothers enough food or liquid, not allowing mothers access to supportive family members during hospital stay, and encouraging breastfeeding mothers to give babies formula after nursing to "fill them up."

Postpartum contact was associated with breastfeeding duration. Hospitals differ significantly in the location and timing of the first attempt to breastfeed, with some encouraging nursing in the delivery or recovery room, some in the mother's room, and some not providing the opportu-

nity for nursing at the time of the postpartum interview (approximately 24 hours postpartum for normal births, 48 hours for cesarean sections).

Staff attitudes and behaviors are also important. Several researchers point out the different constituencies of nurses. Maternity nurses focus on the mother, and can be either more likely to encourage breastfeeding or may ignore the concept of a mother-baby dyad and focus solely on the mother. Pediatric nurses focus on babies and may be more likely to give babies bottles even when they are supposed to be breastfed. Nurses sometimes encourage the mother to give bottles after breastfeeding. This practice serves to undermine the mother's confidence in her milk, and may influence her milk production as well. Duthie demonstrated that breastfeeding success was significantly associated with not feeding babies sterile water after nursing.

Physicians' attitudes toward and knowledge of breastfeeding also need to be addressed. Hollen found that more pediatricians (58%) than obstetricians (38%) thought breastfeeding was important. Among the nearly 200 physicians he studied, only 22% had children who had been breastfed. Halpern et al. also found that pediatricians indifferent to breastfeeding had significantly fewer nursing mothers in their patient populations than pediatricians favoring breastfeeding. Similarly, Acosta-Johnson comments that the barriers to breastfeeding are not so much the women's desires, but the organization of maternity services.

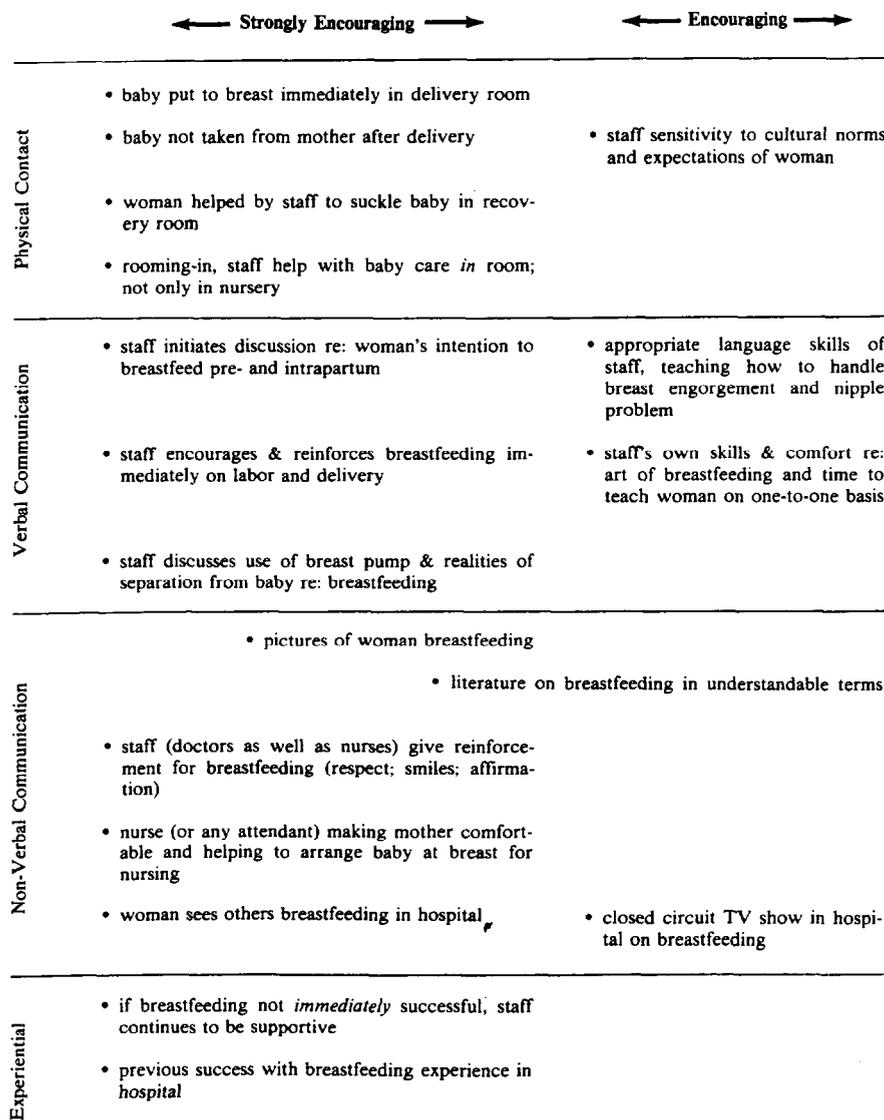
We also found that most deviations from "normal" recovery interfered with breastfeeding. Cesarean patients had a harder time getting access to their infants, women with fever or on medication were not permitted to nurse, and baby complications such as elevated bilirubin levels were cited as reasons not to nurse. Clearly, good research is needed on the validity of these and other medical practices, and staff must be taught to encourage breastfeeding rather than to discourage it. Figure 1 outlines encouraging and discouraging hospital practices. Hospital practices and health care provider attitudes can be discouraging to women in all ethnic groups, but cultural norms can influence factors such as assertiveness, attitudes toward medical authority, and feelings of autonomy. For some women, language can create an additional barrier.

Conclusions and Recommendations

The research on breastfeeding attitudes and behavior is inconsistent, particularly in its attention to variations between ethnic "subgroups" and in socioeconomic and educational level variations within ethnic groups and subgroups. Nevertheless, a great deal is known about attitudes toward breastfeeding, barriers, and the reasons for not initiating breastfeeding or for early discontinuance. Many of these reasons, such as the need to work and hospital practices, present problems for women from all ethnic groups, although cultural values and institutions will influence the way these barriers are managed. Attitudinal research and research on incidence remain important, but are of greater value when combined with research aimed at reducing hospital barriers and developing and testing high quality intervention programs.

Cultural norms guide decisions about breastfeeding and influence support for breastfeeding. Cultural attitudes must be taken into account in the design of intervention programs. Despite the importance of ethnicity, education, and socioeconomic status, other factors need serious atten-

FIGURE 1- Hospital Practices Which Influence Breastfeeding Initiation



tion: postpartum participation in the work force; general U.S. attitudes about breastfeeding in public; hospital practices; and health care providers' knowledge, attitudes, and behaviors. These areas must be addressed in order to facilitate breastfeeding for women in all ethnic groups.

← Discouraging →	← Strongly Discouraging →
<ul style="list-style-type: none"> • scheduled feedings regardless of mother's breastfeeding wishes 	<ul style="list-style-type: none"> • mother-infant separation at birth • mother-infant housed on separate floors in postpartum period • mother separated from baby due to bilirubin problem • no rooming-in policy
<ul style="list-style-type: none"> • staff instructs woman "to get good night's rest and miss the feed" • strict times allotted for breastfeeding regardless of mother/baby's feeding "cycle" 	<ul style="list-style-type: none"> • woman told to "take it easy," "get your rest" . . . impression that breastfeeding is effortful/tiring • woman told she doesn't "do it right," staff interrupts her efforts; corrects her re: positions, etc.
<ul style="list-style-type: none"> • pictures of woman bottle-feeding • staff interrupts her breastfeeding session for lab tests, etc. • woman doesn't see others breastfeeding 	<ul style="list-style-type: none"> • woman given infant formula kit & infant food literature • sees official-looking nurses authoritatively caring for babies by bottle-feeding (leads to woman's insecurities re: own capability of care)
	<ul style="list-style-type: none"> • previous failure with breastfeeding experience in hospital

SUCCESSFUL APPROACHES TO PROMOTE BREASTFEEDING

A State-Wide Breastfeeding Program: Rhode Island

Jerianne Heimendinger, D.Sc., M.P.H.

Information Provided

If you want to encourage the practice of breastfeeding in a state, where do you begin? Who is the target audience? Do you approach the pregnant woman most likely or least likely to breastfeed? Teenagers before they become pregnant? Grandmothers? Physicians? Nurses? Husbands? All of the above? And what message do you deliver?

Where to begin? With commitment to the effort—a top-level decision to act. The impetus for action within the Rhode Island Department of Health came from several sources. Top-level management decided that there was sufficient evidence of the positive benefits of breastfeeding to promote actively the practice as good preventive health care. The Division of Family Health had recently adopted the Office of Nutrition Services and viewed breastfeeding as a part of the nutritional agenda of maternal and child health. Of greater human interest, two administrators within the Department had recently become fathers of breastfed babies and experienced first-hand the realities of breastfeeding and the institutional and community resistance to the practice.

Finally, a 1981 press release from Ross Laboratories' survey catalyzed action. The survey indicated that Rhode Island had the lowest incidence of breastfed newborns in the U.S. The U.S. average reported was 55%, and the rate for Rhode Island was 36%. Even if the data are questionable, Meyer's report of surveys from 1946 to 1966 also indicated low incidences for the state.

The first obvious question was: Why were fewer mothers breastfeeding in Rhode Island? No hard data were available to answer the question, but a variety of cultural and economic elements were postulated as answers.

Rhode Island is a small, densely populated, urban industrial state with a long history of working mothers. Currently, 50.4% of Rhode Island women work, compared to 50.8% for New England and 47.8% for the U.S. The industries in which many women work, such as jewelry and other manufacturing and cottage industries, often lack time and space flexibility to accommodate breastfeeding women. Consequently, even grandmothers and great-grandmothers may not have breastfed; thus, there is no legacy of breastfeeding practice or exposure. In this situation, health professionals become even more important as sources of information and support.

The state has assimilated several waves of immigrants over the past thirty years, and these immigrants are eager to trade their breastfeeding legacy for the more "American" practice of bottle feeding.

Physicians and hospital nurses did not actively encourage breastfeeding. Hospital routines were not designed to incorporate breastfeeding. Finally, hospital administrators did not encourage the practice because formula companies finance many hospital educational and social activities. Although these last few elements are not peculiar to Rhode Island, they add substantially to bottle-feeding's entrenched status.

With some of these concepts in mind, the staff of the Health Department organized a planning committee to develop a statewide breastfeeding campaign. The committee represented physicians, nurses, nutritionists, hospital administrators, media and public relations experts, nursing mothers, and the La Leche League. A media consultant was employed to help direct the committee's efforts.

The campaign's goal was to increase the incidence and duration of breastfeeding by addressing 3 major target groups: professionals, patients, and the larger community. The committee was correspondingly divided into 3 subcommittees.

The Professional Education Subcommittee developed a strategy for motivating professionals to encourage breastfeeding in their practices. Public endorsement of the campaign was obtained from the local chapters of the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, the Perinatal Committee of the Medical Society, the American Academy of Family Physicians, the Hospital Association, and the La Leche League. The committee also developed educational materials and counseling standards for physicians, nurses, nutritionists, and other hospital and health center personnel.

The Patient Education Subcommittee discussed the targeting of their efforts and decided to address both the pregnant women in Rhode Island who obtained care from private physicians and the prenatal population served directly through the Department's programs, such as the maternal and infant care projects and WIC.

The Community Education Subcommittee attempted to create a more supportive atmosphere by educating the community at large about the practice of breastfeeding. Specific target groups were fathers, grandmothers, aunts, uncles, brothers, and sisters. A function of this committee was to address cultural and lifestyle issues through the media.

The campaign was officially inaugurated in April 1982 at a press conference held at Women and Infants Hospital, the major maternity hospital in the state. Easelback posters and brochures inviting requests for additional information were mailed to obstetricians, gynecologists, pediatricians, and general practice physicians. Brochures were also distributed to clinics, hospitals, Visiting Nurse Associations, and community organizations statewide. Materials were also available in Portuguese, Spanish, and Vietnamese. Local diaper services and maternity clothing stores distributed brochures to customers.

Public service announcements of 10 and 30 seconds were developed for use by major Rhode Island TV and radio stations. Through these an-

nouncements, the community was invited to call the Division of Family Health or the Nutrition Hotline to request brochures and additional information. Special feature articles and editorials appeared in the Providence *Journal* and local town newspapers. Members of the Committee discussed breastfeeding issues on radio and TV talk shows, some of which were broadcast in Portuguese and Spanish.

A library of breastfeeding films and slide-tapes was established at Women and Infants Hospital and made available to professional and community organizations. A videotape was developed for patient education within the hospital.

Two audiotapes on why and how to breastfeed a baby were developed for Tel-Med, the community service which makes tape-recorded health messages available to the community by phone. A breastfeeding manual for mothers was made available, and a speaker's bureau was organized.

The nutritionists in the WIC program made a concerted effort to educate their clients and gave them reasonable expectations and anticipatory guidance on such matters as breast engorgement and weight gain. The nutritionists felt that factors which made breastfeeding difficult for mothers were: the presence of other small children in the household; lack of support from health professionals, family, and friends; anxiety that the breastfed infant was not getting enough to eat; and the ready availability of formula both from the WIC program itself and in the hospital setting. Informed discussions about the latter issue led to a decision by the administration of Women and Infants Hospital to establish a policy of not offering formula packs to breastfeeding women.

The message we delivered was: "When feeding your newborn, the natural way is best . . . A popular 'new' way to feed babies is sweeping America . . . Breastfeeding is nature's own way of giving the best to your baby . . . and it's something only you can give." Our messages addressed special attention to the issues of working, worrying about whether babies get enough to eat, and nutrition.

Information Collected

While we were providing information, we were also collecting data. Several small surveys done prior to the campaign indicated that the incidence of breastfeeding ranged from 16% to 48%. I would like to share some of the details of the survey done several months after the campaign was underway.

At the request of the Centers for Disease Control, the Division of Family Health conducted a breastfeeding pilot survey (July/August 1982) designed to serve as a model for other states by providing a simple instrument for sampling from birth certificates and assessing the incidence of breastfeeding nationwide. Although the survey was not designed as part of the breastfeeding campaign, it immediately followed the major media blitz; its design and preliminary results are quite pertinent to the issues of this Workshop.

To allow states flexibility, the survey was designed in 2 parts: a simple one-page mail questionnaire and a telephone interview follow-up. The mail survey recorded data on the incidence and duration of breastfeeding, other food supplements given to breastfed infants, birth weight, and the mother's participation or lack of participation in WIC or Food Stamp programs. The survey also identified whether the mother was given formula by a hospital and whether she was willing to be contacted by telephone. Information obtained on this questionnaire could be linked with demographic information available on the birth certificate. It was thus unnecessary to ask respondents any socio-demographic information.

The reverse side of the mail survey contained an explanatory letter from the Health Department with a name and number to contact if the recipient had any questions. In addition, the letter contained short notes in Spanish and Portuguese. The notes requested non-English speaking recipients to secure help in translating the survey. The purpose of the letter was to assure people of the legitimacy and confidentiality of the survey and to attempt to address the problem of language barriers. Enclosed with the survey was a stamped self-addressed envelope.

The second part of the survey was the telephone interview in which data were obtained on the reasons a mother chose to breastfeed or bottle-feed, why she stopped breastfeeding, what types and amounts of food were fed, at what ages various solids were introduced, and what the weight of the child was. The telephone interview also provided an opportunity to verify the mail-survey questions, such as participation in WIC.

A representative data sample of infants 3 months of age was obtained from 2 sources: 1) a list of April births as recorded by the Division of Vital Statistics and 2) lists of WIC infants born in April and of women known or expected to deliver in April. Two major factors affected the choice of sampling sources and the sampling process. First, it was not possible to obtain a truly representative sample because state confidentiality laws prohibited inclusion of births of unwed mothers in the vital statistics sample. Secondly, the WIC program was interested in obtaining information on the feeding practices of its clients. By sampling from its participant list, we were able to obtain some information on unwed mothers—a fact that we think enhances the value of our survey.

A few pertinent points from the preliminary results follow. Women were very eager to talk to us. In fact, 70% of them indicated they would not mind being contacted. Both breastfeeding and bottle-feeding mothers seemed pleased that someone was still interested in them so long after delivery. Even women without telephones provided us with numbers of family and friends through whom they could be contacted. The conclusion we draw is that women with infants 3 to 4 months of age provide an informative sample population. They are not only eager to talk, but they are likely still to be breastfeeding, carefully measuring the amounts of other foods given their infants, and knowledgeable about the reasons behind their behaviors.

Preliminary analysis indicates that 52% of the total sample of 283

women breastfed at least once; 37% of the sample were still breastfeeding at 3 months of age. Of the WIC sample of 123 women, 40% breastfed at some point; 21% were still breastfeeding at 3 months of age. Comparable figures for the vital statistics sample of 160 women were 62% and 49%. Although these rates may be a little high (respondents tended to be the better educated women of higher socioeconomic status), it is unlikely that even our adjusted rates could be as low as the Ross Survey indicates. Although we would like to think our campaign has had an impact on the incidence and duration of breastfeeding, we cannot draw that conclusion from this survey at this time.

Most surveys on breastfeeding behavior have been limited to legitimate births. Seventeen percent of the infants in our sample were born to unwed mothers. Since the prevalence of single mothers is increasing, we were happy to be able to include a few in our sample. We look forward to further analysis of the data on this cohort.

Finally, we plan to delineate the following reasons given for breastfeeding: health—healthier for the baby; intrinsic reasons such as bonding; extrinsic ones such as encouragement by physicians, relatives, or friends; and practical ones such as ease and economy. Preliminary analysis shows that choices were made in the order of: health, health and closeness, health and practical considerations, and health and extrinsic encouragement. Thus, the initial decision to breastfeed by women in our sample was based on concerns about the health and well-being of the child. Interestingly, even in Rhode Island, returning to work was not the most important reason given for stopping breastfeeding; anxiety about whether the baby was getting enough to eat was the major concern.

In summary, we think the simple mail survey linked to vital statistics records is a quick and inexpensive means for states to use to estimate the incidence of breastfeeding. Sampling from programs such as WIC can provide information about the characteristics and infant-feeding behaviors of single mothers, a growing portion of the population. Preliminary analysis indicates that in our sample, health and nurturing factors are the most important determinants of the choice to breastfeed. We still think, however, that creating a supportive environment is a priority.

We think we were correct in our ambition to address all target groups—professionals, patients, and the community at large. We did the best job of communicating with health professionals, largely—I suppose—because we are used to talking to ourselves. The key groups of professionals to enlist are: 1) professionals who interact with women prior to or early in their pregnancies—obstetricians, gynecologists, nutritionists, and childbirth educators and 2) professionals whose support is crucial in initiating the actual practice of breastfeeding—hospital nurses and pediatricians.

As for the patient population, we would target the subgroups *most* likely to adopt breastfeeding who tend to be the better educated women of higher social status. Social norms established by higher status groups are eventually adopted by lower income groups. Thus a small amount of effort on the margin can reap large benefits in terms of increased num-

bers of women in a social group who not only lend support to each other but ultimately influence other social groups.

However, it is also important to address the needs of lower income groups. Is it cost effective for us in public health to address the populations most accessible, or should we aggressively seek out the population hardest to reach? The groups most accessible to us are those involved in public programs on the basis of low income or medical or nutritional need; within these groups are subgroups more likely to breastfeed. For example, it is more productive to target married older women than unwed teenagers.

The most difficult population for us to reach is low-income women who are not eligible for our services, work in low-wage jobs, and receive services from private physicians. For this population, we suggest focusing on strategies addressed to the health-care providers and the work place.

The consumers we would target are husbands and grandmothers, since they form the major support around the breastfeeding mother. If we had this campaign to do again, we might hire an advertising agency to do a better job of reaching the community through the media.

We have been pleased that our campaign produced some good materials and initiatives. We have suffered, however, from not providing adequately for continuity of our efforts. A coordinator, committed to maintaining the momentum of this effort, needs to be designated within the Health Department. This initiative, along with others, has suffered from the funding and staffing constraints common in state governments in the past several years.

On the more positive side, some residuals of our efforts are improved inservice education programs for nurses in the maternity hospitals and improved educational materials for both professionals and pregnant women. We have also given people broader access to information through the Nutrition Hotline. In addition, the Department has strengthened its emphasis on breastfeeding through its request for proposal process, which it uses for contracting direct services. Three nutrition-related innovative projects were recently funded. The purpose of one of these is to develop breastfeeding support groups for low-income women. Finally, we hope the ideas generated in this Workshop will re-energize and redirect our efforts to finalize the analysis of our survey and to continue to create a more supportive environment for breastfeeding among women in Rhode Island.

City-wide Approach: New York

Linda Randolph, M.D., M.P.H.

New York City has a high proportion of both ethnic minorities and the poor. In 1980, the White population in New York City was 36.5%, the Black population 30.8%, those of Hispanic origin 27.9%, and the Native American-Asian 3.6%. Twenty-seven percent of the New York City population were below the poverty line in 1980 compared to the New York State percentage with 16% and the U.S. with 13%. In 1970, 19.5% of all children under 18 years of age in New York City lived with a female head of household. By 1980 the percentage had grown to 30.9%. The city's poor increased by 10% between 1969 and 1982. In 1982, the New York City Department of Health conducted a survey of infant feeding practices in municipal, voluntary, and private hospitals. According to this survey, 15.1% of infants discharged from municipal hospitals were breastfed compared to 37.7% discharged from private hospitals and compared to the overall U.S. rate of in-hospital breastfeeding of 57.6% in 1981. In the survey of the New York City Health Department Child Health Stations, 3% to 6% of babies were breastfed during the period of 1980-1982.

In January 1982, the Steering Committee to Promote Breastfeeding in New York City was formed, with the goal of instituting a comprehensive program to increase the breastfeeding rate of women, with specific emphasis on low-income women. The Committee is sponsored by the New York State Department of Health, and I have been its chairperson for the last two years. The State Health Department's Bureau of Maternal and Child Health has had breastfeeding promotion as one of its goals, and this effort in New York City has reflected a local implementation of that goal.

Originally, 25 individuals were called together from medical and public health schools, city and state health departments, voluntary and research organizations, foundations, and maternity service providers to discuss methods of procedure. Based upon the copious literature available and the considerable experience of the various members, the committee developed a comprehensive program to address the barriers to successful breastfeeding. The Steering Committee's total agenda is built around 6 coordinated programs, each administered by a task group. Each group targets a barrier to breastfeeding and works simultaneously to achieve the overall program goal. A multidisciplinary membership on the committee has evolved as interests increased throughout the 5 boroughs of the city. Today it consists of over 40 active members, including pediatricians, obstetricians, nutritionists, nurses, nurse-midwives, public health administrators, social workers, a lawyer, legislative aides, a journalist, health educators, a foundation representative, and public health students.

A brief description of the 6 task groups and their activities to date follows. The first task group is concerned with research and surveys. The intent is not so much to conduct research, but rather to identify existing material to be used by all of the other task groups. Six research background papers are being developed to assess the following areas relating to breastfeeding: 1) trends and patterns of infant feeding practices by socioeconomic and ethnic groups; 2) factors influencing the pattern and incidence of breastfeeding—especially cultural and social influences (this background paper will also analyze the role of existing health services such as prenatal, maternity, and postpartum care, and WIC); 3) the impact of the media and business interests in breastfeeding practices with particular emphasis on the media effects on different ethnic groups; 4) examination of the impact of government, legislation, reimbursement patterns, maternity leave, child-care facilities, government and business support networks available for the lactating mother; 5) the economic value of breastfeeding as it relates to cost of formula versus the increased cost of providing a lactating mother with an enriched diet; and 6) the influence of alcohol, smoking, and drugs on mother's milk.

The professional education task group, our second group, has developed a slide presentation to be used for grand rounds in the city's hospitals. The slides are designed to address lack of knowledge of both breastfeeding physiology and techniques. Since many pediatricians, obstetricians, and even some nurses have never during their training seen a baby being breastfed, they will not necessarily be as informed as they should be in order to provide assistance to a lactating woman. Members of the Steering Committee will be available to conduct the rounds on request of hospitals, and we are beginning to receive those requests.

The third group looks at hospital practices. It addresses barriers of facility design, rigid feeding schedules, supplemental feeding, gift packs, and lack of information on the part of hospital support staff. Guidelines for changes in hospital practices in order to encourage breastfeeding and to create an atmosphere of acceptance at the site of delivery have been prepared with participation of representatives of the Health and Hospital Corporation and the voluntary hospital sector.

One task of the fourth group, the pre- and postnatal care group, has been the development of a handbook for promoting breastfeeding in ambulatory-care facilities. The handbook was done in conjunction with our Office of Health Promotion in the New York State Health Department. In addition, a project developed by a member of the Steering Committee and endorsed by it is the Bronx-based Lactation Consultation Team. This project has received federal MCH funding. It is designed to provide a team of health professionals to institutions for breastfeeding consultation in the Bronx. The entire health care system in the borough will be affected.

The fifth task group is concerned with public policy and legislation; it has been monitoring existing legislation and assisting in the development of new policy and legislative efforts related to the promotion of breastfeeding in both the city and the state. The major emphasis has been the analysis of trends in labor force participation rates among mothers of

children under 3. Existing legislation, maternity benefits, and employer policies have not adequately addressed the difficulties faced by pregnant working women or by those wanting to breastfeed while maintaining their job. A background paper presenting an overview of these trends is in draft form, and it gives an analysis of maternity benefits, including health insurance and maternity leave. The paper also discusses the potential benefits unions and employers might derive from promotion of prenatal care and breastfeeding. In addition, 2 sets of sample guides have been drafted to provide recommendations for the development of prenatal care and breastfeeding promotion programs at the worksite. A third paper will analyze maternity benefit packages and provide recommendations of strategies for change. During 1984, this group also plans to implement a continuing education program for occupational health nurses.

The Public Information Group has developed a 3-tiered program to counter the perception of breastfeeding as aberrant behavior. The first level is a blanketing of the city with visual images of breastfeeding, including a subway poster campaign, TV public service announcements, and engagements for Steering Committee members on talk shows. The second level is individualized support, information, and referrals provided by counselors to callers on an information line. Data will be collected and follow-up on a sample of those calls will be conducted. The third level is written information mailed to callers, community groups, and lay health advocates.

One interesting phenomenon about the Steering Committee is that we have learned how to make a little money go a long way. The funding for the committee projects has come from very small contributions from the New York State Department of Health, the New York City Department of Health, the Columbia University School of Public Health—Center for Population and Family Health, the Health Education Fund, the New York Community Trust, and the Division of Maternal and Child Health—DHHS. All of the organizations represented on the committee allowed staff to provide significant amounts of time for task group efforts and for Steering Committee meetings which we held approximately every 2 months for the past 2½ years.

Recently we saw the end of a long gestation. The Committee conducted for approximately 200 persons an invitational workshop wherein the materials that had been developed by the task groups were presented, shared, and discussed. We were fortunate to have Dr. Lawrence as our keynote speaker and Jane Brody, the personal-health columnist for the *New York Times*, to provide some of her personal insights on the breastfeeding of twins.

Where do we go from here? The public information campaign will be launched in the early fall. Further dissemination of materials and completion of an evaluation design and its implementation are on the agenda. Concomitantly, the State Health Department is revising its hospital code in order to facilitate maternity patients' ability to breastfeed.

In conclusion then, I think the Steering Committee in New York City is an example of government and the public and private sectors working together with professional organizations, voluntary organiza-

tions, and individuals to try to put together a comprehensive, interrelated, multidisciplinary approach to promotion of breastfeeding. We have just gotten off the ground, and I hope to have another forum at a later date to let you know what our impact has been.

Breastfeeding Promotion in Three Rural Indigent Populations

John E. Alden, M.S., C.N.M.

Breastfeeding in an Indigent Rural County in Florida

Jackson County, Florida is predominantly rural and has a population of approximately 40,000. The two largest communities contain 12,000 and 5,000 persons. About 30% of families in this agriculture-based economy have annual incomes below levels established for federal assistance programs. Approximately one-quarter of the county residents are Blacks, and the remainder are Caucasians of English-speaking origin. The indigent population is primarily Black.

Many families in this poor rural society are comprised of younger mothers raising children in their mothers' (or parents') homes, as in a matriarchal society. Young mothers receive considerable child-care support from their mothers, grandmothers, and sisters.

Until the past decade, breastfeeding has been commonly practiced. Supplementation has been usual even during the first few months, but bottle-feeding from birth appears to have become common with the availability of formula through assistance programs such as WIC. Most young women now having children were breastfed as infants.

Breastfeeding Promotion Project

In 1979 a focused effort to promote breastfeeding among the low income rural population began. The program was coordinated by the primary care provider (a nurse-midwife) with the special assistance of the public health nutritionist and support of the clinic and hospital nursing staffs. The project consisted primarily of modification of patient-teaching

practices during the prenatal period and of patient management during the intrapartum and postpartum periods.

The project was conducted through the county health department in the context of a maternity-care program for low-income families. Approximately 20% of mothers delivering in the community hospital received their obstetrical care through the Low Income Clinic Program.

Data Collection

The basic means of data collection was to have mothers and infants return to the clinic frequently "to see how you and the baby are doing." It was not difficult to get them to return at least once a week during the first month and subsequently at least monthly. During these visits, the infant was generally weighed and perfunctorily examined. The mother was questioned about feeding and supplementation, her well-being, and the baby's activity. Either the woman was encouraged to show how the baby fed or the baby was "tested" with a bottle or finger to evaluate the sucking pattern. By this means, the evaluators could be reasonably sure that the baby was being predominantly breastfed. Women's statements about feeding were generally consistent with the babies' responses. For the purpose of this study, the infant was no longer considered to be breastfed if he/she received more than 8 ounces of supplemental feeding a day (for the first week, 4 ounces).

Data collection at each visit included the number of weeks through which the woman continued to breastfeed predominantly and some anecdotal information (comments, reasons for stopping, problems, etc.). Data were updated with each contact.

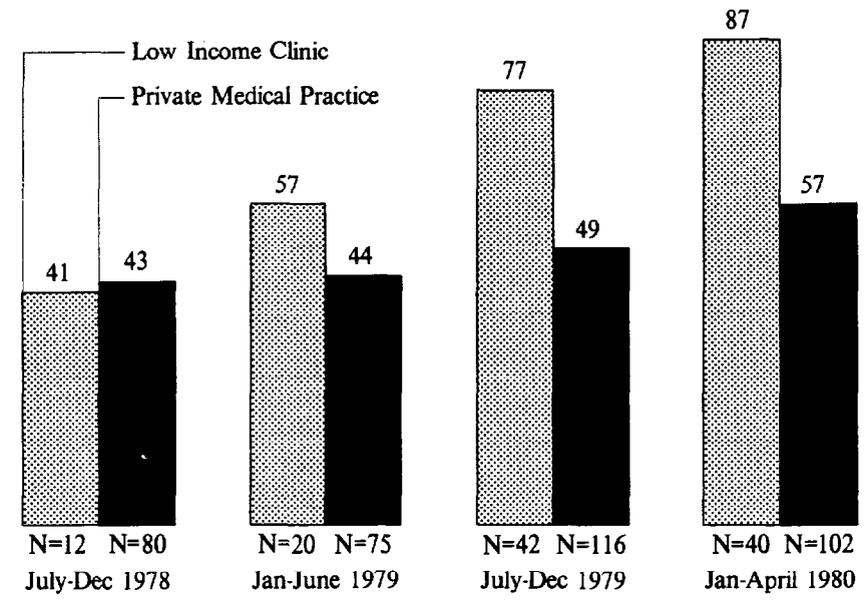
If the woman did not return to the clinic, attempts were made to contact her by telephone, public health nurses, or relatives. If satisfactory contact could not be made, she was assumed to have discontinued breastfeeding.

Discussion of the Project

Initiation of Breastfeeding. Figure I presents data for the percentage of women initiating breastfeeding. Shown are rates for women who received maternity care through the public low-income clinic and by private physicians. During the 6-month period before the project began, breastfeeding rates for the two groups were similar. During the term of the project, the percentage of women initiating breastfeeding among the low income clinic (project participants) more than doubled. The increase in breastfeeding by other women in the community occurred after the project began providing breastfeeding education to prepared childbirth groups, nurses groups, and the community at large.

The first increase during January-June 1979 over the control period (July-December 1978) appeared to occur after a more consistent encouragement to breastfeed. The increases after July 1979 occurred as a more well-developed teaching program, distribution of selected written materials, and use of films were adopted.

FIGURE 1- Percentage of Women Initiating Breastfeeding of Newborns Delivered by Private Physicians vs. Those Cared for in Low Income Clinic (Community Hospital - July 78 through June 80)



Over the term of the project, a progressive improvement in the duration of breastfeeding was observed at all intervals. During the control period, half of the women initiating breastfeeding discontinued the practice during the first week, with none continuing through 16 weeks. During the last 6 months, almost half of the study participants breastfed through 16 weeks. (Table I)

Of 23 women known to discontinue breastfeeding between 4 and 16 weeks during 1979, only 5 did so upon returning to work or school. The majority expressed dissatisfaction with breastfeeding or the demands it placed on their lives.

The most easily discernible difference between women who continued breastfeeding and those who did not was their family situation. Not surprisingly, most of the women who continued were those in stable marital relationships. Few women who were single, divorced, or in periods of marital conflict continued. Returning to work or school was a more frequent (though not universal) occurrence among single mothers.

Subjective Evaluation of Influencing Factors

Prenatal Instruction. Of all factors considered in promoting selection of breastfeeding, unhurried discussion of infant feeding appeared most productive for this group. Many women seemed to want to breastfeed

but were inhibited by stories they had heard or anxieties they were harboring.

The primary-care provider is generally a person with whom the woman is developing a trust relationship and seems the ideal person to provide counsel on breastfeeding. Additionally, during prenatal care visits, the woman is a captive audience. Prenatal care should include,

Table I
Percentage of Women Continuing to Breastfeed through Selected Intervals After Delivery
(Low-Income Clinic—July 1978 through June 1980)

Duration	July- December 1978	January- June 1979	July- December 1979	January- June 1980
1 week	50	62	81	88
(N=)	6	10	34	35
4 weeks	33	62	79	75
(N=)	4	10	33	30
8 weeks	25	44	63	68
(N=)	3	7	26	27
12 weeks	8	38	38	56
(N=)	1	6	16	22
16 weeks	0	25	36	48
(N=)	0	4	15	19

whenever possible, the woman's significant others. Most husbands reticent about breastfeeding usually responded readily to open discussion. This form of breastfeeding education also encouraged the woman to feel free to call the care provider if problems were encountered.

Considerable effort was made toward defining the breast as a nutritive organ rather than as a sexual one. A successful technique was to take time during the prenatal physical exam to "explore" with the woman the anatomy of the breast in relation to infant feeding.

Most women appreciated films about breastfeeding. "Promotional films" were shown prior to delivery and "how-to" films were reserved for after delivery when breastfeeding was started. Within this lower socioeconomic group, written material was of less value; many did not read it.

Hospital Management. The primary-care provider may insure that hospital management of the mother and infant promotes breastfeeding. Most important aspects (*not* commonly practiced by hospital maternity departments) are early and frequent (demand) feedings, avoidance of supplementation, and avoidance of mother-infant separation. During the hospital stay, "hospital rounds" were generally made twice each day, ideally when the infant was with the mother. During these visits, previous

teaching was reinforced, and anticipatory guidance and encouragement were provided.

Post-Hospital Management. Women were given appointments for a follow-up visit within a few days of hospital discharge. This early visit provided early problem intervention for many women. Of women breastfeeding at one week, 91% continued through at least one month (during the last year of this study). Most breastfeeding problems developed in the first few days at home.

Although formula companies provided free formula samples upon discharge from the hospital, these samples were not distributed to breastfeeding mothers. Sterile water was provided for "emergency" supplementation until professional assistance could be obtained.

Community Follow-Up Two Years After Discontinuance of Breastfeeding Project

As demonstrated in Table II, the discontinuance of the special breastfeeding promotion project was accompanied by a prompt decline in the number of women initiating breastfeeding. Within 2 years, breastfeeding initiation rates were similar to pre-project levels. Careful analysis of this observation was not possible.

Table II
Percentage of Women Initiating Breastfeeding
(Community Hospital—1978 through 1982)

1978	1979	1980	1981	1982
43%	50%	60%	48%	46%

(Breastfeeding Promotion Project)

Breastfeeding Promotion on the Papago Indian Reservation (Arizona)

The Papago Reservation's community is a rather closed, traditional Indian society. The reservation population is approximately 10,000 persons, with very few non-tribal members. The largest community contains 3,000 persons, and the nearest large non-Indian community (Tucson) is 60 miles distant. The native language is used in commerce. Many problems common to Indian reservations exist, including high infant morbidity and mortality and other nutrition-related problems—probably originating in alteration of traditional dietary practices.

Elements of the Papago Breastfeeding Education Project

In 1981, the U.S. Department of Agriculture granted funding for a breastfeeding demonstration project on the Papago Reservation. The

project functioned with the assistance of an advisory board made up of representatives of the Indian Health Service, WIC, tribal programs, Meals for Millions Foundation, and other interested individuals. Overall function and administration of the project was local and native.

The project developed high quality audiovisual aids to increase community awareness and understanding of breastfeeding. The theme of this material focused on breastfeeding as "the Papago Way." Native lay women were recruited, trained, and paid as "breastfeeding helpers," both to assist the new mother and infant directly and to act as liaison for her with other services. A free nursery for breastfeeding babies was established in a location central to school and major work places so that new mothers could, with the cooperation of employers, feed their infants during the day. The project also sought to develop rapport with and improve services from the health-care system.

Outcome

As noted in Table III, a marked increase in breastfeeding initiation was occurring in the time immediately preceding the grant funding of the project. This change occurred as individual program efforts developed and became coordinated.

Table III
Breastfeeding Initiation and Duration
(Papago Reservation—1979 through 1983)

	1979	6/81	7/81-6/82	4/83-9/83
Percentage of New Mothers Initiating Breastfeeding	23	44	59	49
Percentage Breastfeeding at 6 weeks			50	48
4 months			33	42
Percentage Utilizing Formula Supplementation (Age: Birth to 4 months)			21	37

Summary of Papago Breastfeeding Project

With this multi-level approach, improvements in breastfeeding initiation and duration were noted. While the percentage of mothers initiating breastfeeding has decreased somewhat following the ending of the USDA grant-funded program, the percentage of infants breastfeeding during the first months of life remains similar to that during the program. Formula supplementation during breastfeeding has increased. The factors contributing to the apparent post-project declines are not fully under-

stood; however, decreased direct support of the breastfeeding mother may be an influential factor.

Breastfeeding on the Fort Peck Indian Reservation (Montana)

Description of Reservation

Unlike the Papago Indian Reservation, the Fort Peck Indian Reservation is not homogeneous. The reservation population is approximately 12,000; the largest community has fewer than 4,000 persons. The reservation is the assigned home of two unrelated and, historically, sometimes antagonistic tribes. The reservation was opened to homesteading in 1911, and currently, less than one-half of the residents are tribal members. Inter-marriage with non-Indians and members of other Indian tribes is common. The native languages are used infrequently and are generally unfamiliar to younger tribal members.

Largely agriculture-based, the local economy is augmented by oil production, federal-agency salaries, and tribal light industry (receiving minority-preference federal contracts). Unemployment is relatively high. Women of child-bearing years comprise a substantial portion of the work force.

The health-care needs are met by both the Indian Health Service and private medical practices. Two small hospitals have limited services; referral and transport to outside specialists and facilities are common.

The Recent Practice of Breastfeeding

As anticipated from the rapid assimilation into a non-Indian society, many traditional ways have been lost. Cultural and family disruptions have brought about major changes in child-care practices, including mothering and feeding of infants. Breastfeeding has been infrequent for two generations. Traditional family ties have been altered, and women are increasingly dependent on their male partners for breastfeeding support. Native male attitudes toward breastfeeding as well as other aspects of child care reflect the relatively greater role alteration of the aboriginal male produced by assimilation. Many males are strongly opposed to breastfeeding.

Breastfeeding Promotion on the Fort Peck Indian Reservation

It is the policy of the Indian Health Service to encourage breastfeeding. The tribal WIC program reaches almost all pregnant women (WIC reaches approximately 80% of eligible families in Montana). Few Indian families have contact with prepared childbirth programs, nor is there an active breastfeeding mother support group (such as La Leche League). Almost all pregnant women receive some prenatal care, although often less than optimal. Approximately 60% of pregnant women receive maternity care from one provider (the author), who pro-

vides prenatal, inpatient obstetrical, and postpartum care. A limited amount of commercially produced written material is available.

During the course of prenatal care, breastfeeding is discussed at least twice, literature is distributed, and a short film is shown. The pregnant women are encouraged to talk with other women who they know have breastfed. The WIC program staff tells all pregnant women that breastfeeding is best for the baby and encourages them "at least to try." The outpatient nursing staff encourages breastfeeding. The inpatient nursing staff is generally supportive, and the inpatient hospital routine is generally conducive to breastfeeding. The infant is usually allowed only sterile water as a supplement, and formula samples are not sent home with the mother. Post-hospital discharge follow-up is within two or three days and generally one week later. Telephone or personal consultation is always available.

Montana rates of breastfeeding initiation fit the general characteristics of urban vs. rural, educational, and economic patterns. With promotional efforts, the Fort Peck Reservation—among those served by the Poplar Community Hospital/Indian Health Service (PCH/IHS) program—has a percentage initiating and continuing breastfeeding among the highest in the state, even with the previously mentioned negative factors.

Summary

Results of breastfeeding promotion efforts in these three rural areas indicate potential for success in increasing both initiation and duration of breastfeeding. Data available following the ending of the promotion projects suggest that infant-feeding practices will tend to revert to practices similar to those before promotion.

Two programs (Florida and Arizona) were among populations less affected by cultural change—where breastfeeding was recently practiced and where indigenous support was present. In the Montana community (Fort Peck Indian Reservation—PCH/IHS), both of these factors are lacking, and breastfeeding promotion has made slower progress.

Breastfeeding mothers in rural areas encounter several problems. Often these women lack frequent contact with other new mothers, and thus basic information and peer support are less available than in urban areas. The media (audiovisual and written) are limited and not always in accord with the culture. While many breastfeeding promotion efforts take place outside of the formal health-care system, groups such as La Leche League and prepared childbirth programs are less frequently available in rural areas. Although some assert that the free infant formula available through the WIC program acts as a disincentive, WIC program personnel actively encourage breastfeeding. When promotional efforts address these rural problems, the incidence of breastfeeding can dramatically increase.

The San Diego Lactation Program: A Teaching Hospital-Based Resource to Promote Breastfeeding

Audrey J. Naylor, M.D., Dr.P.H.

The transformation of maternal blood into milk and successful delivery of this complex nutritional and immunologic substance in the correct quantity and quality to assure infant growth and development, though "natural," is not simple. As with other complex physiologic functions and behaviors, both lactation and breastfeeding are at risk for a variety of problems which can and often do lead to early weaning. This risk can be greatly reduced when perinatal health care professionals understand the complexities of breast function and suckling and when they are trained to apply this understanding to the clinical management of breastfeeding.

During the past 30 years, while other areas of medical and nursing education underwent vast revisions in response to medical advances, attention to lactation and breastfeeding declined. Obstetrics taught students how to inhibit lactation and speed the postpartum involution of the breast, while pediatrics concentrated on the fine points of providing infants with an artificial formula. The breast became a topic discussed primarily in pathology classes and surgical clerkships. Students and house officers were taught details about how to eliminate its basic function either temporarily or permanently, but learned little about how to encourage and enhance its normal processes, or how to prevent, diagnose, or treat deviations from normal function.

During the past 5 to 10 years, the basic science information provided for students of the health professions about lactation and breast milk has significantly increased; however, instruction regarding clinical evaluation and management of breast function is rare. Many perinatal health care providers enter practice unprepared to assist the nursing mother and often give advice and carry out procedures leading to breastfeeding problems and failures.

The San Diego Lactation Program

Until September 1977, training programs available at the University of California, San Diego Medical Center (UCSDMC), and Mercy Hospital and Medical Center, an academically affiliated teaching hospital, were typically deficient in this area. While 50% to 65% of new mothers were initiating nursing, less than half continued beyond 8 to 10 weeks. To promote breastfeeding while simultaneously providing appropriate clinical teaching opportunities, the San Diego Lactation Program was launched.

The Lactation Program was designed with multi-departmental guidance. The consortium of departments contributing to the early planning included Reproductive Medicine (OB/GYN), Pediatrics, and Community and Family Medicine, as well as Nursing and Social Service. Within a short time, the Program developed its own distinct identity and now functions independently and essentially like other academic subspecialty

services within the teaching-hospital setting. In July 1983, the Program's base of operations was moved to nearby Mercy Hospital and Medical Center. Both the UCSDMC and Mercy Hospital are now used as teaching resources.

The core service and teaching team has always included a board-certified member of the pediatric faculty, a certified pediatric nurse practitioner, and a part-time nutritionist. A faculty obstetrician and a medical social worker are readily available on a consultation basis. Direction for the Program is jointly provided by the pediatrician and the pediatric nurse practitioner. Both have become full-time, highly skilled subspecialists.

Six distinct components of the Program are definable: 1) prenatal guidance; 2) skilled immediate postpartum assistance; 3) 24-hour telephone consultation service; 4) evaluation of lactation progress and problem-solving in a special Lactation Clinic; 5) Intensive Care Nursery consultation; and 6) provision of educational programs for community doctors and nurses. Each component offers an opportunity for clinical experiences for health professional trainees.

Prenatal Guidance

Prenatal guidance provides the basic foundation for successful lactation. As one of the initial and essential steps in developing the Program, several hours of inservice education regarding all aspects of lactation and breastfeeding were provided for both professionals and non-professionals on the clinic staff.

Following this training, the clinic staff actively recommended breastfeeding as the preferred feeding method for infants. In addition, breast examinations were more carefully performed, sound preparation explained, and non-commercial patient-education materials provided. Lactation became an even more significant aspect of the nutritional counseling. A 2-hour class for expectant parents in the prenatal education series reviewed the advantages of human milk and breastfeeding and clarified the anatomy and physiology of lactation. In addition, basic issues of the techniques of nursing were covered in this series.

Postpartum Assistance

Regardless of the extent and quality of prenatal service, lactation and breastfeeding may not progress well if the postpartum care is poorly managed. The Lactation Program also provided the nurses from the postpartum and nursery units with a review of the reasons for breastfeeding, anatomy and physiology, and sound techniques to encourage normal lactation physiology. Following the training, procedures were gradually instituted which allowed normal newborns to nurse within the first 30 minutes after delivery, and on demand thereafter. Rooming-in became the usual, rather than unusual, arrangement. Routine use of formula, water, bottles, pacifiers, and nipple shields was discontinued. In addition, rather than being discharged with an inappropriate sample pack of infant

formula with its implicit message of doubt, all nursing families began to receive a discharge "gift" of careful counseling and the number to call the Lactation Program's telephone consultation service or Helpline.

Telephone Consultation Service

The telephone consultation service is an essential component of the Program; in spite of good preparation, skilled postpartum help, and thorough counseling at discharge, nursing problems arise from time to time. Rapid solutions are often needed if infant well-being is to be maintained and breastfeeding continued. The 24-hour telephone service is available to any breastfeeding family, regardless of their source of medical care. Program staff members answer questions, solve acute nursing problems, see mother-infant couples if needed, and provide a significant, always-available support system in response to about 130 calls per month. Community health professionals also seek consultation via this service.

The Lactation Clinic

While students and house officers have opportunities to observe and participate in all of the preceding facets of the Program as they rotate through their clinical assignments, the fourth component, the Lactation Clinic, is the Program's major teaching resource.

Breastfeeding mother-infant couples are given appointments to be seen in the Clinic within 7 days of hospital discharge and whenever problems occur. Forty to fifty patients are seen each week. Lactation progress is evaluated by use of a specially designed history and thorough infant examination. Maternal breast examinations are routinely done, breastfeeding carefully observed, and both maternal and infant weight changes documented. Advice and treatment are given as needed, and appropriate nutrition for successful lactation is discussed. Social service intervention is offered whenever indicated.

Medical and nurse practitioner students as well as residents in pediatrics and obstetrics all rotate through this service. Each assigned trainee receives 16 hours of clinical instruction from the Program's experienced staff.

Students and residents gain an appreciation for the complex physiology of lactation, the multi-determined and learned nature of successful breastfeeding, the biologic partnership of a mother-infant couple, and the family's influence on nursing. They become comfortable with maternal breast examinations and learn the importance of carefully observing nursing technique. They acquire physiologically sound methods of preventing and treating common breastfeeding problems, such as let-down inhibition, engorgement, nipple abrasion, clogged ducts, and mastitis. They are taught about the causes and treatment of nipple confusion and abnormal suckling patterns and learn how to approach the diagnosis and treatment of slow-weight gain and reluctant nursers without immediately recommending weaning or supplementing.

The Lactation Clinic component of the Program is not designed as a high-volume experience. Teaching and demonstrating the important de-

tails of normal breastfeeding take time. In addition, the psychophysiological sensitivity of lactation does not always respond well if a mother feels rushed. If there are problems, solutions are frequently found only when careful attention is paid to feeding techniques, maternal feelings, activities and nutrition, other aspects of general health, and family adjustments and interrelationships. Rarely are such solutions quickly found, especially in the teaching setting. However, long-range gain for both families and trainees is well worth the initial extra time invested.

Intensive Care Nursery Consultation

Breastmilk is the preferred nutrient for most of the preterm and critically ill infants admitted to the intensive care nurseries of both hospitals used by the Program. Nursing staffs of these units have been taught how to instruct parents about techniques necessary for the development and maintenance of lactation, effective methods of pumping and expressing milk, proper breast care, and maternal nutrition. Instruction is also given in safe methods of storage and transport of milk. When the infant is sufficiently developed and well enough to begin nursing, parents are assisted in retraining the baby to breastfeed. The Lactation Program staff members consult on complex problems.

Community Education

The impact of the Lactation Program as a training resource for health professionals has been extended beyond the students and postgraduate trainees served by UCSDMC and Mercy Hospital. Physicians and nurses throughout the local, national, and international community have increased their awareness of the importance of breastfeeding during the past decade. Many of these health-care providers have recognized the need for a better understanding of the basic physiology of lactation and for current information on successful management of breastfeeding. The Lactation Program staff has responded to increasingly frequent requests for training from such professionals. At the Program's home base in San Diego, one- or two-day workshops are provided for large groups from time to time. Additionally, intensive professional certification courses involving 40 hours of carefully supervised clinical experiences, combined with 40 hours of seminars and didactic classes, are offered to small groups of physicians and/or nurses from perinatal specialties. Teaching conferences and consultations are also provided, on invitation, for hospitals and other health-care institutions across the United States, and have reached several thousand health care professionals.

In August 1983, the Program extended its influence to developing countries where the American model of separate postpartum and nursery care as well as routine use of artificial feeding is common in teaching hospitals. To date, 8 physician-nurse teams (19 trainees) have completed 4 weeks of intensive lactation management training in San Diego and are now launching clinical training programs and lactation clinics in their own teaching hospitals in Kenya, Thailand, Indonesia, the Philippines,