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A Retrospective and Prospective Look at International Breastfeeding Promotion Programs



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Preface

The importance of breastfeeding has not diminished with the passing of time. If anything, its importance is constantly being reinforced as new studies confirm the role of breastfeeding in providing immunological protection for infants and contraceptive protection for mothers.

Nevertheless, there are signs that support for breastfeeding promotion programs has been waning over the past several years on the part of international development agencies as well as governments. This is ironic since the need for such programs is as great as ever and the state-of-the-art has advanced significantly during the past several years. We now know how to organize and carry out effective training programs for health professionals, improve hospital practices and utilize the mass media, community-based support groups and the private sector in support of mothers who want to breastfeed their infants. Furthermore, these programs are inexpensive and cost effective.

Why then should there be a lessening of attention and support? What factors are responsible? And what can be done to re-assert the importance of breastfeeding and to stimulate support?

To seek answers to these questions, the U.S. Agency for International Development (AID) and the International Nutrition Communication Service (INCS) co-sponsored a December, 1985 International Conference on Breastfeeding Promotion Programs. The conference brought together program managers and policy-makers involved with breastfeeding promotion programs in developing countries. Their recommendations, presented here, suggest practical ways for increasing support as well as for improving the effectiveness of current efforts.

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Introduction

Breastfeeding has declined in recent decades throughout much of the developing world. The failure to breastfeed, early cessation of breastfeeding, and less than optimal breastfeeding practices all have negative impacts on child and family health and well-being. Efforts to stop or reverse these changes in breastfeeding practices have been undertaken by mothers' groups, Ministries of Health, multi-lateral and bilateral agencies, private voluntary organizations, national multi-sectorial commissions, unions, communications experts, educators, medical and other health associations, and more.

In the course of organizing the small international conference on breastfeeding promotion which is the subject of this publication, these questions were posed:

- What activities have been undertaken to promote breastfeeding?
- What programs have been developed?
- Where is financial support for these programs available?
- How successful have the efforts been?
- How have interventions to promote breastfeeding efforts been documented?
- How have outcomes been assessed?

It became clear to conference organizers that reports on breastfeeding promotion efforts were somewhat difficult to locate and that recent discussions and analyses of programmatic issues related to breastfeeding promotion were also infrequent in the literature.

This document is a collection of "think pieces" and short case studies on breastfeeding promotion programs in developing countries. It is not exhaustive, but reflects the projects with which conference organizers and participants are most familiar. It is intended to make information on breastfeeding promotion accessible to a wider audience.

The article "Summary of Assistance by International Agencies for Breastfeeding Promotion Activities" was prepared to examine resources available for the support of breastfeeding programs. With the exception of the Ford Foundation, La Leche League International, and AID, other donor agencies and private voluntary organizations did not have estimates of expenditures for breastfeeding promotion. Although breastfeeding is an element of both AID and UNICEF Child Survival and has long been an element of primary health care programs, the resources available to support breastfeeding research or promotion efforts in 1986 appear to be limited. AID estimates that this year over 2 million dollars was spent on breastfeeding worldwide; by comparison, in 1985 expenditures for oral rehydration therapy were over 50 million dollars, for immunizations more than 31 million dollars, population activities more than 230 million, and natural family planning (a relatively new program) over eight million. In addition, much of the AID funding for breastfeeding is embedded in larger primary health care or family planning programs; breastfeeding activities are not a major focus; careful research or evaluation of interventions is not the norm, since breastfeeding promotion is not a programmatic priority.

In sum, efforts to document funding sources for breastfeeding promotion in developing countries revealed a paucity of information and, apparently, of available funds. Conference discussions of these data on funding sources focused on the present lack of pressure groups active in support of breastfeeding promotion in developing countries.

Sustained communications campaigns to motivate and inform about breastfeeding have been relatively few. The second article in this collection examines several of them and discusses broad issues and guidelines for using communications to promote breastfeeding. Communications to motivate and educate about breastfeeding show great promise when campaigns are well conceived and implemented. The authors emphasize the importance of:

- Strong management
- Communications expertise
- A long range strategy and sustained implementation
- A focus on information, motivation, and reassurance rather than romantic generalities
- Qualitative research

The article discusses specific steps in formulating a strategy, designing a campaign, conducting research, and finally, implementation and continuity.

"An Approach to Evaluation for Breastfeeding Campaigns" by Hornik is a provocative analysis of the formative uses of evaluation. He argues that "did it work" questions are not the most "project-helpful," and therefore are inappropriate for investment of project funds, particularly when, as is usually the case, those funds are scarce. Instead he suggests that the evaluation of a breastfeeding campaign decide what questions to ask based on:

- The conceptual model which underlies program design
- An assessment of the probability that resulting information can be used to change the program, i.e. potential leverage
- Probable areas of trouble or weakness (based on experiences in other programs)
- Limitations of funds, time, and research tools

A concluding discussion analyzes issues likely to arise in the design of a breastfeeding project evaluation, and the realities and trade-offs in decisions related to those issues.

Impact evaluations of breastfeeding promotion efforts have been limited in number and scope. In her article "A Review of Breastfeeding Program Evaluations," Janet Tognetti analyzes the conceptual models and objectives of breastfeeding programs which have been evaluated and for which documentation is available. She reviews targeting of efforts, timing, duration, and types of intervention activities. Outcomes, measured most frequently as prevalence of breastfeeding, were positive in over 90% of programs reviewed. Limitations of the evaluations reported are discussed and design features are analyzed in depth in an appendix. The overall conclusion is that "...a wide range of breastfeeding promotion programs may be effective..." Readers will find the appended tables on program design, areas of intervention, program objectives, target groups, setting and timing of interventions, variables measured, and interventions reviewed by country and author a useful guide to available reports on field programs.

In her article on "Breastfeeding Information," Gayle Gibbons argues for the need to disseminate information in addition to other promotional activities. The effect of information is sustained; long after a project has ended, information remains as a basis for action for all who have access to it and make use of it. Gibbons suggests that information on programs, technical, educational and training materials, and policy/legislation initiatives are most helpful to field personnel. Use of regional and local distribution and resource centers facilitates dissemination and institutionalization.

The case studies of breastfeeding promotion programs present a panorama of programs and projects in widely different circumstances. The Brazilian case is notable for the precipitous decline in breastfeeding documented during a period of rapid national growth and development; the multisectoral and regionally specific nature of promotional activities undertaken; and the absence of comprehensive post-intervention evaluation data to unequivocally document an impact which observers report was significant. The Brazil case illustrates how diverse a national program can be. Strong educational, mass media, and mother support group components complemented one another. They were coordinated at a central, national level, but each state was given discretion to design and implement its own unique program. One can only hope that these efforts will eventually be evaluated in a comprehensive way.

The CALMA program in El Salvador was initially a cooperative effort by a newly-formed Salvadoran private voluntary organization and La Leche League International. The project was designed on the La Leche League model with a central core staff and volunteers undertaking outreach to citizens' groups clinics, and hospitals. Due to political changes during CALMA's early years, the project focused more than originally planned on San Salvador (the capital city) and training of health promoters. The brief history of the project is most instructive. Dedication, determination and expertise have produced a unique, private, local institution committed to the welfare of mothers, children, and families, despite changes in staff and unanticipated contextual complexities,

In neighboring Honduras, the PROALMA project was developed by the Ministry of Health, the Social Security Institute, and the Social Welfare Bureau with support from the Agency for International Development. The project targeted the urban area where negative changes in breastfeeding practices were most pronounced. Through training and participative supervision, health personnel at all levels were to be educated about breastfeeding and how to support and promote it. Hospital and clinic handling of pre- and post-partum women and the birthing experience itself were targeted for change to maximize their potential for promoting breastfeeding. After only two years of project implementation, sweeping changes were documented in hospital practices. These were accompanied by drops in neonatal morbidity and the use of infant formula. Knowledge and attitudes of health personnel changed markedly. Most important, these changes were associated with changes in mothers' infant feeding practices. Exclusive breastfeeding doubled. Exclusive bottlefeeding of young infants dropped by two-thirds. The project documented a significant impact based on a "top-down" strategy aimed at health professionals and central institutions.

The Indonesian National Breastfeeding Program began with the issuance of a Presidential Decree, and the creation of an interministerial coordinating board. A national voluntary working group (BK.PP.ASI) assisted the implementation of a mass media campaign and seminars, workshops and training for health professionals. On the private sector side, the government regulated advertising and labeling of breastmilk substitutes and an active La Leche League was begun. For the first several years, these efforts were centered on urban areas; BK.PP.ASI members recognize the need to expand to rural areas, focus on government and industrial policies, the health sector, and individual mothers. Like Brazil, Indonesia's program had the support of the national government and was multi-sectorial; as in Brazil, a great deal has been accomplished on a small budget. As in Honduras, interventions initially focused on the urban arena and are now being expanded to rural areas. Impacts of the Indonesian efforts are apparent in changed feeding practices, hospital costs savings, and declines in infant morbidity and mortality.

The annual population growth rate for Kenya in 1985 was about 4%. In Kenya, breastfeeding has traditionally been one of the most effective contraceptive methods. The effect of changes in breastfeeding practices could be devastating in Kenya. Recognizing a sharp decline in duration of breastfeeding and an increase in unnecessary use of breastmilk substitutes, the Kenya government, academic community and private organizations held a series of workshops to develop a strategy to reverse these negative trends. The Ministry of Health issued directives to all health institutions specifying policies and actions to be taken in support of breastfeeding. An Infant Feeding Committee was formed to implement training of health workers, implement policy initiatives to regulate marketing of breastmilk substitutes, improve health-care facilities practices, examine breastfeeding opportunities for women in the workforce, and undertake public education and information dissemination activities. As a result of promotional activities, extensive changes have been institutionalized in hospitals providing birthing care. The Kenya breastfeeding promotion efforts have developed momentum; nevertheless, like all programs, certain constraints have yet to be overcome, and more resources are needed to resolve the problems remaining.

The Thailand education program to promote breastfeeding also focuses on hospitals, health professionals, mass media, and supportive legislation. Beginning with intensive training in lactation management, the project concentrated on educating health professionals. Out of new knowledge and skills came significant changes in birthing and post-partum routines which previously had discouraged breastfeeding. Among the changes are rooming-in, initiation of breastfeeding as soon as possible following birth, and elimination of prelactal feeds. These have been implemented to varying degrees in the major urban hospitals. As in other countries discussed above, change is proceeding more rapidly in public than in private institutions. Despite a lack of complete baseline data, the Thai group is monitoring changes and their effects. They have found, as did PROALMA in Honduras, that changes in hospital practices and health professionals' knowledge and attitudes are related to changes in mothers' infant feeding knowledge and practices. Breastfeeding mothers are now given print information on breastfeeding and a passport recognized in all the health institutions confirming their status as breastfeeders and alerting health personnel to support them as breastfeeding mothers.

All of the country programs emphasize training of health personnel in their initial efforts. In her article, Dr. Audrey Naylor of the San Diego Lactation Management Program (now known as Project Wellstart) discusses the rationale for training in lactation management at the professional level. The perinatal period is critical for successful breastfeeding. Increasingly mothers in developing countries are attended by service providers who have been trained in cosmopolitan medical systems. Their training for the most part ignores breastfeeding or includes information or procedures incompatible with successful breastfeeding. In cities particularly, medical personnel are respected; mothers talk to them when they have problems with lactation. Health personnel have become gatekeepers. If they do not have the training and expertise to support breastfeeding, other promotional efforts are unlikely to succeed. Dr. Naylor discusses the San Diego group's program to remedy this situation and some of the outcomes of the training they provide. Most impressive is the multiplier effect: based on small core groups of trained professionals who replicate their training in their respective countries, birthing and postpartum care can be changed for hundreds of thousands of women and their infants.

The range of activities in the programs described above is remarkable. So are the apparent impacts. Clearly health professional training and improved health practices affect breastfeeding practices; through changes in breastfeeding, improvements in hospital costs, infant morbidity, and probably child spacing are occurring. Communications campaigns, information dissemination, legislative and policy initiatives, and mother support groups all contribute to effective, multi-sectoral breastfeeding promotion. It is to be hoped that more support will be available for these activities and that comprehensive evaluations will provide the data to document the precise costs for what appear to be impressive benefits from breastfeeding promotion.

BREASTFEEDING PROMOTION PROGRAMS

IN DEVELOPING COUNTRIES

RECOMMENDATIONS

THE RIGHT QUESTIONS ABOUT BREASTFEEDING PRACTICES MUST BE ASKED

- A standard format for collecting and analyzing breastfeeding data should be developed so that data on breastfeeding practices currently being collected through other kinds of surveys (ex. diarrhea studies, demographic and fertility studies) will be comparable and can be readily compiled for use.
- Rapid assessment techniques for collecting data on, and documenting trends in breastfeeding practices should be developed, perhaps modelled on the approaches developed for EPI and ORT programs. Such methods would simplify the problem of developing and maintaining databases for program development, and disseminating information to policymakers.
- One way of simplifying program decisions would be to establish a cutoff point for breastfeeding interventions. Existing prevalence and trend data could be used to establish a threshold level, above which bottlefeeding should be considered a significant public health problem. Such a cutoff point might be set, for example, at 50%. In other words, any country in which fewer than 50% of mothers breastfed exclusively for more than four months would be considered to have a breastfeeding problem.
- Key breastfeeding practice variables that need to be documented in any breastfeeding program include:
 - a. The age of the child when any supplements, including water, are introduced, and feeding devices used (ex. bottle, cup, spoon, etc.)
 - b. The quantity and type of supplements given.
 - c. The age of the child when breastfeeding totally ceases.
 - d. The frequency and duration of breastfeeding (both during day and nighttime hours.)

- Uncomplicated low-cost evaluation methods for assessing changes in breastfeeding practices should be developed. Evaluation indicators for hospital-based programs would include:
 - a. Percentage of babies rooming-in;
 - b. Prelacteal feeds given, if any;
 - c. Time of first breastfeeding;
 - d. Breastfeeding rates at time of discharge;
 - e. Savings on the use of unnecessary formula, equipment (bottles, teats, etc.), and medicines needed for therapy;
 - f. Increased cost effectiveness achieved through a more efficient deployment of hospital facilities and staff time, due to reduced demand for separate nurseries, and personnel to staff them.
- Data must be gathered on ways in which women's work patterns affect their breastfeeding and working decisions. Qualitative research must be undertaken to develop new types of programs, concepts, and products to meet the needs of working women, which can be field tested, and later implemented on a broader scale.
- Consideration should be given to the development of growth standards based on the growth rates of exclusively breastfed babies.

BETTER BREASTFEEDING COMMUNICATIONS/EDUCATION INTERVENTION MUST BE DESIGNED

- The four programmatic cornerstones of breastfeeding promotion are:
 - a. health professional training;
 - b. community based mother support groups;
 - c. a social marketing approach that combines the use of mass media with other types of educational strategies;
 - d. appropriate policy initiatives.

The relative importance of each component will vary from country to country, depending on the local context.

- Medical and nursing school curricula should be reviewed and modified to include training and clinical rotations in lactation management, as well as scientific knowledge concerning the benefits of breast-feeding. Experi-

mental training programs should be developed to provide medical and nursing students with opportunities to participate in the operation of lactation clinics. Appropriate breastfeeding related training programs and materials also are needed for community health workers.

- Further support should be given to the promising work being carried out within hospitals to promote changes in infant feeding practices. Institutionalization of rooming-in should be seen as a top priority; encouragement should be given to private as well as publicly supported hospitals.
- Community-based breastfeeding mothers' support groups should be encouraged. These groups should be encouraged to collaborate with other health service agencies, and receive training in lactation management, methods of tapping into and utilizing private and public sector sources of support and methods of developing, managing, and promoting local programs.
- A social marketing strategy, with its emphasis on continuous research, audience-based message testing, media and face-to-face education should be adopted as the overall approach for designing and implementing breastfeeding promotion programs. All efforts should be made to include or increase the use of mass media as part of a strategy to promote breastfeeding.
- Mass media components should be planned to cover longer periods of time than they have in the past. Two to ten years would be desirable. Messages should be targeted at carefully defined audiences, and should strive for greater specificity.

SUPPORTIVE POLICIES AND LEGISLATION NEED TO BE PUT IN PLACE

- Mass media advertising of infant formulas should continue to be banned, compliance monitored, and efforts made to ensure governmental free prime time exposure for breastfeeding messages.
- Policy initiatives are needed to provide job security for pregnant and lactating women. However, legal requirements for the provision of maternity services by employers (creches, etc.) should be based on the total number of employees, regardless of sex, in order to minimize the economic disincentives that may operate against hiring women.
- There is a need to develop more flexible types of maternity leave legislation that protect both mothers and their employers. Wherever possible, maternity leave compensation should be offered:
 - a. in a step-by-step manner, reducing the amount of payments as leave is extended;

- b. offering women the opportunity to return to work on a part-time basis;
 - c. exploring cost-sharing options, with institutions such as social security, for example.
- The development of supportive programs for women who work outside the home and want to breastfeed their babies should be a top priority for the future.

CONCERNED AGENCIES MUST MAKE BREASTFEEDING A TOP PRIORITY

- Donor agencies should recognize the importance of breastfeeding, provide more support for it, and reemphasize its central role in an overall maternal and child health strategy.
- Ministries of Health need to be re-sensitized to the importance of breastfeeding, and should be encouraged to think about ways in which they can support mothers who want to breastfeed.
- Ministries of Health should designate a breastfeeding program coordinator, regardless of whether the program strategy adopted is vertical or integrated. The coordinator, preferably a person with some background in health, would have the responsibility for managing, planning and coordinating breastfeeding projects, and securing funding for them.
- Ministries of Health should have a line-item for breastfeeding programs in their budgets.
- Family Planning Programs should emphasize the importance of breast-feeding as a method of birth-spacing, and should train women who want to use it in order to optimize its effectiveness.
- The World Health Organization (WHO) should consider including breast milk on its list of essential drugs.
- The United Nations should consider the declaration of an International Year of Breastfeeding.
- An International Breastfeeding Consultative Group should be established with broad-based international support.
- Successful breastfeeding promotion program methodologies, such as the San Diego Lactation Program approach, need to be disseminated to decision makers.
- National seminars and appropriate materials are needed to keep health professionals up-to-date on new scientific research. Emphasis should also be placed on disseminating information related to the operational aspects of rooming-in and lactation management to hospital administrators.

- Professional medical societies should play a more active, well-defined role in breastfeeding support programs. Health professionals should consider developing "codes of ethics" to guide their relationships with the commercial sector.
- Private voluntary organization (PVO) support of breastfeeding promotion programs should be specifically explored and encouraged. Newly emerging Health Maintenance Organizations (HMOs) should also be encouraged to support breastfeeding.

(Recommendation of a 1985 International Conference on Breastfeeding Promotion Program sponsored by the United States Agency for International Development and the International Nutrition Communication Service -INCS. A list of conference participants is included in Appendix B.)

SUMMARY OF ASSISTANCE BY INTERNATIONAL AGENCIES FOR
BREASTFEEDING PROMOTION ACTIVITIES *

by: Tina Sanghvi, Ph.D.

Introduction

This review is based on information provided by headquarter's staff of the following agencies who are either funding sources or providers of technical assistance or involved in implementing breastfeeding promotion activities:

AID (Including contractors: EDC/INCS, Development Associates, INTRAH, American Public Health Association, Population Council, Family Health International)
CARE
CRS
Ford Foundation
La Leche League International
PROALMA (Honduras)
Save the Children
SIDA
UNFPA
UNICEF (New York and Brazil)
World Bank
World Health Organization (Geneva and Copenhagen)

The information was obtained during November 1985 through March 1986 and is not a comprehensive review.

The following types of breastfeeding activities currently receive support from international donor agencies.

- breastfeeding promotion as a component of general MCH within primary health care programs;
- breastfeeding as a part of diarrheal disease control activities;
- breastfeeding as a fertility control strategy;
- focused programs to prevent a decline in the incidence and prevalence of breastfeeding;
- information and education about breastfeeding.

* Prepared for the Clearinghouse on Infant Feeding and Maternal Nutrition, American Public Health Association, Washington, D.C.

Interventions range from single focused ones to comprehensive packages that may include several components such as changing hospital practices, training health workers, mass media campaigns, policy formulation, development of norms or guidelines, information, and social support networks for breastfeeding mothers, etc. Assistance may take the form of providing copies of existing slides or manuals or, in a few instances, substantial budgetary support for local costs, salaries of personnel, tuition fees, research and data analysis, travel, establishment of milk banks and training centers, conferences and workshops, etc.

I. Agency for International Development (AID)

AID (particularly the Office of Nutrition and Office of Population) has increased funding for breastfeeding activities since 1979 in response to congressional directives and interest from AID field missions. Funding is channelled primarily through nutrition programs, e.g., for training to change hospital and clinic practices, policies and studies on infant feeding patterns and through population programs, e.g., to strengthen natural family planning, and education and information activities. Countries that have been the major recipients of AID support for breastfeeding include Panama, Honduras, Indonesia, Thailand and Kenya.

A. Training to Change Hospital and Clinic Practices.

• San Diego Lactation Management Program.

This is a training program for health professionals (physician-nurse teams) on the clinical aspects of breastfeeding preceding, during and following birth, including establishment and maintenance of hospital routines. Broader policy and programming issues are also covered. A limited amount of follow-up technical assistance is provided to support the work of alumni. Participant countries include Indonesia, Thailand, Kenya, Philippines, Panama, Honduras, Dominican Republic and El Salvador.

B. Family Planning Programs.

• Development Associates S&T/Population Contract for Latin America.

This contract included nutrition components in the past (1981-1983). Currently some in-service training activities include general information on the advantages of breastfeeding. No funding, materials or technical assistance are provided. However, the following countries and organizations are interested in breastfeeding activities.

Brazil - In Fortaleza SAMEAC's TBA Training project (Dr. Sylvia Bonfim)

Bolivia - FEPADE (Dr. Wilfran Hinojosa)

Ecuador - CEMOPLAF (through MAP International)

Guatemala - APROFAM (Dr. Roberto Santiso)

Paraguay - AID support in family planning discontinued but interest persists. Liga de Derecho de la Mujer; Instituto de Investigacion de la Reproduccion Humana; Mision de Amistad. All are located in Asuncion.

- INTRAH.

This S&T/Population contract covers the Asia and African regions. Breastfeeding support information is included in MCH training as part of its' family planning and health promotive strategy. No technical assistance, materials or funding are provided. Countries with activities include: Nigeria, Sierra Leone, Kenya, Somalia, Zimbabwe, Swaziland, Mauritius, Sri Lanka, Thailand and the Philippines.

(Contacts: Ann Terborg, DAI (703) 979-0100 and Jim Herrington, INTRAH (919) 966-5636)

C. National Diarrheal Disease Control Programs.

National Programs.

- Honduras.

The Proyecto de Apoyo a La Lactancia Materna (PROALMA) initially started as a 2-year pilot in 1982, was expanded to a nationwide program after evaluations demonstrated its impact on attitudes and practices in health facilities accompanied by increased breastfeeding in the community. Implementation is through an independent organization supported by MOH, the Social Security Institute and the National Welfare Board. Activities focus on in-service training of health professionals to change hospital and clinic practices. This is supported with training community level workers such as midwives, home-visits to mothers and dissemination of a variety of educational and training materials such as posters, flip charts, and pamphlets. A documentation and information center helps coordinate and maintain exchange of information about breastfeeding and the program.

- Panama.

The Proyecto de Lactancia Materna (PLM) contains five components as follows:

- In-service training at national, regional and local levels primarily for health workers but also including other sectors that come into direct contact with mothers.
- Mass communication activities are planned through commercial advertising companies.
- Five milk banks are functioning in various parts of the country.
- An information center is run by PROLACMA a local La Leche League affiliate in Panama City. It provides some materials, document gathering, cataloguing and group activities for mothers.
- The Family and Child Welfare Office (DINNFA) in the Ministry of Labor and Social Security's User Relations Department (DRU) is working with employed women to educate them about breastfeeding and their legal rights regarding maternity leave and lactation breaks.

- Indonesia.

Indonesian health professionals have conducted a number of activities since the 1970's such as sensitization and in-service training seminars and studies on the patterns and determinants of infant feeding practices. Teams of nurses and physicians from key teaching hospitals were trained in San Diego and continue to provide training and technical assistance in-country. A national commission on breastfeeding coordinates various programs.

- Thailand.

Following the completion of an infant feeding patterns and determinants study in Bangkok in 1985 the Mahidol University began instituting changes in hospital practices including in-service training of health professionals and studies on changes in breastfeeding patterns. These are considered pilot activities for possible nationwide expansion.

- Kenya.

A national seminar held in 1985 on the findings of the infant feeding patterns and determinants study led to a consensus on revised health services policies and practices for Kenya.

- NCDDP/Egypt (Bilateral USAID project).

This diarrheal disease control project emphasizes the

importance of continuing breastfeeding during diarrhea and discourages bottlefeeding as an etiological factor in diarrhea. No technical input is available to guide these training components. Materials include a slide set on diarrhea control with a breastfeeding component. AID funded a non-government breastfeeding promotion group in 1984 (80,000 Egyptian pounds) to establish 2 lactation centers and for physician and nurse training and seminars.

- CRS/USAID/Djibouti.

OPG grant project for nutrition and ORT has planned a breastfeeding component to respond to the widely acknowledged fact that bottlefeeding is a key causal factor in diarrhea in Djibouti.

- INCAP Regional Grant.

Limited funds are available for technical assistance and training materials to support country level activities.

D. Social Marketing.

- HEALTHCOM.

This S&T/Health contract contains potential for technical assistance and implementation funds for breastfeeding support. HEALTHCOM has not yet identified any specific mechanism for assuring adequate technical backstopping of breastfeeding components although country specific programs being planned do include breastfeeding messages or mini-campaigns.

- INCS.

This S&T/Nutrition contract provided limited funds (\$10,000 or less) for in-country implementation and short-term technical assistance.

- NCDDP/Egypt.

One of the 10 messages selected for the 1985 mass media campaign includes breastfeeding. The T.V. spot consists of a mother and her infant with diarrhea being advised by a respected aunt (played by a nationally popular actress) that breastfeeding is the best type of milk for her infant because of its' anti-infective properties, cleanliness and convenience. Breastfeeding during diarrhea is also endorsed.

- Honduras.

A mini-campaign was conducted by AED and the Ministry of Health in 1982 to promote breastfeeding as part of the diarrheal disease control project. Radio broadcast material and printed materials are still in use in some areas.

- Ecuador Child Survival Project.

Breastfeeding messages are planned but no technical assistance or training are available.

E. Monitoring Breastfeeding Trends.

- Population Council.

This S&T/Nutrition contract has provided data on four countries: Indonesia, Thailand, Kenya and Colombia. There are no plans to continue AID assistance. Collaborating institutions in Thailand and Indonesia are continuing limited monitoring activities but with no technical backstopping.

- Family Health, Demographic and Contraceptive Prevalence Surveys.

Funded by S&T/Population, program activities include modules on breastfeeding and secondary analysis of data on infant feeding, mortality, fertility and contraception.

- Honduras.

USAID/Honduras assistance to the PROALMA project includes limited monitoring activities. A baseline exists from the Tegucigalpa study by C. O'Gara (1983) and from a Mass Media Health Practices evaluation by Stanford University in one rural region (1983).

- Child Survival Action Program (CSAP).

The monitoring and evaluation guidelines for this program include breastfeeding data. CSAP-funded projects in Ecuador and Haiti and Save the Children grants plan to monitor breastfeeding.

- INCAP.

The regional breastfeeding grant funded by S&T/Nutrition has limited technical assistance and funds for monitoring and evaluation.

F. Sensitization & Policy Formulation.

- Current S&T/Nutrition grants for workshops are being concluded.
- INCAP regional grant funded by S&T/Nutrition includes sensitization and planning workshops as well as technical assistance from INCAP.
- Family Health International and the Population Council fund policy-oriented research on breastfeeding and contraception.

G. Information and Education.

- Clearinghouse on Infant Feeding and Maternal Nutrition/
American Public Health Association.

This S&T/Nutrition contract has two primary components: "Mothers and Children" newsletter and the information Clearinghouse. "Mothers and Children" features articles on all aspects of breastfeeding including both research and programs. The newsletter is published in English, French and Spanish and distributed to more than 12,000 health professionals, government policymakers and program staff in developing countries. The Clearinghouse is an international center for information and materials. The Center responds to more than 3,000 information requests annually.

- International Nutrition Communication's Service (INCS).

An S&T/Nutrition contract, INCS is comprised of a number of education and communications organizations. Since 1979, INCS has provided short-term technical assistance to more than 25 countries undertaking breastfeeding promotion and education activities. In addition, INCS published a series of infant nutrition reviews and two catalogs which included extensive coverage of breastfeeding materials. INCS maintains an archive of education materials.

II. Cooperative for American Relief Everywhere (CARE)

CARE has historically supported breastfeeding as part of supplementary feeding and health education programs. There is a recent emphasis on social marketing activities.

A number of activities are underway at the country level as part of broader MCH programs. Recently an award-winning film entitled "NECTAR" was produced by the India mission which depicts a bottlefed infant of an upper-class mother suffering from diarrhea while the domestic servant's breastfed baby remains healthy. CARE is planning to strengthen social marketing activities across all program sectors

and breastfeeding is likely to be a component of MCH-nutrition. In addition to continuing activities under Title II feeding programs, a future strategy includes MCH-nutrition education as part of water projects. Current examples of countries conducting some breastfeeding promotion include: Congo, Cameroon, Sierra Leone, India, Sri Lanka, Philippines, Belize, Haiti, Peru, Costa Rica. See Annex 1 for more details.

(Contact: Dr. Mary Ruth Horner, New York headquarters, (212) 686-3110)

III. Catholic Relief Services (CRS)

A vast majority of CRS programs are based in rural, traditional communities where long-duration breastfeeding and little or no bottlefeeding are the norm. However, reinforcement of breastfeeding as the preferred method of infant feeding is a key component of nutrition and health education which is mainly conducted through face-to-face education of mothers in groups or individually.

Breastfeeding advantages are covered under general MCH and nutrition in the in-service training activities of a variety of programs. These include PL 480 Title II, water and sanitation, and new child survival activities. Countries include Ecuador, Bolivia, Indonesia, Morocco, Jerusalem, Guatemala, El Salvador and Thailand.

(Contact: Helen Bratcher, CRS' New York headquarters, (212) 838-4700)

IV. Ford Foundation

Breastfeeding is considered a priority area. Country offices have autonomy in deciding grant awards and there has been an increase in the number of grants for projects with breastfeeding components. See Annex 2 for more details. Countries and projects include: Indonesia - national breastfeeding foundation's secretariat and training for health professionals was funded; Brazil - grant to the Population Council for development and evaluation of hospital intervention programs in Sao Paulo (Dr. Marina Rea); Bangladesh, Philippines and Indonesia - social marketing activities.

(Contact: Dr. Oscar Harkavy at Ford headquarters in New York, (212) 573-4920)

V. La Leche League International (LLLI)

Breastfeeding mothers with expertise in counselling other mothers and facilitating group discussions are certified as "leaders" and provided materials support. LLLI also provides publications on breastfeeding upon request for a nominal charge. Countries where LLLI leaders are presently conducting group or individual

counselling or training include: Brazil (Maceio), Venezuela, Colombia (Barranquilla), Bolivia (La Paz), Argentina (Buenos Aires), Guatemala, El Salvador, Honduras, Mexico, Belize, Paraguay, Kenya, Thailand and India.

(Contact: Betty Ann Countryman, (317) 849-4140)

VI. Save The Children Federation (SCF)

Save the Children has targeted 10 family behaviors (including breastfeeding) for emphasis in their child survival programs. Implementation potential exists in SCF programs in the 46 countries that have health components. Their Bolivia, Ecuador, Zimbabwe, Bangladesh, and Indonesia programs have received new child survival funds which will also cover breastfeeding promotion activities. The methodology consists of registering each pregnant woman and providing pre and postnatal services including promotion of breastfeeding and discouragement of bottlefeeding. Specific behaviors to be encouraged include early suckling after birth, not discarding colostrum and TBA referral of women with problems. Hewlett Foundation funds have been provided to SCF to enhance family planning activities in Burkina Fasso, the Gambia, Honduras, Egypt, Tuvalu and Cameroon. These activities include breastfeeding as a means of fertility control. SCF is satisfied with present technical expertise in promoting the advantages of breastfeeding and in understanding the need to promote breastfeeding even at the field staff level. The emphasis is therefore on training and education techniques as well as on workshops for training of trainers. Staff have limited access or exposure to lactation management principles.

(Contact: Dr. Gretchen Berggren, (203) 226-7272 at SCF's Westport office)

VII. Swedish International Development Agency (SIDA)

Funds have been provided to multilateral agencies specifically for breastfeeding promotion. These include grants to UNICEF and WHO for studies, policy formulation and sensitization meetings, development of guidelines and manuals. In addition, the International Baby Food Action Coalition received general institutional support for work on formulating and implementing the Code of Marketing. See Annex 3.

(Contact: Dr. T. Greiner, STYRBJORNSV. 15, 12651 Hagersten, Sweden)

VIII. United Nations Fund for Population Assistance (UNFPA)

- The advantages of breastfeeding are generally covered as a component of MCH and family health programs.
- UNFPA has provided a grant to WHO's Family Health Division (1982-1989) to provide technical assistance, training, funds and

materials to promote breastfeeding as a means of fertility control. Small grants of about \$10,000 are given mainly in Africa. International meeting of WHO/NAS on breastfeeding and fertility was funded in 1983. The grant to WHO covers research on contraceptives, feeding practices, amenorrhea and fertility to develop country specific policies on breastfeeding as a means of fertility control. (country examples: Kenya, Tanzania and Brazil).

(Contact: Dr. Severyns, NY headquarters. Tel. (212) 850-5792)

IX. United Nations Children's International Education Fund (UNICEF)

Breastfeeding remains a key strategy promoted by UNICEF for child survival globally even though immunizations and ORT have taken rhetorical precedence in recent UNICEF statements on child survival. Depending upon specific country needs and opportunities, breastfeeding is promoted nationally or in localized settings. Some programs have broadened existing breastfeeding activities to MCH or PHC or diarrheal disease control programs. Grants and technical assistance continue to be given to government's and PVOs for breastfeeding.

A. Training to Change Hospital and Clinic Practices.

One of the earliest attempts to demonstrate mortality and morbidity reduction through changes in hospital and clinic practices was supported by UNICEF in Baguio City, Philippines. The nationwide UNICEF sponsored campaign emphasized this component of the Brazilian program for breastfeeding promotion. Publication and slide sets are available as training materials worldwide. Other countries that have received support are Nicaragua and El Salvador.

B. Social Marketing.

The Brazilian national program used primarily social marketing techniques to support and expand the work of health professionals, legislation, policymakers, mother's groups and other voluntary organizations involved in the campaign. A new initiative is currently being launched in Haiti, where UNICEF is funding a private sector advertising agency to conduct a mass media campaign for breastfeeding as part of the national diarrheal disease control program. Other countries where support has been recently given for campaign and education materials include: Egypt, Ecuador, Columbia, Peru, Indonesia, Jamaica, Honduras, El Salvador, Kenya, India and Dominican Republic.

C. Monitoring Breastfeeding Patterns.

Studies and analysis on infant feeding practices are funded as part of action programs such as those in Brazil, Barbados and India.

D. Sensitization and Policy Formulation.

A number of international and country level meetings have been sponsored such as the 1979 joint WHO and UNICEF meeting in Geneva that led to the development of a Marketing Code and the 1983 meeting on implementing the code. Meetings are also jointly sponsored with AID and PVOs for sensitization of health professionals, drafting recommendations for mothers' support groups, developing national norms, etc. A new initiative to generate renewed emphasis in breastfeeding is planned for 1986-87. Country offices continue to provide assistance in implementing national codes of marketing and norms for health professionals.

One of the areas considered least amenable to improvement so far is provision of adequate support for breastfeeding mothers in the workplace.

Countries receiving significant assistance include: Brazil, Haiti, Philippines, Kenya, Thailand and Indonesia.

(Contacts: Dr. Patricia Marin (El Salvador); Kathleen Cravero, Dr. Nyi Nyi, Gerson DaCunha - UNICEF/New York (212) 415-8326)

X. World Health Organization (WHO)

The Diarrheal Disease and Family Health Divisions are involved in breastfeeding promotion. Diarrheal Disease staff anticipate increased activity and focus on breastfeeding following establishment of morbidity targets in 1987. Current materials include advantages of continuing breastfeeding during diarrhea.

A. Monitoring Breastfeeding Trends.

Technical assistance provided to other agencies and to countries to develop survey instruments and modules on breastfeeding. Nine country collaborative study helped establish baselines for 1980-1983.

B. Sensitization & Policy Formulation.

Increasing emphasis is placed on the mode of breastfeeding in fertility control and diarrheal disease programs. Development and ratification of the code for breastmilk substitutes during 1980-1982 helped focus attention globally and at country level

on issues in breastfeeding promotion. Presently, technical assistance continues at country level to develop local guidelines and legislation on marketings. International meetings of experts are conducted from time to time on methodology, provisions of the code, etc.

(Contact: Dr. Manual Carballo, Geneva, Family Health Division, Tel.: 011-41-22-912-111; Dr. Elisabet Helsing, Copenhagen; Dr. Michael Merson, Diarrheal Diseases Division)

XI. World Bank (IBRD)

Nutrition projects in Colombia and Indonesia had specific breastfeeding activities. Colombia: nationwide mass media campaign in 1980-1981 on breastfeeding. Indonesia: messages included support for breastfeeding in 1982-1983 project. Jamaica: breastfeeding mass media campaign in 1978-79 was funded under population loan.

The Bank does not expect to fund nutrition only projects but will continue to support incorporation of nutrition (including breastfeeding) as a component of health and population programs such as those in India, Colombia, Lesotho and the Ivory Coast. Also see Annex 4.

(Contact: Susan Brems, (202) 676-1963)

Table 1

Breastfeeding Promotion Activities by Country

<u>Country</u>	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
<u>AFRICA</u>					
Djibouti	CRS	Part of ORT and PL-480 (II) program			USAID
Ethiopia	Univ. Uppasala	Breastmilk composition - comparative study	1975-80		SAREC
Ivory Coast	MOH	Training, slides	1985		World Bank
Kenya	Breastfeeding Information Group	Campaign on breastfeeding and weaning practices, pamphlets, posters, manuals, radio, training		48.5	Ford Foundation
Kenya	MOH, Cornell Univ., INCS	Workshop and Publication of norms for health workers	1983-85	20	AID (Nut)
Kenya	WHO	Research and training in lactation-fertility control	ongoing		UNFPA
Kenya	Pop. Council, CBS, AMREF	Baseline data	1979-85	320	AID (Nut)
Kenya	San Diego Lactation Program	Training physician-nurse teams	1984-	80	AID (Nut)
Lesotho	MOH	Campaign includes radio, posters, training, etc.	1985		World Bank
Nigeria	Pop. Council, Univ. of Ife	Sub-ethnic variations in breastfeeding	ended	196	AID (Pop)
Tanzania	WHO	Research and training in fertility control	planned		UNFPA
<u>ASIA</u>					
Bangladesh	Consumers Association of Bangladesh	Mass media, mothers clubs, education program	1984	8	Ford Foundation

<u>Country</u>	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
India	CARE	Mass media training	ongoing		CARE
India	Pereira's Information Center in New Dehli	Mass media	ongoing		UNICEF
India		Nutrition education on breastfeeding	1985		World Bank
India	Nutrition Foundation of India	Study of marketing of breastmilk substitutes and breastfeeding			Ford Foundation
Indonesia	Population Council Diponegoro Univ.	Baseline Data	1979-85	320	AID
Indonesia	FHI	Hospital practices related to breastfeeding study	1984-85	40	AID (Pop)
Indonesia	San Diego Lactation Program and Indonesian universities	Training hospital staff and changing policies and practices in hospitals, clinics	1983-86	80	AID (Nut), Ford Foundation
Indonesia	Yayasan Kusuma Buana	National breastfeeding council and mothers sup- port group	1983-85	35	Ford Foundation
Indonesia	MOH, BKPPASI	Mass media, publications, slides	1975		UNICEF
Papua New Guinea	MOH, mothers groups	Legislation, mass media, education materials	1975		UNICEF
Philipp- ines	San Diego Lactation Program and universities	Hospital practices, train- ing professionals and mothers education	1983-85	40	AID (Nut)
Philipp- ines	MOH, mothers group	Training, mass media, education materials, posters			UNICEF
Philipp- ines	Dr. Clavano	Pilot project at Bagulo Hospital	com- pleted		UNICEF
Pakistan	FHI, MOH	Breastfeeding and fertility	ends 4/30/86	24	AID (Pop)

<u>Country</u>	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
Pakistan	Medical Institutions In Sweden and Pakistan	Studies on breastfeeding and diarrheal disease prevention	1982		SIDA
Sri Lanka	MOH, local universities and clinics	Mass media, studies	1982		UNICEF, SIDA
Singapore	Mothers support group	Mass media campaign by Singapore breastfeeding mothers group	1979-82	26	SIDA
Thailand	Mahidol Univ., Pop. Council, INCS	Hospital practices, train- ing, mothers education, baseline data	1983-1985	320	AID (Nut)
Thailand	FHI and local institutions	Breastfeeding, mortality, contraception and amenor- rhea	1984-87	45	AID (Pop)
<u>LATIN AMERICA</u>					
Barbados		Study of breastfeeding practices	1985		UNICEF
Belize	Mothers group	Breastfeeding mothers support group	1985		UNICEF, La Leche League
Brazil	Development Assoc. and BEMFAM	Training TBAs and health auxiliaries	ended 8/15/84	5	AID (Hea)
Brazil	Pop. Council	Determinants of breast- feeding in low-income urban	1984	29	Ford Foundation
Brazil	MOH, INAN, state govts.	National breastfeeding program: mass media, training, seminars, publications	1980-84	500	UNICEF
Central America Regional	INCAP, MOH San Diego Lactation Program	Training, regional semi- nars, publications	1982-86	460	AID (Nut) ROCAP
Colombia	MOH, PAN	Training, education materials			World Bank

<u>Country</u>	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
Colombia	Pop Council, Javeriana Univ.	Baseline data, promotion	1979-85	320	AID (Nut)
Costa Rica	INISA	Research, training, policy, Mata Puriscal Project	com- pleted		AID
Ecuador	MOH	Training, mass media as part of child survival program	1985		To Be Determined
El Salvador	CALMA	Staff, publication, seminars, training	1979-	479	AID, La Leche League, UNICEF
El Salvador		Feasibility study for milk banks, training, educational materials	1985		UNICEF
Guatemala	National Commission on Breastfeeding	General support for breastfeeding	1983	80	UNICEF, La Leche League
Haiti	MOH	Part of national CDD pro- gram, mass media, posters, booklets, slide set	1985		UNICEF
Honduras	MOH, Dr. O'Gara	Patterns and determinants of infant feeding in Tegucigalpa	1981-85	72	AID (Nut)
Honduras	PROALMA, IMSS, MOH, INCS	Staff, publications, semi- nars, training	1982-	1,500	Govt. AID (Nut)
Honduras	MOH, AED	Mass media (radio course), training, publications	1982-83	23	AID (Hea)
Jamaica	MOH	Primary health care pro- ject component	1985		UNICEF.
Jamaica	CFNI	Training in MCH/nutrition	ongoing		AID
Nicaragua	MOH	Milk banks, training, study on early contact	1985		UNICEF
Mexico	FHI, Univ. Juarez	Breastfeeding fertility study	ended 5/31/85	20	AID (Pop)

<u>Country</u>	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
Mexico	El Centro	Training and counselling	ongoing		La Leche League, Local European Foundation
Paraguay	Dev. Assoc., IICS	Training	ended 7/31/84	7	AID (Hes)
Paraguay	Mothers group	Training and counselling	ongoing		La Leche League
Panama	INCAP, MOH	National campaign, seminars, mass media	1982-86	790	AID (Nut)
Peru	MOH	Mass media, training materials	1985	100	AID
Trinidad	TIBS	Education, sensitization, information	ongoing		Local, private sector
<u>NEAR EAST</u>					
Egypt	FHI, Al Azhar Univ.	Breastfeeding workshop	ended 9/1/84	25	AID (Pop)
Egypt	MOH, National support group	Mass media campaign, TV, posters, training centers, seminars, training courses	1983-85	80-100	AID
Egypt	FHI, Asslut Univ.	Breastfeeding and fertility study	ended 11/30/84	82	AID (Pop)
Turkey	St. Goran's Hospital, Stockholm and Bogazici Univ., Istanbul	Factors affecting choice of breast or bottle	1982		SAREC
<u>WORLDWIDE</u>					
Institutional support	IBFAN (Intl. Babyfood Action Network)	General support for network of 90 PVOs from 54 countries involved in the development and implementation of the Code of marketing of Breastmilk Substitutes	1980-82	55	SIDA

	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
Information and education	TALC and Oxford U. Press	"Lactation in Practice" (1980) by E. Helsing and "Manual on Infant and Young Child Feeding" (1982) Cameron and Hofvander		90	SIDA
Study	Pop. Council, JHU	Infant feeding decisions and contraception	ended 7/31/85	195	AID (Pop)
Study and information	WHO and local institutions	Collaborative breastfeeding study in 9 countries. Patterns, volume and composition	1975-86		SIDA/SAREC
Study	IUNS, U.S. universities and local institutions	Patterns and determinants of infant feeding in 3 countries	1979-82		SIDA, NORAD, DANIDA
Survey	Westinghouse Corp.	Breastfeeding, mortality, contraceptive use and fertility through national and demographic health surveys	1984		AID (Pop)
Study and policy formulation	WHO, local institutions	Breastfeeding and fertility patterns and programs	1984-		UNFPA and WHO
Study	FHI, local institutions	Breastfeeding patterns, timing of ovulation in 4 countries	1982-86		AID (Pop)
Information and studies	FHI, local institutions	Proceedings of "Breastfeeding and Fertility" workshop including results of 5 country study	1982-84		AID (Pop)
Information and studies	FHI, local institutions	Appropriateness of natural family planning for breastfeeding mothers	1986-	150	AID (Pop)
Surveys	Univ. North Carolina, FHI, local institutions	Secondary analysis of CPS and WFS data on breastfeeding	1982-		AID (Pop, Nut)

	<u>Implementer</u>	<u>Description of Program</u>	<u>Date</u>	<u>Cost (US\$ 1,000)</u>	<u>Sponsor</u>
Information	WHO, UNICEF	Publication of booklets on women and breastfeeding; breastfeeding and fertility regulation; Action Guide on Implementing the Code; and results of studies. Articles also appeared in WHO, UNICEF periodicals and newsletters	1980-		WHO/UNICEF
Education	UNICEF	Slides, films, manuals and guides for mothers and health workers	1980-		UNICEF
Information	POP INFORM, JHU	Breastfeeding, fertility and family planning	1981		AID (Pop)
Social Marketing	PATH and local institutions	Breastfeeding and child survival education in Indonesia and Philippines	1984-86	25.7	Ford Foundation
Information	Clearinghouse on Infant Feeding and Maternal Nutrition	Publication of "Mothers and Children," and other publications on breastfeeding, legislation and programs. Maintains library on all aspects of infant and maternal nutrition and primary health care. Established regional information center at INCAP.	1979-	650	AID (Nut)
	International Nutrition Communications Service (INCS)	Publication of Maternal Infant Nutrition Reviews (MINRS), nutrition training catalog, and a guide to mass media materials.	1979-86	435	AID (Nut)

Table 2. Level of Funding by Agency

(Estimated Annual Obligation - 1985)

AID	Worldwide: 2, 491,000 (This figure includes estimates for any and all activities related to breastfeeding in nutrition, primary health care and population programs)
CARE	No funding for worldwide or specific country activities
CRS	No funding for worldwide or specific country activities
Ford Foundation	\$75,000-\$100,000 approximately
LLLI	Under \$5,000, varies from year to year
Save the Children	No worldwide or country funding for breastfeeding
UNFPA	N.A.
UNICEF	N.A.
WHO	N.A.
World Bank	No specific funding for breastfeeding activities

Note: N.A. means "not applicable"

COMMUNICATIONS IN
BREASTFEEDING PROMOTION PROGRAMS*

Introduction

There is one goal for communications in breastfeeding promotion programs: to publicize the facts about breastfeeding to the extent that they become part of everyone's thinking and actions. The important tasks of communications in this kind of effort were stated by one of the organizers of the national breastfeeding program in Brazil as these:

Communications are involved in all the Programme's main components. Their task is, of course, to inform and to educate. But, perhaps more importantly, they must help motivate attitudinal and behavioral changes among defined groups and create a new public perception of breastfeeding. In a word, communications must promote breastfeeding.

Communications perform several separate yet interrelated jobs. They

- Create a proper climate for change by legitimating the problems associated with breastfeeding and by hastening the institutionalization of the solutions. This new climate encourages policy makers to view changes as beneficial and to take a more constructive stance toward problem and solution.

* This article is the collective effort of several individuals with experience in breastfeeding promotion efforts. The principal authors are Richard K. Manoff and Marcia Griffiths, of Manoff International Inc., and Ron Israel, of the Education Development Center. The authors draw on case studies by Stanislaw Czaplicki for the Good Mother Project in Bolivia, Gerson da Cunha for the National Breastfeeding Promotion Program in Brazil, Felipe Risopatron for the CONPAN Breastfeeding Promotion Campaign in Chile, Patricia Avila de Hails, Sonia Restrepo Estrada, and Marcia Griffiths for the Colombian Breastfeeding Campaign, Geraldine O'Leary Macias and the Costa Rican Ministry of Health for the National Breastfeeding Promotion Program in Costa Rica, Elizabeth Booth for the Honduran Breastfeeding Campaign, Ronald Parlato for the Jamaican Breastfeeding Campaign, and Hazel Brown for the Housewives' Campaign in Trinidad/Tobago.

- Serve as a vehicle to continuously train health professionals: keeping them informed of current thinking relating to every aspect of breastfeeding as well as helping to focus professional attention on the selected issues of program. At the same time, messages intended for the public also serve as reinforcers for the messages health workers are responsible for advocating to the public.
- Make the manufacturers of breastmilk substitutes and their representatives mindful of their obligation not to engage in activities detrimental to breastfeeding.
- Inform women of their rights under the law and encourage businesses to provide creches and paid maternity and nursing breaks.
- Strengthen family and community understanding of nursing mothers.
- Educate and motivate mothers to change practices or ideas that are counterproductive to successful nursing.
- Create conformity in the media by having all available media carry the same message and overwhelm any conflicting information.

To ensure that a communications program is able to play all these roles, it must be carefully designed, executed according to strategy, and sustained over time. Time -- and how it is perceived in relationship to a program -- is often a stumbling block in communications efforts. Many campaign organizers have tried to match ambitious objectives with modest budgets. The results have been far below the organizers' high expectations. Instead of the sustained effort crafted around carefully selected objectives, the outcome has often been a short, extremely intensive campaign. In several weeks (the short life expectancy of such campaigns), these efforts usually produce a surge of interest and activity, which is followed by a return to normal. Furthermore, at the campaign's conclusion, the abrupt ending of the communications activity results in a falling off of all the other activities.

The discussion that follows draws on the experience of many breastfeeding promotion programs. Some began as much as a decade ago (Trinidad and Tobago), others only recently (Brazil). Some have concluded (Colombia) and others continue (Jamaica, Costa Rica). Procedures related to motivational campaigns for primary audiences (most often mothers) are emphasized because this is where communications campaigns thus far have had their greatest success. Brazil has been singled out because it offers the best example of the synergism that ideally should occur among the different elements of a campaign. By discussing this program, the authors hope readers will understand the planning necessary to achieve that effect and also how this program mastered the lessons of earlier programs.

The authors have tried to highlight the elements and decisions that are critical to mounting a breastfeeding promotion effort. Some of the deci-

sions pertain strictly to the topic of breastfeeding, others apply to virtually any communications effort. Each of the programs evolved in its own way, in response to the receptiveness to change in the country and to the kinds of resources available. For this reason, the authors have not attempted to establish a single rigid procedure, but have indicated the crucial steps and considerations which most programmers will have to face. The goal is for these pointers to help programmers avoid problems, see new options, and act with more certainty in making their decisions.

I. DEFINING THE COMMUNICATIONS EFFORT

Establishing Good Management

Management is an important, yet often underestimated, component of the communications strategy. Managing a communications intervention is comparable in difficulty and sophistication to the management of other nutrition or public health sector interventions. Management of a breastfeeding communications program requires knowledge of staffing and procurement of services, research, creative work, media placement, monitoring, and finances. Information on existing breastfeeding promotion programs is conspicuous for its lack of data on management. Several of the case study programs (notably Jamaica) have in fact identified management as a weak link that has caused difficulties in developing, implementing, and evaluating their communications activities.

To overcome some of these problems, it is critical to have a full-time person who will direct the communications work. The best managed programs have had full-time directors whose backgrounds included both a specialization in communications and some management experience. The director may be assisted by a staff or by a contract with several agencies or a combination of the two. What is crucial is that the program have a director who is a communications specialist to ensure coordination of the communications components and compatibility between messages and dissemination patterns and the program's goals.

All breastfeeding promotion programs are faced with choices about the kind of staff and services to have and how and where to procure them. Largely it is a question of what the objectives of the program and the available funds will allow, but it is safe to say that, no matter what the focus or level of effort, a number of specializations will be called for. The experiences of the case study programs show that anthropologists or sociologists, qualitative research specialists, pediatricians, nutritionists, obstetricians, nursing counselors, artists, scriptwriters, message design and materials production specialists, curriculum designers, trainers, and evaluators are needed at different times in the development of a comprehensive breastfeeding promotion program. Staffing in most programs has tended to favor health technicians. But because most of the decisions will concern the communications strategy rather than public health concerns, it is advisable to balance expertise in public health, medicine, and nutrition with experience in communications, marketing, education, and training.

Procuring the Technical Expertise

Because of the demand for the variety of technical services needed at different stages of the program, only a few programs, like the one in Chile, have chosen to hire all experts directly. Generally technical medical and nutrition assistance needs have been met by short-term consultants and special advisory panels to offer guidance and current information, and to approve technical concepts. In Colombia, the services of a well-known and respected pediatrician were retained to help unify the professional medical community on certain key points and to sanction the messages. In Bolivia, a group of health professionals, representing different agencies, met several times to determine the technical guidelines that would be followed.

For the communications expertise -- qualitative research, creative work, production, broadcasting, etc. -- many programs have found that they must contract an outside firm. The Costa Rican program is one of the few examples where this work was done by the sponsoring institution. The Housewives Association of Trinidad and Tobago contracted with All Media Productions Ltd. (AMPLE) to produce radio spots, TV programs, and press releases. The Ministry of Health in Jamaica contracted Dunlop Corbin Compton Ltd. for advertising service and Public Relations Associated for promotional materials. The Good Mother Project in Bolivia used the social marketing services of Manoff International Inc. The Brazilian campaign enjoyed the donated expertise of the Sao Paulo ad agency CBBA.

For many, the experience of contracting with an advertising agency was new. They had to learn just what the agency could and could not do and the procedure for each step. Then a decision had to be made about which agency to hire -- which agency to entrust with the creative strategy of the program.

Due to the highly competitive environment in which full-service agencies operate, they tend to offer equivalent basic services, follow similar procedures in executing their assignments, and demand compensation for services according to a more or less standard formula. The international advertising trade press is replete with articles, most highly subjective, on what to look for in selecting an agency. But the consensus appears to be that the selection process is more art than science. There

also appears to be a consensus (more so among agencies than among clients) that selecting an agency on the basis of "speculative" creative presentations is an unsound practice for a number of good reasons.

What then distinguishes one agency from another? A partial list of characteristics might include the following:

1. The quality of the creative product; the imagination and ingenuity with which an agency translates lifeless strategies into memorable messages that the targeted audience is virtually compelled to act upon.
2. The soundness of the agency's strategic thinking.

3. The dedication of the staff to achieving the client's objective.
4. The staff's ability to construct a media plan in which every component makes a clearly discernable contribution to the communications objective.
5. The compatibility of the key personnel assigned to the account with their client counterparts.
6. Intellectual honesty -- the courage to stand behind convictions and to stand up to the client when necessary.
7. Willingness to work hard -- to become thoroughly knowledgeable about the client's business as quickly as possible; to anticipate problems and offer solutions; to discover opportunities and devise ways to capitalize on them; to always be ready to try new approaches when it appears that something is not working as well as it should.

The subjective response in selecting an agency cannot be dismissed or eliminated, no more than a subjective response can be eliminated in choosing a new employee from among several equally well qualified candidates.

The procedure in the box opposite lists the standard practices in agency selection.

Identifying the Major Communications Concepts

The communications program can be rendered ineffective from the start if its conceptualization, design, and execution are flawed. Because each stage of the project proceeds from the one before, each must be thoroughly carried out.

The program should start with arriving at a consensus with responsible health professionals concerning the major problems and the solutions that technically can solve or lessen the problems. The participation of a carefully chosen multidisciplinary team or a few highly regarded individuals in the field of health who advise and approve the technical content of the messages has been useful in the preparation of communications programs. In Chile, a handbook that carefully detailed technical concepts was compiled for health professionals and became their "Bible" on the subject. In Colombia, PAN hired a highly regarded pediatrician to review its technical decisions. However, achieving a consensus on technical matters is not always straightforward. The Bolivians reported that this is a delicate matter, requiring

strong leadership of the project from the beginning. The greater merits of nutrition [technicalities] over communications or vice versa, the problem of "authorities". . . discrepancies in the norms, and confusion [about] professional roles were frequent sources of conflict and the . . . chief culprit in delaying production of the materials. Factional differences were also to blame for overloading materials with too many messages. . .and it

was almost impossible to accomodate so many divergent opinions.

However, the Bolivian project was stronger and received much broader support because of these discussions, which involved several institutions.

Often some of the impasses among technical experts can be ended through research with the program's intended audience. This research into beliefs and perceptions can point clearly to appropriate and inappropriate technical solutions and lead quickly to the desired consensus.

Because motivation is the most important task of the educational messages, qualitative research is an indispensable tool for any breastfeeding promotion effort. Without qualitative research, it is impossible to identify the motivational components that will make the message convincing. Qualitative research is conducted with small but representative samples of the intended audience. Researchers use question guides rather than survey questionnaires because the guides are specially adapted for exploring topics in depth. The researchers are looking for the reasons for and against certain practices, not merely yes or no answers. The question guides are used in either an individual setting, where one-on-one, depth interviews take place, or in focus group interviews, which ordinarily involve five participants. These discussions help the program explore concepts, messages, and services so that ultimately what it develops will show a sensitivity to the target audience because they or people like them contributed.

Several of the campaigns relied on food habit studies in the initial research phase: notably Colombia and Bolivia. But such studies are not capable of identifying motivational clues. The Bolivians remarked on this deficiency in their campaign

the Nutrition Habits Study had two objectives: the first was to investigate prior to message design particular habits or practices; the second, to obtain quantifiable technical information. For [this project], the first objective was more important than the second. However, in trying to satisfy both, the collection of technical data impeded our ability to identify completely the motivational and conceptual information necessary for good message design.

Other experiences offer examples of the advantages of qualitative research, or — as it is called in some projects — concept development and testing (investigation that takes place before message design). The Nutrition Communication and Behavior Change Component (NCBC) of the Indonesian Nutrition Development Program was aided immeasurably by this activity. It was through the open-ended research the project did that a deviation from what were then considered traditional breastfeeding practices was discovered. The custom of Central Javanese women was to use only the left breast when nursing. Before the NCBC investigation, the leading opinion had been that the practice of breastfeeding among rural Indonesian women was trouble-free. The neglect of the right breast was identified for the first time through interviews with mothers who volunteered the information. This

insight resulted in a greater probing of the relationship between the use of one breast and the early introduction of solid foods: practices which the mothers said they initiated because their infants seemed dissatisfied with breastmilk alone.

In Brazil, a local advertising agency handled all the mass media responsibilities, which included the early concept testing. Thirty mothers of children between the ages of 4 and 10 months were interviewed for one to four hours. Half the sample were women who worked away from home. A great deal was learned about women's perceptions of breastfeeding and about the key psychological problems that shaped their attitudes toward breastfeeding. The main conclusions were these:

All the women had a basically positive attitude towards breastfeeding itself and breastfeeding for extended durations. Even those who had not breastfed their babies had a near perfect 'image' of the practice.

Mothers lacked information and reassurance on breastfeeding. This used to come from the family and the community; for a variety of reasons, it no longer does.

Initial difficulties with breastfeeding originate from two types of problems: psychological problems (feelings of inadequacy, rejection by the child, family or husband, etc.); and problems arising from a lack of information about the practice of breastfeeding (which results in ideas of weak milk, bad milk, watery milk, lack of milk, etc.).

A mother's insecurity is increased by problems encountered during breastfeeding. They confirm her feelings of inadequacy and stir up both guilt and anxiety. She now badly needs the reassurance and support that the traditional society once provided.

She seeks this support from her doctor or health center -- and does not get it. In the end, because he or she really has no solution, the doctor prescribes bottlefeeding. So social dynamics are reinforced by medical authority.

To be effective, a campaign should consistently provide: information (helpful hints, like suggesting that suction/stimulation may be the basis for success in breastfeeding); and reassurance (which passes on the idea to a mother that she can breastfeed, that there is no such thing as weak milk, etc.).

Therefore, campaigns that extol the romance of breastfeeding and say no more than, for instance, that breastmilk is "love, nutrition, and protection" can indeed be counterproductive. They would continuously dismay a mother with the normal . . . problems of breastfeeding. By increasing her anxiety, they would inhibit her . . . lactation reflexes.

The important points to bear in mind about qualitative research -- through focus group or depth interviews -- are

- Care must be taken in developing a question guide to help the focus group moderator or the interviewer. Questions should be phrased to elicit more than merely "yes" or "no" answers and should be directed to what people do, how they feel, what they think, and why.
- The moderators or interviewers need training in the technique. They must be adept at probing without offending or embarrassing. For example, in the face of reluctance or hesitation, they will need to know projective techniques, so that they can ask what someone not present would do, how that person would respond, rather than ask a respondent directly. (Example: What do your neighbors think about . . .?)
- The moderators or interviewers must be sensitive to what and how respondents answer. Sometimes the way in which things are said is more important than what is actually said for the reason that nuances of expression, mood, word choice may stimulate new directions in the inquiry or serve to reveal richer attitudinal information.
- The addition of questions to the guide as research progresses enables the program to delve into problems the staff could not have anticipated, and thus to ask new questions directly stemming from the comments of the research sample.

Qualitative research is important not only for the primary target audience but also for other groups who will be involved in disseminating information. For example, policy makers, health professionals, factory owners, etc., should be asked what they think about anything they will be asked to take action on. How much do they know about breastfeeding? What are their attitudes toward the program? Answers to these questions can help form training and public relations materials, making the difference between these people's cooperation with the program or their antagonism toward it.

II. Formulating the Communications Strategy

An objective is a goal and a strategy is the means of getting there. A program needs both objectives and a strategy, but that is far easier said than done. "Getting there" involves a series of decisions, each one critical to the next and thus to the whole.

The communications strategy is derived from the overall goals of the program, such as: 1) changing hospital practices; 2) curbing detrimental marketing practices; 3) enacting legislation for maternity leave and nursing support systems in industry; and 4) promoting the initiation of breastfeeding and an extension of the breastfeeding period.

To achieve these goals, the communications strategy will 1) develop appropriate communications materials for health professionals to use with client families; 2) mount a mass media campaign to reinforce messages delivered face-to-face and to provide motivational reminders; 3) produce promotion materials to establish a climate for the initiation of requisite legislation; 4) publicize the need for proper facilities for nursing mothers outside the home; and 5) sensitize the public to an awareness of marketing's influence and the need to regulate it.

The steps to complete the strategy are defining the audience, designing messages, selecting the media, designing materials, and pretesting the materials.

1. Defining the Audience

No more critical action can be taken than making a careful determination of the target audience(s). It is not enough, for example, to identify the target audience as women who are either pregnant or nursing. Research analysis should identify the distinctions among women under varying socio-economic circumstances. Thus, there may be two or even three primary audiences. Mothers who work away from home will require different messages from mothers who work at home. Similarly, urban and rural audiences will have different message requirements.

Secondary target audiences must also be defined. Health professionals are a good example. Usually members of this group are engaged in educational activities of their own. The messages that reach them from the campaign are in most cases the ones that were written for the primary target audience. Greater impact and effectiveness could be obtained for the program by wooing this audience with messages designed just for them. The benefit would be that the health professionals will have been enlisted in carrying the program's messages to the primary audience, thereby reducing sources of conflicting information.

Policy makers are another secondary target audience. A communications campaign can effectively sensitize them to the need for social policy to help strengthen the conditions conducive to breastfeeding promotion: changes in hospital practices or legislative action to help support pregnant and nursing women who work outside their homes.

Other target audiences have been identified for special messages. In Chile, for example, one of the target audiences was family members who made up the immediate support network of nursing mothers.

Other countries, like Colombia, have isolated media representatives and teachers for special communications.

It should be clear that programs will always have to plan on addressing several audiences, any one of which may require its own set of messages.

2. Designing the Messages

No part of a communications program is more important than the message. Message design calls for strict adherence to a set of well established principles:

- The message must be appropriate for its target audience in terms of language, custom, tone, and empathy.
- It must have a single concept and be clear in both the idea and the action(s) to take.
- It must address the "resistance points" uncovered in the qualitative research, persuasively arguing to dissolve the resistance and to motivate the target audience to make the desired change.
- The solution presented in the message must be practicable on a local basis, with locally available materials and within the capability of the target audience.
- The message must be tested for comprehension, clarity, compatibility, language, cultural values, etc. -- and revised and tested again to assure its appropriateness and effectiveness.

The message can be thought of as having two components: the recommended action, or change, and the motivational statement. The factual information -- parts of the message addressing the behavioral or knowledge objectives -- usually receives the most attention and needs to be stated explicitly. The listing of major messages by the Chilean and Bolivian programs illustrated this well. For example, they listed the following: 1) begin breastfeeding immediately after birth; 2) give your newborn colostrum; 3) breastfeed your baby as often as possible. However, in Brazil the facts were combined with attitudinal and motivational phrasing because the communications staff realized it needed to provide "helpful hints" about breastfeeding as well as reassurances for mothers to overcome the psychological barriers (i.e., "lack of confidence").

When it is time to formulate the message, the program must bring together the technical (communications) and scientific (health expertise) with what the audience's insights (i.e., what mothers have said). The mothers' words can be used in the messages as long as care is taken to eliminate misunderstandings. When the major messages have been agreed upon, they can be used as the basis of briefs for the creative team. In Trinidad and Tobago, the major concepts program managers wanted to convey were written into a brief for their advertising agency.

The same degree of care should be taken in designing the messages for secondary audiences if the program is to motivate all the identified target audiences. The object is to make all of them better promoters of breastfeeding. The messages for health professionals and policy makers should not merely present technical facts but should address the resistance they may have to new information.

3. Selecting the Media

Materials should never be confused with the media required to deliver them. This is a common error in communications program planning. Omitting careful thought to media selection leads to the production of materials that are never used because the media are inappropriate. A flipchart, which is sometimes looked upon as a medium for a message, is in fact a material, which executes the message but does not deliver it. The medium for such a material would be a health worker or other appropriate person to deliver it at the right time and place to its intended audience.

Similarly, a film is a material, not a medium. A film needs a movie theater or a television station to reach the audience. A radio or a television station, a theater, a newspaper -- these are all media. Careful attention must be given to how these media are selected in terms of the target audience to be reached and the nature of the messages to be delivered.

Having this information is why the media habits of the target audience must be studied. In the case of the mass media, this means ascertaining which radio and television stations are the most popular, which programs reach the highest percentage of the desired audience, and which times of day or night are best suited for the campaign's purposes. In some countries, audience measurement data are available. In Brazil, for example, such information was available to advertising agencies. This enabled the program actually to calculate audience reach, to plan for it and to arrange for time slots on radio and television stations reaching the greatest proportion of the audience.

However, in Colombia, PAN found that the audience surveys were not always reliable and that the statistics offered by radio or television stations were even less reliable. For example, they were led to believe that the educational station had a large audience. In fact, they found that although the station was powerful, it was not popular. This is not an anomaly. The commercial channels with their popular programming tend to be the preferred channels, and though time may be more readily available from educational channels, they may not produce enough of an audience to satisfy the requirements of the campaign. The Colombian program's managers suggested that programs attempt their own surveys, or at least soundings, concerning the most popular stations, programs, and times.

In countries with data that are unreliable -- or even nonexistent -- efforts can be made to ascertain audience preferences and size in the course of the initial research simply by including questions on media habits. The results of such inquiry will at least provide an indication for decision making and help to reduce wasted efforts, such as airing messages at wrong times, in wrong programs, and to the wrong audiences.

Obviously, the best media strategy is to make use of all available channels of communication to the extent affordable. The mass media alone cannot accomplish the full objectives of breastfeeding promotion nor should there be total reliance on face-to-face communications. They supplement and support one another and together create a synergy that is indispensable to campaign effectiveness. The program in Brazil discovered

[t]he importance of the interpersonal channels of communication provided by the health services themselves and by the women in church organizations, the volunteer and semiofficial groups, above all by the mothers' breastfeeding groups with the program is increasingly working. But these highly specific and intensive personal communications have needed the 'umbrella' and facilitation of the mass media -- these, used not just as journalism, but also as advertising of the value of breastfeeding.

Mass media offer the great advantage of direct contact with the intended audience. The opportunities for distorting the message are reduced because there is no intermediary. Another advantage is cost: by reaching a large segment of the audience, the frequency with which they can receive the message is increased and the cost per contact is reduced quite considerably. However, despite the merits of the mass media, the managers of most programs noted that the face-to-face contact was extremely important. In Bolivia, the program manager said that the interpersonal component was essential and more effective than the mass communications. In Chile, the two seemed to work well together. There the program managers noted ". . . success with mass media was greatly increased [when] there was an interpersonal communications program already in place . . . [but] it is necessary to ensure message harmony between the two."

The determination of who will deliver the interpersonal communications depends on the responsible agency. In Jamaica, where the campaign was under the direction of the Ministry of Health, the maternal and child health and family planning structures were used. In Bolivia, use was made of Mothers' Clubs, and in Colombia and Brazil a variety of different groups was enlisted because they were already involved in related programs.

The major constraint facing the educator who seeks to use the mass media, especially radio and television, is the difficulty in obtaining access on a public service basis (which requires no payment). Without media cooperation, costs can be prohibitive. But often, when time is secured on a no-payment basis, the group placing the program cannot ask for special time slots or for a set number of slots per day.

The insistence on obtaining free public service time may mean that the programs will not be aired. The Colombian program faced this dilemma and developed two strategies for tackling it. The program wanted spots on major networks and on small, local stations. Preferring to pay for air time because that would guarantee their voice in programming, the staff undertook negotiations with both types of networks and small stations. However, they found they could still not afford the full cost. A PAN representative described the experience in this way:

[G]ood personal relations were vital with the sales managers of the larger stations, as was their conviction about the excellence of the campaign. To have both, we had long discussions with them about the campaign's objectives, the benefits the campaign would bring to the less fortunate classes of the country, and the importance of radio's contribution to solving one of the nation's problems. On the practical side of these discussions, we talked

about the Special Tariff as well as the broadcasting needs of the campaign, the number of stations that would be contracted in each broadcasting network, the number of daily spots we would need, and the nine month period of transmission.

. . . Discounts of 70% in the transmission tariffs obtained for all the broadcasting stations, which were the highest discounts given to any government program by commercial stations in Colombia.

The second problem was how to contract smaller, isolated stations. This was settled on a case-by-case basis. On some occasions, we did this through the representatives of the National Plan's network headquarters or through the personnel in the branch offices closest to these remote radio stations. When this became an impossibility, we simply negotiated with the stations by mail or by telephone. Although this contact might not seem important, without it the execution of the campaign would have had many more obstacles. One of the networks was an exceptional collaborator and its representatives told us how pleased they were to have been chosen to participate in the campaign. On the other hand, there were stations which sought to gain by the circumstances and increase their profits.

4. Designing Materials

In almost every case, the work on producing the materials was contracted to an outside agency. Only in Costa Rica were the materials produced in-house. Even though this creative work may be contracted, it is important that it be carefully supervised, so that the material will retain the tone and convey the major messages of the program. Artists who have been called in at the time materials are designed often are too artistic, too abstract, or too stylized for the less sophisticated audience. Many problems can be eliminated if clear instructions are provided and frequent meetings are held between program staff and the artists and writers. Of course, drafts of all materials should then be pretested with the audience before the materials are considered ready for final production.

Care in the execution of the materials means not only that the resulting materials are clear and understandable but believable. For example, if the strategy attempts to reconcile the "wisdom of the generations" with scientific evidence, as it did in Chile, then the voices representing the older generation and science, respectively, must be convincing. The Colombian program contracted well known radio voices to record the spots, only to learn that one of them, the announcer who had received the "Best Voice Award," was associated with various commercial products, which made him unconvincing to the target audience as the doctor who promoted breast-feeding.

Harmony is important to a program's materials not only in terms of compatibility of content, but also in appearance and sound. A "family look" to all the materials produced for the campaign enhances the impact of each piece. In Bolivia, the "Buena Madre" Maria was a figure who was

featured in posters and on the radio and added personality to the campaign. In Colombia, all the materials carried the PAN logo.

5. Pretesting the Materials

The importance of pretesting the materials with the audience has already been noted. It is one more opportunity to refine the communication that will be delivered. Managers of the case study programs unanimously agreed that pretesting was indispensable to producing effective materials and preventing gross errors.

Pretesting is done to ensure that the materials are:

- Understandable.
- Memorable.
- Persuasive.
- Culturally relevant.
- Practicable.

Similar to the sample taken for concept testing, the sample for pretesting can be small: the pretest sample in Brazil consisted of only 50 mothers. Usually a finished draft of the print material or spot is tested in isolation. The graphic and written portions are tested separately and together to determine if one detracts from the other. However, more sophisticated techniques can be used, as they were in Colombia, where the breastfeeding message was inserted between advertisements for several commercial products, and the mothers' recall of this spot was tested. Several alternatives should be tried. Brazil tested two slogans; Chile tested four short programs and sought to retain and perfect only two.

Pretesting can help select elements in the appearance or setting surrounding the characters that are more convincing than others. For example, a pretest of posters in Indonesia showed that even though the women in the pretest sample wore a head covering in the traditional manner, they chose a drawing of a woman with an uncovered head for the program's posters because they thought such a woman would be more receptive to, and thus better able to represent, modern ways of feeding infants.

Pretesting in Colombia indicated how easy it is for messages to be misinterpreted.

The program decided to have a message encouraging women to begin breastfeeding within the first three hours after the birth of the baby. . .[W]hen it was tested, approximately half of the mothers understood that the child was to be put to the breast after three hours.

In Brazil, two themes and several messages were tested.

The end judgment was that a combination of both themes would work better than either one on its own. Interestingly, the pretest discussion bore out the validity of the earlier, qualitative research: the need to demystify breastfeeding. The TV/radio commercials, of 30 seconds each, present the realities of breastfeeding, but through the testimonials of leading TV and film personalities, the captain of Brazil's World Cup soccer team, etc. These personages, while candidly admitting difficulties ("I wasn't sure I could. . ." and "Look, I was a bit jealous of my own son. . ."), urge mothers to persist, as they did. The payoff is always "Breastfeeding The Six Months Worth a Lifetime."

One interesting outcome of the pretest was the use of billboards. "We've reached a point," said a mother in one discussion group, "when we feel shy to breastfeed in public. Why don't you put up a big poster, out on the streets, showing a barebreasted woman breastfeeding? It would give us all heart." The Programme went out and did just that.

III. IMPLEMENTING THE STRATEGY

The implementation of the strategy and monitoring progress are two vital functions of the program's management. There are some special issues about program implementation which are suggested from past experiences. They are communicating with those in key positions to ensure coordination and goodwill; assuring reach and frequency of media; coordinating the delivery and use of project support materials; and coordinating local and national implementation.

Communicating Within the Program

The first step the program in Brazil took was to influence the policy makers and encourage them to take a positive stance toward the campaign. A special audiovisual presentation was made to secure their support. Later, two manuals summarizing the content of the audiovisual presentation were made for community leaders. In Colombia, two editions of a newsletter were printed and addressed particularly to policy makers with information calculated to achieve a positive response. Efforts elsewhere relied primarily on meetings and seminars with selected officials.

Most programs have discovered the "inside task" of communications to keep health professionals and other change agents informed about activities and progress. This effort serves both to motivate this audience and to unify various professional activities.

All the campaigns in our case studies produced special materials for health professionals and also arranged for special training on behalf of the campaign. Bolivia broadcast a 10-minute weekend radio program for health workers. Colombia produced a magazine-style booklet for doctors. In Costa Rica, seminars with health professionals focused almost exclusively on hospital practices and provided a major motivation for improvements in that

area. Brazil developed a bulletin for pediatricians and a flipchart for presentations to health workers.

The importance of media people themselves as a target audience should also be considered. In Brazil, Trinidad/Tobago, Chile, and Colombia, seminars and workshops were held for media representatives to familiarize them with the breastfeeding situation and the need for their cooperation and support. Colombia held a special seminar for media professionals to present the entire campaign together with media plans.

Coordinating Face-to-Face Education with the Mass Media: Training and Other Considerations

A communications effort is most effective when interpersonal communications are supported and even guided by the mass media. Most program managers agree that it is advisable to train health workers and others with educational responsibilities before the mass media campaign is aired. Chile, Colombia, and Bolivia all attempted to do this. The Trinidad/Tobago effort, of course, relied completely on mass media, while in Brazil they began with a brief mass media drive before initiating any training to stimulate policy makers and to build public awareness.

Colombia and Bolivia devoted a good deal of effort to training community workers in how to communicate effectively with the public. The training stressed techniques to draw mothers out in discussion groups so they would speak freely of their experiences with breastfeeding and of the feasibility of modifying unfavorable practices. Managers of the Colombian program reported the need for continually reinforcing these skills with the change agents throughout the program's implementation.

Assuring Reach and Frequency

A mass media campaign will only be effective if it saturates a given audience (reach) at regular intervals (frequency) over a sustained period of time. The steps for ensuring good reach and frequency are: 1) defining the target audience, 2) identifying the media to reach it, and 3) identifying the prime time(s) for reaching the audience repeatedly with each medium. Perhaps the most effective use of mass media to promote breastfeeding to date is Brazil's. This program's 10-month series of radio and television spots reached 80% of the target audience in 15 cities. Six million women in each city had a mean of 150 opportunities for exposure to campaign messages.

Coordinating Delivery of Support Materials

Project support materials must arrive on time, and should be accompanied by brief instructions or a schedule. An evaluation of the Jamaican Ministry of Health/World Bank breastfeeding promotion program was critical of the material distribution aspects of the campaign. Some of the materials produced (posters, flip-charts, stickers) were never distributed, and slide presentations in movie theaters did not follow the schedules.

Local and National Implementation

Rene Dubos once said: "Think globally. Act locally." This advice is appropriate for communications planners, who must constantly keep in mind the need to relate all elements of the campaign to local circumstances and conditions.

The need to do this in Brazil was all the more pronounced because the implementation of the campaign was left to local state governments. The federal government provided stimulus, technical information and assistance, and some funds. But the actual execution of the campaign was the responsibility of the local governments and had to be tailored to their needs and capacities. The same was true in Jamaica, but in that case the need was to tailor all the actions to the individual capabilities of community organizations. A midterm evaluation was critical of the lack of involvement of local groups and the fault was attributed to the rigidity with which the program insisted upon central control.

Supervising and Monitoring Implementation: Tracking Studies

If the progress of a program is to be assessed, a system of periodic measurement is needed. Few of the breastfeeding promotion programs to date have approached supervision and monitoring systematically. Because it is obvious that some measure of impact will be needed, it is advisable to conduct a baseline study before implementation begins so that future tracking studies will be able to measure the program's results. Both Colombia and Brazil did this. Brazil chose two cities and surveyed a total of 1,000 mothers and 200 health professionals. Periodic tracking studies returned to these respondents. In Colombia, a baseline study and midterm review were conducted with 570 mothers and 70 health workers. Unfortunately, the results of the study were not fully analyzed until after the campaign ended.

Baseline and tracking studies are traditional, quantitative studies designed to measure shifts in attitude, knowledge, and practice with respect to the key elements of a campaign. These surveys are not to be confused with the qualitative research described earlier, whose purpose is not to quantify attitudes, knowledge, and practices but to delve into the specifics of and reasons behind the statistics.

In addition to following the effect of communications on the target audience, radio and television stations should be monitored to assure their adherence to broadcast schedules. Community workers should be interviewed to understand more about the thoroughness of their training and whether additional materials or training would help them perform more effectively. Most programs have used their own staff for this job. However, in Trinidad/Tobago, outside professional assistance from an ad agency was sought to monitor field workers.

Jamaica's midterm evaluation revealed management problems that resulted in the program's hiring a full time coordinator. In Brazil, monitoring was carried out continuously, and a tracking study was conducted on all aspects of the program in 1984. Costa Rica chose to monitor changes biannually.

Finances

Budgeting for a communications program helps provide the parameters for deciding the priorities. The goals and objectives for a program have to be measured and justified in terms of a set amount of funds. Too often such programs are described in terms of numbers of various materials to be produced later. Successful programs have struck a balance between what research findings say is justified and what the budget will allow.

Startup costs are usually high because prototype messages and materials have to be developed, staff and field workers need training, and the program demands a certain amount of promotion to gain recognition. Quite often, startup costs are met by donor agencies. When donor funding comes to an end, programs confront the problem of institutionalizing support. Few countries have managed to do this well. Brazil is a notable exception. After three years of funding support from UNICEF, Brazil's Ministry of Health picked up most of the continuing costs of promoting breastfeeding. Other countries, such as Trinidad/Tobago, always relied strictly on local funding (government and non-government). The table shows available budget figures for eight countries' breastfeeding promotion campaigns. Available figures are matched against source of support and materials produced.

Media time is another major financial issue. Campaigns that decide to depend on mass media face the problem of either huge demands on their budgets or the problem noted earlier of getting inadequate broadcast exposure. If time is donated, the time slots may well be those no one else will take. The same holds for programs that attempt to stretch slender budgets: often the cheaper time does not coincide with audience preferences. Prime time can be extremely expensive. The Colombian program ended up spending close to Colombian \$16,730,000, or 66% of its mass media budget to purchase time for its radio and TV spots.

Very often it will be in the project's best interests to invest resources in an effort to convince the media of breastfeeding's importance to the country. The Housewives' Association of Trinidad/Tobago hosted a special press party to inaugurate its campaign. Brazil's efforts in this regard were so successful that over eight months Brazilian TV stations donated of US \$500,000 in air time.

Continuity of the Program

Tracking studies will produce insights into the need for restructuring the program, modifying messages, shifting emphasis to new concerns, etc. A breastfeeding promotion program must be responsive to changing conditions in the market place and, if anything, to the progress of its own efforts.

There is an important function for midterm reviews to play in contributing to continuity, because they can examine the relationship of the breastfeeding promotion effort to other programs. A breastfeeding promotion program probably should not be separated from other ongoing efforts in the community. It is an essential element of primary health care and in that sense ought to be integrated with the family planning, oral rehydration, and other current community health programs. An excellent example of how

this was done is the radio course on breastfeeding for the Honduras program, which was part of the National Diarrhea Prevention Program. This program took on a breastfeeding component because its planners considered breastfeeding crucial to the control and prevention of diarrhea.

Unfortunately, the words 'campaign' and 'promotion' suggest limits on time. Such limits applied to the promotion of breastfeeding would be most unfortunate. Considering the fact that new mothers are entering the population every day over every month of every year, it becomes obvious that the need for continuing education and motivation on behalf of the practice of breastfeeding is as insistent as the need for continuing education on other urgent social and health matters in schools, hospitals, and health centers.

For this reason, the concept of a fixed time period to promote breastfeeding is damaging. Those in charge of such campaigns must make clear from the outset the need for continuing education about breastfeeding through all the channels of public education.

COUNTRY	PROGRAM	DURATION	BUDGET/SOURCE	MATERIALS	DONATED COSTS
Bolivia	Good Mother Project (Included more than breast-feeding)	Jan 80-May 82	US\$60,000	a) Radio spots b) Radio stories c) Flipcharts d) Manuals e) Posters f) Recipes	
Brazil	National Breastfeeding Program	Mar 81 -	US\$320,000 UNICEF (UNICEF budget)	a) 5/30 sec. TV & radio spots b) Flipchart for health workers (5,000) c) Health education booklet for mothers (1.5 million) d) 2 manuals for community leaders (70,000) e) Pamphlet for doctors (20,000) f) Slide-sound set for health professionals g) Slides and bimonthly bulletin for mothers' clubs h) Bulletin for pediatricians	US\$500,000 in air time
Chile	CONPAN Breastfeeding Campaign	Oct 81-Oct 82	US\$90,000 USAID	a) Manual for health workers b) Notebook for mothers c) Poster d) 8 TV spots	

COUNTRY	PROGRAM	DURATION	BUDGET/SOURCE	MATERIALS	DONATED COSTS
Colombia	Colombian Breastfeeding Campaign	1979-1980	US\$1,507,000 World Bank	<ul style="list-style-type: none"> a) 15/30 sec. radio spots b) 10/1 min. radio spots c) 1/45 sec. TV spot d) Mass media documentary e) 3 sound-slide shows for mothers f) 2 direct mails of bulletins g) Newspaper articles h) Handbook for health professionals (10,000) i) MOH breastfeeding norms j) 2 bulletins for participating agencies (20,000) k) Nutrition book (2,200) l) Flipchart (5,000) m) Manual (7,000) n) Game o) 2 posters (100,000) p) Stickers q) Pamphlets for mothers r) Mothers' workbook (25,000) 	

COUNTRY	PROGRAM	DURATION	BUDGET/SOURCE	MATERIALS	DONATED COSTS
Costa Rica	National Breastfeeding Promotion Program	J1975-1979	U.S.\$6 million USAID	<ul style="list-style-type: none"> a) 2 Flipcharts for health workers b) Game c) Magazine (16 editions, 100,000 each) d) 3/15 min. slide-tape presentations e) 1/5 min. radio program f) 1/20 min. radio program g) Several 30 sec. TV spots h) Primary, secondary, university, nursing curricula 	
53 Jamaica	Jamaican Breastfeeding Campaign	1977-1979	US\$669,686 World Bank	<ul style="list-style-type: none"> a) Newspaper articles b) 19 billboards c) Metal signs (1,000) d) Food group chart (2,000) e) Stickers (1,000) f) Calendars (36,500) g) Brochures (700,00) h) Film i) Flipcharts (25,000) j) Exercise book covers (50,000) k) Wallets (50,000) l) Game (25,000) m) Coloring Books (25,000) n) 30-sec. radio & TV spots 	

COUNTRY	PROGRAM	DURATION	BUDGET/SOURCE	MATERIALS	DONATED COSTS
Trinidad/ Tobago	Housewives' Campaign	May-Aug. 74	US\$650,000 HATT	a) 6/15 min. radio b) 20/5 min. featurettes c) Press releases d) TV talk show e) 5 newspaper ads f) 3/15 sec. radio spots g) 3/30 sec. radio spots h) TV time card i) 7 Newspaper cartoons j) Press kit	Free air time from TV & radio stations

AN APPROACH TO EVALUATION FOR BREASTFEEDING CAMPAIGNS

By
Robert C. Hornik

Introduction

It is my impression that evaluation of breastfeeding campaigns is rare and that when it is undertaken it is generally not helpful to the project concerned or to institutions considering future campaigns. In these few pages I will try to deal with that problem constructively, making the following points.

a) Focus on narrow "did it work?" questions, in isolation, is likely to be unproductive for most breastfeeding campaigns. The institutions which fund and operate programs can rarely use the answers to simplistic effectiveness questions.

b) There are a very large number of productive questions which an evaluator might wish to answer in order to help a program operate. Defining the possible questions to investigate and then choosing among them is no less a responsibility of the evaluator than choosing the research methods for obtaining answers.

c) One productive approach to defining questions includes the explicit statement of both an operational model and a conceptual model for a program.

d) Choosing which questions to answer will involve considerations of (i) possible leverage that knowing the answer to a given question will have in project operations, (ii) prior knowledge of where trouble is likely to be found in a project, and (iii) the feasibility of obtaining a credible answer to a question in a timely fashion.

e) Choosing methods for answering chosen questions must be done in the light of scarce evaluation resources. Tradeoffs between the credibility of answers to one's questions and one's ability to answer more questions less confidently need be considered.

In these comments I am concerned only with evaluation designed to help a program function more effectively. That is the appropriate place for a project to spend its scarce evaluation resources. However, this evaluation activity is distinct from, and may or may not contribute to, the evaluation concerns of an international planning and funding agency like USAID. If USAID wants an answer to its policy concerns, "is this an appropriate use of scarce foreign assistance funds?" and "under what conditions do breastfeeding campaigns work?" the evaluation approach will be rather different.

In the section of the essay which follows, I will present the general logic of the approach outlined here. That essay precedes an appendix which addresses a series of evaluation issues often faced in breastfeeding campaigns.

"Did It Work?" Evaluations Do Not Work

Much evaluation has been a waste of time. One can say this even if one is about to argue, as I am, in favor of an evaluation component for breastfeeding campaigns. The waste is not the result of poor technical work by evaluators, although that is often a problem. Rather, evaluations are a waste of time because they are so often based on a technocratic understanding of the way programs are hammered out. They focus on the big issue, "Did the program work?" and try to provide an overall judgement about effectiveness. In doing so they assume that program management is free to make major changes in a program given essentially technical considerations. If they know an activity failed to reach its specific goal they can cancel it or redo it.

Yet when we take off our evaluation hats we know full well that most public programs are political programs whose structure and even operations are worked out in negotiations among concerned constituencies. Once the money has been spent, the people hired, and the participating institutions are accruing benefits, flexibility is likely to be limited. The leverage of information about effectiveness, particularly if it is negative information, is going to be constrained.

No program which works politically is open easily to major transformation on the grounds that its effectiveness is not well established. Also, in the case of breastfeeding campaigns which may have limited duration, effectiveness information is unlikely to be available before all resources are expended.

However, an admission that overall effectiveness evaluation is likely to prove unproductive is not the same as rejecting all evaluation activity. Cronbach et al. (1980) define evaluation as "any systematic examination of events . . . conducted to assist in improving [a] program" (p. 14). It may turn out that a particular program, although substantially closed to major transformations, may use some evaluation results productively. Despite historical emphasis on "did it work?" questions, that is only one of a very large number of questions one may ask about a breastfeeding campaign. And the answers to some of those questions may turn out to be useful to ongoing programs.

What Questions Are There?

The evaluator has two major tasks: deciding what questions to answer and deciding how to answer them. It is the skill at the second task, that of research design, which is most often admired in evaluators. Yet it is skill at the first task, choosing what is worth answering, which is more rarely found. It requires not only technical training in research logic but also a thorough understanding of the structure of a program and in the substance of the problem addressed.

The first step in choosing questions is the generation of a list of potential questions. One systematic approach to organizing such a list makes use of explicit conceptual and operational models for a project. As the following example will illustrate, they can be used to identify issues worth examining.

Imagine a training program for hospital staff designed to change the advice and treatment vis-a-vis breastfeeding commonly given to mothers immediately post partum. Such a program might expect to increase the proportion of mothers breastfeeding when they leave the hospital and extend the duration of breastfeeding afterwards.

Such a training program, explicitly or implicitly, contains an underlying conceptual model about what hospital staff know and do and why they do it and why mothers breastfeed or not. The simple schema of Figure I details one statement of such a conceptual model. It suggests that if nurses are given retraining they will improve their knowledge and attitudes about how best to encourage breastfeeding. If knowledge and attitudes are changed, the model assumes that relevant practice in the hospital will change as well. Finally, the model suggests that change in hospital practice will affect what mothers actually do with regard to breastfeeding.

The statement of such a conceptual model immediately raises questions for the evaluator, questions that can be addressed even before the project itself is underway. For example, implicit in the notion that training will affect knowledge about appropriate practice ([2]) is an assumption that current knowledge is inadequate. Is it the case that nurses do not know what they ought to about breastfeeding? Are they unaware of the advantages of breastfeeding over bottlefeeding? Are they unaware of the risks of giving newborns sugar water before the mother's milk supply is established? What is pre-project knowledge among those to be trained? Is the assumption of poor knowledge justified?

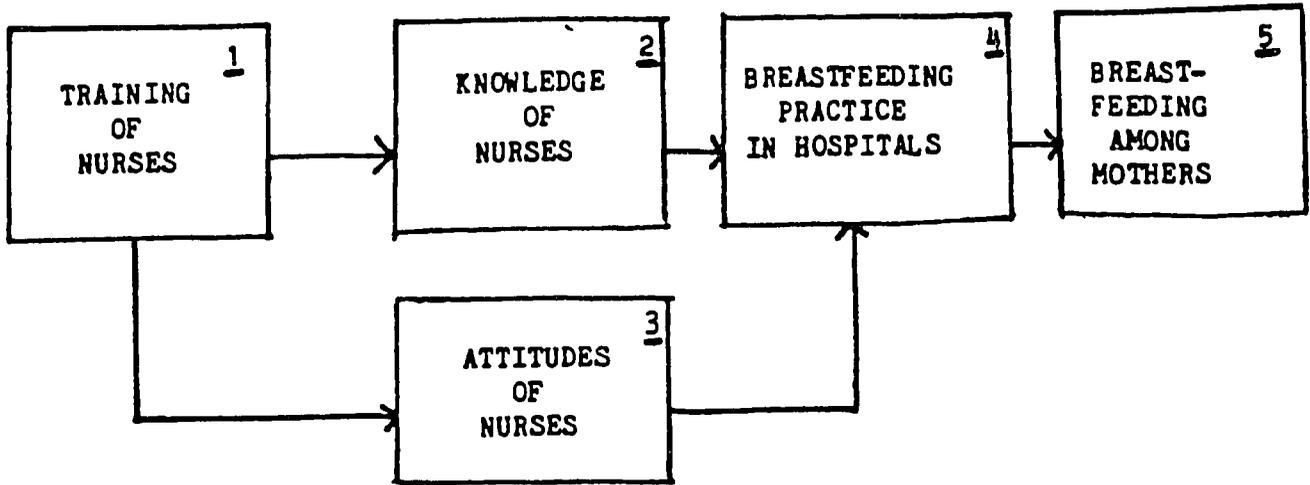
A second assumption of the model is that knowledge (and attitudes) are major determinants of current practice, that if only one could improve knowledge among hospital staff, changed practice would follow ([2]→[4]). But is it true that nurses with better knowledge, now, are practicing better? Is the assumption that knowledge has a substantial influence on practice reasonable? Or is current hospital practice explained not by nurse's knowledge but by other factors, for example, hospital rules about rooming in and feeding of newborns, by the extra burden on nurses associated with providing opportunities for mothers to breastfeed, or by mothers' disinterest in breastfeeding.

On the basis of Figure I, the evaluator can generate a list of research questions whose answers can help define the promise of a training project and can help in planning it. There are descriptive questions which ask what is the state of affairs currently with regard to an element referred to in a box (e.g., What is the current hospital practice vis-a-vis breastfeeding [4]?). And there are causal questions about the links between two elements of the conceptual model (e.g., Does changed knowledge among nurses lead to changed hospital practice [2]→[4]?). The more confident a project is about its fundamental assumptions, the less likely it is to follow an unproductive strategy. The evaluator's tests of those assumptions can be of great value, in particular because they will be available before the project design is set.

Just as a conceptual model helps define questions to be asked as a program is being planned, an operational model of a program can stimulate questions to be asked about an ongoing activity. Figure II illustrates a hypothetical operational model for the hospital staff training program. It

FIGURE I

CONCEPTUAL MODEL: WHY NURSES DO OR DO NOT SUPPORT BREASTFEEDING EFFORTS OF NEW MOTHERS, POST PARTUM



begins with activities related to recruitment of trainees: program managers arranging with hospital administrators for assignment of nurses to a one-week course [A] which is said to lead to actual assignment of nurses [B] and then registration of nurses [C] on day one of the course. In a parallel track, activities related to preparation of a one-week training course, including hiring of trainers, development of curriculum and logistical arrangements are also expected to occur [X].

The recruitment and courses preparation activities, in turn, preceded the actual course activities, including attendance [D] which leads to learning of new skills [E], and intention to change practices [F]. Proximate outcomes of course attendance should include both immediate (the week of return to the hospital) [G], and longer term (six-month delayed) [H] practice change. In this model it is assumed that some nurses who are not trained will learn the new practices from trained nurses and change their practice also [I].

Changed practice of nurses is assumed to be linked to changed knowledge, skill [J], and practice among mothers [K] in the hospital. In turn in-hospital practice is expected to lead to out-of-hospital extension of mean breastfeeding duration [L].

Clearly this model of project operations is a relatively undetailed one. Each of the activities described in a box could be broken down into many more sub-activities. However, it allows us to illustrate just how such an operational model, at any level of detailing, can be used to generate potential questions for the evaluator.

Each box represents an activity which is supposed to take place if the project is to work. As such it is a project which can be monitored. Do hospital administrators assign nurses to the course in appropriate numbers and according to the proposed schedule [B]? What proportion of the nurses who have undergone training intend to practice in recommended ways when they return to the hospital [F]? How many nurses actually give sugar water bottles to newborns six months after completion of the course [H]? What is the average duration of breastfeeding among mothers six months after staff training has begun [I]?

Monitoring research of this sort does not permit direct attribution of success to the program. Change in breastfeeding duration could be the result of external-to-the-project activities also, for example. However, knowledge about success or failure in actually undertaking expected activities or in achieving expected states of skills or practices can be invaluable. It provides a warning about possible problems in operations. It suggests where more careful examination of a particular component is justified.

More careful examinations will involve verification of the link between the elements found in each box of the model. Does hospital administrator assignment of nurses to training actually lead to their attendance at the training course [B]-->[C]? Does changed nurse practice at the week of return from the training course related to practice six months later [G]-->[H]? Do changes in nurse practice actually lead to changes in mother's initiation of breastfeeding [H]-->[J]? While the monitoring questions describe the state of affairs, these questions about links seek verification of effects of project activities. If a project undertakes an activity, will the consequences expected in the operational model actually occur as a result?

As the result of the stimulation provided by the creation of conceptual and operational models, the evaluator should have at hand a very long list of potential questions. And that long list can be extended (and often ought to be) by more detailed looks at each stage in a model, or by studies of the interactions surrounding project operations--what level of success is achieved by what types of training situations with what types of hospital staffs working in what types of hospitals with what types of mothers?

However, no matter how long the list, evaluation resources are scarce and have to be allocated among questions. Some questions may be answered fully, some only in part and some not at all. The evaluator's next task is to choose among questions those that deserve attention. This will be an ongoing process and responsive to the evolution of the project itself.

Choosing Evaluation Questions

Seeking truth for its own sake is to be admired and should be supported, but not on a slim internal-to-the-project evaluation budget. Using each of the following guidelines may help an evaluator in choosing how to expend that budget most productively.

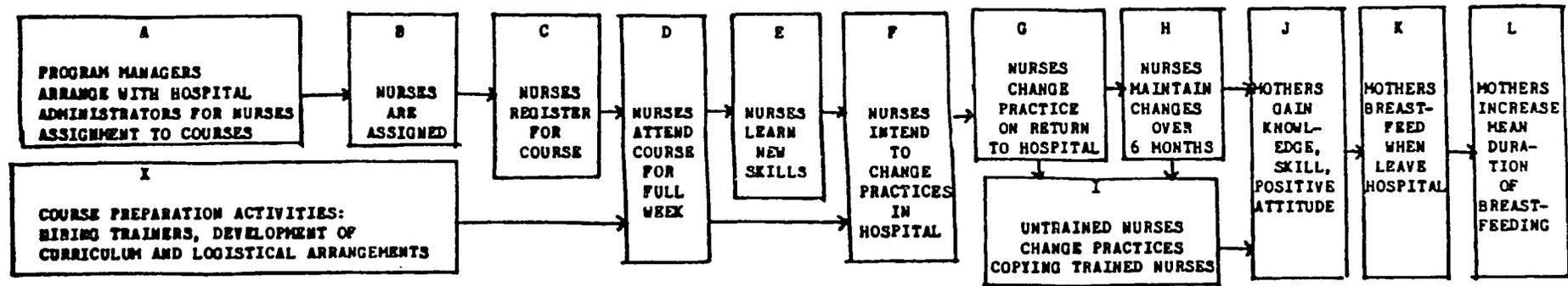
1. Scarce evaluation resources should only be spent to answer a question if the program is ready to make use of information in an important way.

The prime criterion for choosing questions should be leverage--that is, what will be open to change in project activity if a question is answered in one way rather than another. What can be done and what will be done and how much difference will it make if the question is answered?

The operational model for the hypothetical training project captured in Figure II suggests that assignment to a course is sufficient to assure attendance at the course [B]-->[C]. Let us assume that as the result of research one might find one of two results: one might find either that assignment produced enrollment of only 40% of those who were expected to enroll or one might find that assignment produced 90% of expected enrollment. Would that research be worth doing? It would depend on the leverage associated with the results. Would program management change the operational model if the answer was 40% rather than 90%? Would they be able to implement economic incentives for participation, or develop some other motivational activity? If such a change could be expected, if research showed only 40% enrolled, then the research might well be worthwhile. If no program change could be implemented as the result of the research no matter whether 40% or 90% were enrolling, then this would be an evaluation question without leverage, and thus a question undeserving of evaluation resources.

An evaluation question might have no leverage because the resources were unavailable to implement indicated changes, or the political commitments to the current way of operating were unalterable, or because prior certainty about a project element was so strong that no research results, with their inevitable ambiguity, could challenge managers' faith. A question might be undeserving of evaluation resources because it was only a side issue--for example, managers might be pleased to see the diffusion effects of training [H]-->[I], but did not really count on them and thus will not change the basic operational model regardless of whether they occur.

FIGURE 11: OPERATIONAL MODEL: PARTIAL STATEMENT OF HOW THIS PROJECT IS TO WORK



As was suggested when the conceptual model was discussed, the greatest leverage is likely to be found at the earliest stages of a project, during planning or early implementation. Before conceptual models and operational models are set, before budget commitments, personnel commitments, and institutional commitments are fixed, it may be easier to make major changes than when all is in operation. That the evaluator can be most helpful before the project is operating, that is before there are any effects to be seen, is something of a paradox, given usual evaluation perspectives.

2. Focus resources where previous experience suggests there is likely to be trouble.

Few projects are entirely novel. They often have precedents within the country implementing them; they almost always have precedents in other countries. In deciding what to evaluate, one should always be guided by such experience--it is likely to suggest where uncertainties in the conceptual and operational models lie.

For example, out-of-school face-to-face education projects the world over have been plagued by problems of organizing the instruction. Getting instructor and student together on a regular basis, particularly when a program is to last over some time, has been a constant cause of failure. In this hypothetical program, a crucial element is the change in the type of education and encouragement nurses are to provide for mothers. Prior experience suggests that no matter how well done the week-long training course, and even if the nurses start to give appropriate advice on their return, that before long they will revert to previous practice. Such reversion is particularly likely if there is no change in the hospital environment to reinforce the new practice. If prior experience suggests that this is a problematic link in the operational model, it is an obvious candidate for research.

In any operational model there are some links about which all observers are confident. Previous experience in other programs or specific experience in the immediate program suggest that a given link will operate with high probability. While there is always a chance that such prior expectations are wrong (e.g., that hospital administrators will not assign nurses to courses although they say they will), it will not be worth checking on them given more urgent evaluation tasks. Like leverage, degree of uncertainty is an essential criterion for choosing which questions to answer.

3. Answer what there are funds and tools to answer.

There are a large number of questions to answer and an evaluator can expect to address only a small proportion of them. Some will be ignored because they have low priority given the leverage and uncertainty criteria described above. But others will be rejected because the evaluator can produce no timely, credible answer given the resources and research tools at hand.

Naive funders of evaluation look to evaluation for a definitive and objective judgement about the worth of a program. Yet that demand is almost always unrealistic. Funders could rarely use such a judgement were they to have it and in any case evaluators cannot provide it. The best evaluation reduces doubts, makes an observer somewhat less uncertain, points the way,

with less than perfect confidence, to problems worth fixing and plausible solutions.

Shortfall from definitiveness has many explanations. Research designs can rarely incorporate an equivalent control group, so observed change in a project group may have other causes. Measurement of important variables is often problematic: estimation of nurse's knowledge may be possible, but confidence in estimates of their interactions with mothers may be limited. Tight controls in experimental design for the sake of unimpeachable evaluation results may produce unrealistic notions of how a program will function when the pilot phase is over. The project calendar constrains measurement of long term effects.

These obstacles are not arguments against doing evaluation; they are arguments for reasonable expectations about the outcome of evaluation. Evaluation research design is about compromise. This issue may be most clearly seen through a detailed example.

Confidence in the answer produced by a particular research design may be visualized as a point on a continuum. On the far right one has designs (essentially unattainable) which provide certainty about the answer to a particular question. On the extreme left are located designs which leave the observer no more informed than before the research was done.

Imagine an evaluator trying to verify the link between changed nurses' activities and changed mothers' breastfeeding practice in the hospital ([H]-->[K], in Figure 2). Research to verify that link could take many forms. I will suggest just three.

Design I: Choose a hospital in which some but not all nurses participated in the training program. After six months ask the nurses to report what breastfeeding support activities they undertake and what proportion of their patients were breastfeeding when they left the hospital. Expect an association between self-reported nurses' activities and reported breastfeeding proportion.

Design II: Choose four hospitals with each two matched as closely as possible. Implement the program in one of each pair of hospitals. Observe nurses' activities and mothers' breastfeeding before the program and then six months after its introduction. Expect that in the hospital where the training program was implemented both nurses' activities and mothers' breastfeeding practice are changed positively compared to the control hospitals. Expect, in addition, that patients whose nurses exhibit changed activities are particularly likely to have increased the probability of breastfeeding.

Design III: Choose one hospital. Survey a sample of mothers as they leave the hospital before the training program is implemented and again six months afterward. Ask them to indicate whether or not they are breastfeeding and what the nature of their interaction with nurses was vis-a-vis actions that might support breastfeeding. Expect that the overall rate of breastfeeding and of supportive nurses' activities will increase, that trained nurses will show greater increases in both areas, and that there will be a substantial association between reported mothers' breastfeeding and reported nurses' activities.

Of the three designs (at least in the abstract), design II is likely to be the strongest, leaving one least uncertain about the link between nurses' activity and mothers' practice. It uses direct observation of both variables and incorporates a likely to be equivalent control group with which to estimate program-independent changes. While it does not eliminate the possibility that the link is a reflection of some other aspect of the program, that is implausible. But if design II is powerful it is also expensive and logistically complex. It requires working in four hospitals and doing extended direct observation.

Design I is the weakest of the three. If nurses learned nothing else in training they would have learned which of their own activities they were supposed to change and that they were supposed to have more breastfeeding patients in their charge. Subjectively, I would be surprised not to find a link between self-reported activities and self-reported success in encouraging breastfeeding, regardless of whether any link between the actual behaviors existed. Subjectively, I would be little more certain about the actual behavior link given the results of design I than if no study had been undertaken at all.

Design III falls between the other two designs. On the one hand it is weaker than design II since it relies on mothers' reports of nurses' activities of their own breastfeeding, and because it depends on comparisons between non-equivalent groups of trained and untrained nurses in the same hospital. Nonetheless with its focus on change over time and its reliance on mothers' rather than nurses' reports which reduce pro-project bias, it is more credible than design I. Obviously it would be far less expensive and complex than design II.

In choosing which of the designs to implement, the evaluator must trade-off three factors: cost, reduction of uncertainty about a question associated with a design, and importance of this question compared to other evaluation questions. If, for project managers and the evaluator, design I produces very little reduction of uncertainty, then it is no better than no research at all. The trade-off analysis then compares designs II and III. Is the subjectively perceived increase in confidence (it cannot be quantified) produced by design II versus design III worth the extra cost, the risk of failure associated with the additional complexity, and the loss in the ability to answer other questions on the agenda?

The evaluator must constantly both frame alternatives of this kind and with others make the appropriate choice among them. Always the evaluator needs to avoid buying too little reduction of uncertainty. And, at the same time, the evaluator must avoid buying too much certainty if such a purchase demands resources better used elsewhere. It is a balancing act and a difficult one. It requires both substantial technical knowledge of the quality of inference allowed by particular research designs and thorough knowledge of the project and the decision-making process surrounding it.

Appendix A
Notes on Common Evaluation Issues

The previous section introduced a general approach to project-helpful evaluation. This appendix turns to particular evaluation issues that are faced in many breastfeeding campaigns. Given the few pages and lack of a particular program to focus the discussion, no attempt at comprehensiveness could be or is attempted. What follows are notes about a series of issues that are of common concern.

1. Sorting out the effects of components of a campaign. Breastfeeding promotion campaigns often incorporate multiple components. For good policy reasons, funders would like to know just what each component (e.g., nurses' training, mass media outreach, and health clinic posters) produce in terms of the overall outcome. Each component entails different costs; if component cost and component effectiveness can be linked it becomes theoretically feasible to rationalize program expenditures. Yet no matter the interest of funders, sorting out overall effects due to each component is both methodologically and conceptually unlikely.

It is methodologically unlikely because a design would require that equivalent groups receive different sets of components in a systematic fashion. Rarely can that be achieved. It is conceptually unlikely because the effects of components are likely to be synthetic both for the receivers and for the creators of the component. A radio-based breastfeeding campaign will be different from the radio component of a radio plus face-to-face education program in its outcomes and in the way the messages are developed. Even were one to obtain an estimate of the effect of the radio sub-component alone, that effect would not easily generalize to a situation when only radio was to be used.

2. Estimating media effects. Most breastfeeding campaigns make some use of mass media, either as support for other elements of the campaign or as the central activity. A frequent concern of evaluators is estimation of the effects of such media activities particularly since they demand a large portion of centrally controlled budgets.

Estimation of media effects, however, is no easy task. Typically media campaigns reach a national audience and all at the same time. Unexposed control groups are then commonly unavailable. Inference of effectiveness then may lie with comparisons of breastfeeding rates before and after the campaign. Yet that will be problematic whether there is observed change or whether there is not. Observed change coincident with the mass media campaign is consistent with an inference of media effect. It also may be consistent with other inferences, however. If other project components are operating, they may be responsible for observed changes. Also breastfeeding rates may be unstable and be increasing regardless of campaign activities. The same forces which led a country to initiate a campaign may also be producing direct influences on mothers' breastfeeding choices. Regardless of specific campaign activities, medical professionals and hospital rules and general media coverage of breast versus bottle may all reflect the changing international climate. These might have caused some increase in breastfeeding rate anyway. At best the coincidence of campaign and increasing breastfeeding will allow weak in-

ference about direct effects. It may be that, as a practical matter, that is sufficient. Positive change is a desirable outcome and may be politically sufficient to justify continuation.

If positive change does not certify media effects, lack of change does not necessarily point to media failure. There are two reasons why change might not occur although a media campaign was effective. It may be that there was in place a declining rate of breastfeeding (common enough in many countries) and the effect of the media campaign was to slow or stall that decline. That possibility might be examined if data existed over a number of measurement occasions so that the pre-campaign rate of change could be compared to the campaign-associated rate of change.

It might also be that delayed effects of a media campaign are lost to an immediate before/after study. A media campaign may influence the background climate or work only in interaction with other changes in the environment to produce major practice change. Such effects may take some time to appear, but an inference of no effect would be misleading.

Inference about the effects of a media campaign, most of the time, will be a tentative affair. Unless a natural control group can be found (a locale beyond the broadcast range of the radio broadcasts but otherwise the same as the project audience) evaluators will have only before/after studies to rely on. The plausibility of attributing observed effects to media is increased if one has shown that listening is common, that people can recall specific messages only available on broadcast, and that increases in breastfeeding practice are particularly common among mothers who are known to make heavy use of mass media. Plausibility is not helped by evidence that women who breastfeed are particularly likely to recall pro-breastfeeding broadcast messages. That result is quite likely to reflect the effects of infant feeding practice on what people attend to in radio broadcasts rather than the reverse.

3. Knowledge and attitudes versus practice. Most evaluators readily recognize that knowledge or attitude change is not the same as breastfeeding practice change. The most common justification for that distinction is the understanding that all knowledge or attitude change does not lead to practice change. Depending on the circumstances of their lives (social support, economic opportunity, and the like) people may or may not turn knowledge into practice.

There is another justification for recognizing a knowledge/practice distinction as well. The theory which suggests that knowledge and attitude change must precede practice change may be wrong. It may be that an individual's social network is in the process of changing its norm with regard to breastfeeding. An individual may be persuaded to conform to that norm without having developed an elaborate cognitive structure to support the change. A person may be unable to recite many of the benefits of breastfeeding or describe the risks of bottlefeeding but nonetheless will choose the breast. Social persuasion may precede rather than follow cognitive persuasion and thus a focus on cognitive outcomes may be misleading.

4. A social versus a cognitive model of effects. It is worth repeating a point already made in passing. One can contrast a conceptual model of breastfeeding practice which attributes current practice to individual decision-making, a cognitive model, with a conceptual model which emphasizes social influence processes. If one accepts the first model as predominant, then one organizes a campaign to provide specific information to mothers so as to improve the quality of the decisions they make. As an evaluator one can expect short-term effects on stores of knowledge and on practice.

The second model suggests that the process of change is a much slower one. It assumes that individual behavior is a reflection of the social expectations communicated by all of the social institutions and reference groups which surround an individual. As those institutions are transformed and begin communicating a pro-breastfeeding message, individuals become free to adopt new practices. If the medical community, as reflected in hospital rules and advice given to mothers, and the mass media, by the stories they feature, and the industrial sector, through the compatibility of workplace and breastfeeding, and personal social networks, through example and direct support, expects a woman to breastfeed, she is likely to do so. This social model of breastfeeding practice is a model of slow change. Delayed change should be expected and the evaluator (or project sponsor) looking for short-term effects is sure to be disappointed. The evaluator needs to focus most research energy in establishing change in the implicit and explicit messages being communicated and, only after substantial delay, to expect significant practice change.

5. Self-reported behavior. The measurement of practice change is often a morass. Self-reports of behavior, when the respondent knows that the interviewer considers that behavior desirable, risk pro-project bias. Yet direct observation of behavior is often difficult and expensive. If one wishes to do research with a reasonably large sample, there may be no practical way to avoid reliance on reported rather than observed behavior. However, several strategies may help that problem.

In some circumstances it may be possible to ask someone else to report on the practice of a sample member. Design III in the main paper suggested asking hospital patients to report on the activities hospital staff undertook in support of breastfeeding, for example.

Another strategy is to employ an indirect measurement procedure--counting the amount of infant formula sold at a sample of shops, or the number of women who request a formula sample kit on leaving the hospital. Each is an indirect surrogate for actual breastfeeding practice. How close any indirect measure comes to tapping actual practice will be a matter for study in a given context.

A third strategy is to use self-report as the primary measurement tool for the full research sample, but only after having validated the measure against observed behavior on a small sample. If one had been able to show that responses to an interview schedule were consistent with behavior as actually observed, then the use of the questionnaire to estimate practice can be justified.

A final strategy is to use self-report but do it carefully. Self-report questions should be phrased so the respondent is free to report "bad" behavior. The interviewer needs to indicate no preference for bottle or breastfeeding. (See Sudman and Bradburn, 1983, for a useful exploration of these issues.)

Also, wherever possible, reports of behavior should elicit details only likely to be known to current practitioners. Market researchers, when they wish to validate a respondent's report of the use of a product, will ask to see the product. While that might prove awkward in the case of breastfeeding, the logic may be analogous. Requesting details like "when was Johnny last fed" and "did he feed from both breasts or just one" may tend to eliminate respondents who say "yes" just to please the interviewer.

6. Individual interviews and focus groups. Much is made of the contrast between individual interview research based on a representative sample of the audience and focus group research for which no representativeness claims are to be made. Many authors disparage the one as expensive and call for the second enthusiastically. Unfortunately two issues are confounded in this discussion: how a sample is to be drawn and how measurement is to occur.

The sampling issue is straightforward. For most of the questions that an evaluator will choose to answer, it is a fact that a representative sample of the target audience will not be worth its cost. A representative sample is useful when one wants to be able to estimate how commonly found a phenomenon is in a population. If one is pretesting a message, there is little to be gained from knowing whether 35% of the population understand the message or 45% understand the message. One wants to be reasonably sure that almost everyone can make sense of it. For that purpose a representative sample would be overkill. It will be satisfactory to draw small contrast samples of people so that one has a group of respondents drawn from, for example, the most disadvantaged segment of the population, and one from a middle level group, and one from a more advantaged group. Alternatively, one can draw small samples from each major cultural group if those are likely to be the crucial contrast in determining message understanding.

If one can show that a message is understood by purposively selected members of each contrast group, one has a reasonable argument that it will be a useful message. For analogous questions, when one is not trying to produce precise estimates of population characteristics, a purposive contrast sampling strategy will be quite useful. It is, however, a sampling strategy and not just a gathering of respondents on the basis of who is most accessible.

Such a sampling strategy, given an appropriate research question, may be useful regardless of whether one is planning to do focus group research or individual interviews. The choice between those methods is a choice about methods of measurement.

Focus group interviews involve the recording and analysis of a group discussion in response to the guidance of a leader and addressing a topic of interest. They may involve discussion after listening to a recorded broadcast message or they may involve a general discussion of breastfeeding.

Focus group discussions can have two roles. On the one hand they may be a highly productive method of immersing outside project implementers in the language and perspective of the target audience they wish to reach. As an exploratory device, discussions may produce anecdotal information which suggests ways to thinking about a problem that would otherwise not have been developed.

In addition, and as a measurement device rather than as a device for generating ideas, focus groups may be helpful when the behavior to be measured is consensus behavior. When everyone in a community acts the same way and thinks the same way with regard to some issue, the focus group is an efficient device for eliciting that information. As a group interview it tends to produce a consensus response.

At the same time, focus group procedures are not without their biases. Variation in a community with regard to an issue is likely to be missed. Some women in a group may be reluctant to explain that they do not share other participants' beliefs about breastfeeding. No picture about proportions of people doing or believing in a particular way can be drawn from group interviews.

Another risk comes if one depends on focus groups to define explanations for behavior. Focus groups can be used for this purpose only on the assumption that people are willing and able to articulate such explanations. That is rarely a tenable assumption. A request that an individual respondent or group of respondents explain why they do something (e.g., bottle rather than breast) is likely to produce a response. But whether the response is an accurate statement about cause or merely a polite answer reflecting conventionalized wisdom is likely to be unknown. Some explanations for behavior are socially acceptable (my milk dried up); others are less so (it wasn't worth the bother). Some explanations are easily thought of (I had to work); others are less easy to articulate (my social network didn't expect me to breastfeed). Since focus groups provide no way to validate the explanations provided by informants, one cannot rely on such results to develop a campaign. An advertising campaign addressing the reported cause of breastfeeding desertion, "my milk dried up," may prove unproductive if more important causes were undetected and thus were ignored.

Focus group research, because it has no useful way of locating variation in a population, may be particularly vulnerable to the striking anecdote. A group leader enters a discussion with certain expectations about what responses will be heard. If an unusual response is generated, that becomes noteworthy. It is likely to be reported to and remembered by program implementers. Because there is no accompanying caution (only 5% of the sample reported this), it may influence program activities more than it should.

Individual interview research has some strengths and some weaknesses also. The greatest liability in the developing country context is its unnaturalness. Few people are used to educated outsiders sitting with them individually and asking what they think. The awkwardness and status inequality may contaminate individual responses while answering in a group may alleviate that obstacle. Great pains have to be taken in questionnaire design and interviewer training, and even so questions about facts may be more reasonably answered than questions which require introspection.

One advantage of individual interviews is the opportunity to describe the variation of characteristics in a population. Another is the ability to do direct hypothesis testing of explanations for a behavior without depending on the informant's ability to articulate them. Assume an evaluator wants to contrast a work requirement explanation for short breastfeeding duration with a social network explanation. One can compare women who do and do not work outside of their homes as to breastfeeding rates (all else being equal) and similarly compare women whose best friends do breastfeed with women whose best friends do not breastfeed. In both cases, one uses the separately measured characteristic of a woman to predict her actual breastfeeding behavior. The evaluator asks whether either or both external variables predict actual breastfeeding practice. This study would be impossible in a focus group context, yet it is likely to be productive in validating a particular message strategy in a breastfeeding campaign.

There is no question that both individual and group interviews can be productive depending on the research purpose. And, separately, it is also true that representative sampling strategies and contrast group sampling strategies can be productive, again depending on the research purpose. There is no point to taking sides in a debate between approaches if preference is only to be defined in a particular context.

7. Institutional evaluation. In the rush to look at concrete effects of programs there may be a tendency to ignore evaluation questions which consider institutional viability. Yet institutional functioning is where most long-term health programs fall apart. Institutional research is not merely the listing of all the products actually developed within a campaign (e.g., posters printed, radio tapes produced or staff trained). Products produced are but measures of short-term institutional functioning.

The tougher questions address what will have to be done if the program is to continue beyond the nine-month pilot phase, when UNICEF and USAID funds and technical assistance support is gone and when the special budgetary allocation disappears from the Ministry of Health budget. Is there evidence of a long-term solution to the problems of maintaining contact with the field or keeping existing fieldworkers doing the home visits the program demands? The evaluator will be looking for evidence that local talent will have the resources to maintain the activity. It will involve comparing projected budget and staffing commitments to current levels of activity. It would ask about the nature of incentives which will keep the field workers doing their jobs when the novelty is over.

8. Is this evaluation approach feasible? The final issue to be addressed in this appendix on assorted issues is the place of the evaluation function itself. The main argument of this overview is that evaluation must be far more responsive to the needs of projects than has been the case historically. I have recommended movement away from conventional research design so as to obtain uncertainty reducing answers at lower cost. These requirements have implications for how the evaluation role is to be played.

The evaluator must be deeply integrated within a project's staff so as to understand what answers will have leverage in project decision-making. At the same time the evaluator needs a sophisticated understanding of technical research design issues so as to be able to define the implications of design compromises. Are those expectations likely to be fulfilled, realistically? That can only be answered in the context of a particular project.

However, I expect that the fulfillment of those requirements and the helpfulness of evaluations are closely related.

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A REVIEW OF BREASTFEEDING PROGRAM EVALUATIONS

by

Janet Tognetti

I. Introduction

Breastfeeding promotion programs are an attempt to reverse the decline in breastfeeding that has been observed over the last several decades in the developed as well as the developing world. This decline appears to be associated with the widespread changes in attitudes, beliefs, and lifestyles that have accompanied industrialization, urbanization, and cultural change.

The purpose of breastfeeding promotion programs is to bring about a positive change in the knowledge, attitudes and practices of mothers with regard to breastfeeding. Nursing mothers are the primary target, but other segments of society are also targeted because their attitudes and opinions influence those of nursing mothers.

The following review covers thirty-two policy or program interventions to promote breastfeeding for which there was some information, however scant, about impact on the target group. It includes both qualitative and quantitative information related to breastfeeding knowledge, attitudes, or practices within the group. Some of the information, particularly that drawn from ongoing programs was anecdotal in character, because the programs in question have not yet been formally evaluated. This information was included, however, in order to give the reader a better idea of the types of intervention that have been attempted to date.

The documents reviewed are drawn primarily from the published literature. They may therefore overstate the case for positive results, because of the tendency in published literature to report results rather than null findings. They do however provide a rich base of experience from which to draw in designing future programs.

II. An overview of program types and design issues

a. Program Types

Most breastfeeding promotion programs can be classified into those directed at changing the characteristics of the hospital environment, those directed at changing the characteristics of the mother's social, economic, or working environment, and those directed at teaching mothers new attitudes and skills.

There have been other attempts to alter the working environment through legislation, but it is unclear whether in most countries these laws -- involving maternity leaves, nursing breaks, and the establishment of creches in/near the workplace -- are enforced, and if so, whether they are

publicized widely enough to have an impact.

The issue of working mothers however, is an important one. The evidence concerning the impact of work on breast feeding is contradictory (Van Esterik and Greiner, 1981). However, it is almost certainly true that many mothers, particularly low-income mothers who must work will have difficulty if their jobs are not compatible with breastfeeding, due to long hours, distance from home, stress, and so on. Ways must therefore be found of ensuring that these mothers are given the opportunity to breastfeed.

Ways of changing the characteristics of the mother's social environment include broad-based programs aimed at altering the knowledge and attitudes towards breastfeeding of secondary groups in the community such as husbands, other members of the family, ministers, government officials and politicians. Some of the major mass media-based programs, such as the one conducted in Brazil, were designed to influence one or more of these secondary audiences, but there is need for more widespread efforts along these lines, and for more systematic research to identify who the key individuals in the decision process are. Research done in the United States suggests that certain groups of people, for example mothers, sisters, best friends, or husbands -- can play a key role in influencing mothers' breastfeeding decisions (Baranowski et al., 1983). It would therefore be useful to have more information about what specific groups have an impact on particular mothers, and how they can be reached.

Ways of changing the characteristics of the social environment include efforts to organize community-based, mother to mother support groups such as those started by La Leche League in the United States. Such groups already exist in many countries around the world, and are mentioned as components of some of the major breastfeeding promotion programs. This suggests that they may also play an important role in promoting breastfeeding, but there is a need for more systematic information about their impact, and the mechanisms through which they operate.

Changing the economic environment is essentially a broad label for policy interventions aimed at restricting the imports, advertising, and/or distribution of infant formula and supplies. Many countries have adopted legislation aimed at one or more of these areas, but with the exception of Papua New Guinea, there is no information available with which to assess the impact of these efforts. Legislation may be an important means of promoting breastfeeding in areas where the government has the political muscle to do it, but the infrastructure for other types of programs (ex. an adequate number of health care establishments and staff) is lacking.

Integrating breastfeeding activities into primary health care may actually be the most efficient way of promoting the recommended duration of breastfeeding, and ensuring a smooth transition from exclusive breastfeeding to partial breastfeeding with supplementation, and later weaning. There is a gap in this review with regard to such efforts, and it is unclear whether this is due to a lack of programs, or to a lack of evaluations.

b. Design Issues

Timing of the intervention

Most of the educational efforts reviewed in this paper focussed on the perinatal period -- the few days that the mother spends in the hospital in conjunction with the delivery of her child. In areas where there is a lack of adequate prenatal care, this may be the only time when the mother is in contact with the health care system, and the only time, therefore, in which health care providers can reach her with advice about the importance of breastfeeding and how to handle the potential problems associated with it. In that sense, the perinatal period represents an opportunity not to be missed to promote breastfeeding.

In areas where there is a well-developed prenatal and primary health care system, or a good communications system, it may be more effective to begin promoting breastfeeding earlier in pregnancy, and even before pregnancy. Very little research has been done on when and how women make infant feeding decisions, but it seems likely that in most cases this is done earlier in pregnancy, or even before pregnancy. In fact, some studies showed that women were more likely to breastfeed if they themselves had been breastfed as infants (Brimblecombe and Cullen, 1977; Sloper, McKean and Baum, 1975). These issues however, have not been examined in the literature as potential factors in determining program inputs.

Duration of the treatment

Exclusive breastfeeding for the first four to six months of life is what the medical profession currently considers optimal for the healthy growth and development of infants. None of the programs reviewed however, measured the extent to which these guidelines are actually followed in practice, and whether mothers know when and how to begin supplementation. A number of studies, including the one done by Procianoy et al. in Brazil (see the tables for a brief description of the program), implemented some kind of intervention during the perinatal period, but neglected to follow their subjects up over time. They measured the prevalence of breastfeeding at the time of hospital discharge, witnessed what appeared to be an increase, and claimed success for the program. Several studies suggest that there is a dramatic decline in breastfeeding approximately two weeks after delivery. This suggests that many of the programs implemented have failed to take into consideration factors that from a theoretical point of view one would expect to have an important effect on mothers' infant feeding practices. Factors such as work and family influence, for example will come into play primarily after the mother leaves the hospital.

The cutoff point of two weeks suggests that there is a need for programs to follow mothers for at least that period of time following discharge, in order to identify some of the problems responsible for the drop-off that frequently takes place around this point in time, and avert the potential switch to bottle feeding.

Target Groups

Most of the studies reviewed here focussed on the overall question of whether the program worked, but did not examine whether outcomes varied by factors such as the mother's age, her educational attainment, social class, area of residence, marital status, working status, and parity. Variations along these lines may be important in devising alternative ways of designing programs to better meet the needs of these groups.

A great deal of attention was focussed on mothers living in urban areas because of the association that has been observed between urbanization and the tendency to bottlefeed. However, important changes are also taking place in rural areas, and very little is known about the effect that breastfeeding programs might have in these areas.

The rural/urban issue is related to another important policy question that has not been examined by the literature. None of the programs reviewed examined the role of a mother's previous infant feeding experience on subsequent infant feeding choices, and whether breastfeeding promotion programs are more effective in preventing the decline in breastfeeding among mothers who already breastfeed, or whether they can also be effective in reversing the earlier decisions or practices of mothers who had already decided to, or had previously practiced, bottlefeeding. Mothers who have bottlefed in the past may be more difficult to dissuade from bottlefeeding than mothers who have never bottlefed before.

First-time mothers in particular may be more susceptible to advice, and may therefore be a particularly important target group. First-time mothers go through an important life transition at the time of the birth of their first child. Intuitively, it seems that it ought to be easier to influence the feeding practices of these women, since they do not have previously ingrained patterns from earlier infant feeding experiences, and may be more open to new ideas.

Marketers have already recognized the importance of life transitions in getting people to adopt new products and new patterns of behavior. New products are often aimed at the college-going population, and in particular at graduating classes. This is because young adults who are about to go out and begin new lives and new careers, have new needs, and these are the times in which they are apt to be most open to new ideas. A first time mother is in an analogous situation. The time between the beginning of her pregnancy, and the end of the first 2-3 weeks after delivery may be a window of opportunity for health care providers to promote breastfeeding and better food supplementation practices.

Many of the programs that measure socioeconomic status as a correlate of breastfeeding behavior often observe that lower income women are less responsive to breastfeeding promotion programs, but none of them examine more than superficially the reasons for this apparent failure.

Other potentially important targeting variables

In addition to the ones that have already been mentioned, there are a variety of other factors that may affect the way mothers respond to breastfeeding promotion efforts. These include maternal age, education, parity, marital status, race or ethnicity, native language, working status, culture, religion, previous child feeding experiences, and birth intervals. Of these variables, maternal age, education, parity, and marital status are frequently measured as correlates of breastfeeding practice, but they are not used as input factors in determining the research design, the target groups, and the type of program to be implemented.

Race and ethnicity, native language, culture, and religion are seldom measured, yet they are probably important, given the great diversity of ethnic and cultural groups that inhabit the urban centers where these programs are most often implemented, in the U.S. as well as in developing countries. Less-educated, lower-income people, and ethnic minorities in particular, are not always fluent in the official language of the country. There was no mention however, in any of the evaluation literature, except in the Mansbach et al. study of different Jewish groups in Jerusalem, of the fact that the mothers studied may have been members of different ethnic groups, with distinct languages and cultures who may not have been able to communicate well with the hospital or program staff. It is however an issue that comes up frequently in other areas of research on developing countries.

III. Program Summaries

Table I present summary descriptions of the thirty-two breastfeeding promotion programs on which evaluation information -- quantitative or qualitative -- was available. These programs were conducted in a variety of countries and settings, although most of them were concentrated in urban areas of developing countries.

Although ultimately these programs were all concerned with the promotion of breastfeeding to improve infant and child health, the areas in which they intervened, the groups they targeted, and the specific research questions they posed varied. The outcome measures used varied accordingly.

a. Types of Treatment

Most programs use some form of education. Twenty-nine out of thirty-two programs reviewed used some form of educational intervention targeted at one or more of the following target groups: health care providers; mothers; other family members; and the community at large, or broad segments within it.

Other programs used changes in hospital maternity ward routines either alone or in conjunction with some form of education. Such changes, which included moving from separate infant nurseries to rooming-in, providing earlier mother-infant contact with skin-to-skin stimulation, withholding supplementary bottle feedings, and barring infant formula companies from access to hospitals, were involved in one third of the programs reviewed.

Interventions involving the implementation of legislation to regulate the marketing of infant formula and feeding supplies, and to provide mothers with maternity leaves, nursing breaks, and day care facilities, have also been widely attempted. A number of countries have adopted legislation of this type. However, few such attempts have been evaluated from the standpoint of their impact on breastfeeding or nutritional status. We found one evaluated policy intervention in Papua New Guinea, in which the investigators compared the results of community surveys of infant feeding undertaken before and after implementation of the legislation. Only one study reviewed was directed at changing the characteristics of the working environment through private initiatives, by providing nursing hospital staff with access to a breast pump.

Some programs have included efforts to develop community support systems for breastfeeding mothers, and have undertaken activities aimed at the development or improvement of educational materials for different audiences. Some of the programs mentioned in this review included such components, but no specific information about their impact was provided. However, the fact that support groups continue to spread and grow around the world suggests that they are, or can, serve an important function for those who participate in them.

b. Program Objectives

The specific objectives of the programs reviewed varied. Most programs were based on the implicit assumption that breastfeeding leads to better health and nutrition outcomes. Establishing that there had been a change in the nutritional status of breastfed infants was therefore not usually an outcome of concern in these studies. Instead, most programs focussed on establishing a direct connection between the program intervention and a change in breastfeeding rates, measured as the proportion of mothers in the program breastfeeding at a specific point in time, or as the duration of breastfeeding for program mothers over a predetermined period of time.

Other objectives of the programs included measuring change in mothers' knowledge and attitudes toward breastfeeding; changing mothers' knowledge, attitudes, and practices related to supplementation; changing health care providers' knowledge, attitudes and practices related to breastfeeding; changing knowledge, attitudes, and practices related to breastfeeding in the city, community, region, or country at large; achieving changes in hospital practices on a broad scale, achieving the institutionalization of breastfeeding promotion as a public health activity; enacting or publicizing legislation designed to promote or facilitate breastfeeding; enhancing mothers' confidence in their ability to breastfeed; increasing family support for breastfeeding mothers; and improving breastfeeding education activities.

c. Target Groups

The target groups for these interventions were almost always mothers and health care providers. This is because health care providers are assumed to have a great deal of influence on the infant feeding practices of their patients, and mothers are directly responsible for the care of their infants. Few studies however, have actually sought to document how and when mothers actually make infant feeding decisions, what constraints they face, what their channels of communication are, how important a health care provider's advice is relative to that of husbands, mothers, mothers-in-law, sisters, or best friends, and how much these processes vary both within and between groups.

Specifically, some studies have noted that there are differences in breastfeeding rates between mothers of different social classes. None of the studies reviewed, however, attempted to systematically explore the reasons for these differences, nor did they attempt to vary program designs in response to the particular needs of specific groups.

Most programs therefore, were targeted at the diverse group of women who had in common the fact that they delivered in a hospital in a specific urban locality. In some cases, the evaluators specified that the hospitals they selected catered primarily to lower income women; in other cases, very little information was provided about the target group. Very few programs were targeted at rural women, and none of them paid attention, in terms of format or content, to factors such as maternal age, parity, working status, or ethnicity.

In a few instances, the programs attempted to take into consideration broader audiences such as husbands, other members of the family, schoolchildren, and policymakers, because of the influence, both positive and negative, that these groups may have on mothers' feeding decisions. In most instances however, the assumption underlying the programs was that mothers were free to select a feeding method without reference to other individuals.

d. Program Outcomes

All but one of the studies reported positive findings, regardless of study design and program format. The dependent variable most often used to assess impact was the prevalence of breastfeeding at a particular point in time, typically at the time of hospital discharge for most hospital-based programs. Twenty-two out of thirty-two programs reviewed measured prevalence of breastfeeding. Only sixteen measured the duration of breastfeeding over time, and none measured the frequency of suckling, a variable that is clearly related to successful continuation.

Other outcome variables included mother knowledge of and attitudes toward breastfeeding, health care providers knowledge, attitudes, and practices related to breastfeeding, nutritional or health outcomes, other behavioral measures (for example, whether the intervention resulted in increased administration of colostrum, delayed introduction of supplements, increased maternal intake of fluids, or less crying in the nursery), changes

in hospital practices on a broad scale, promulgation of new legislation favoring breastfeeding, cost savings (for hospitals), and responses to public education campaigns by individuals, and by health care establishments.

However, very few studies looked at the effects of the program over time, and what happens to mothers after they leave the hospital. Mothers only remain in hospitals for one to six days following delivery. Most of these programs did not take into consideration the physiological, psychological, and environmental factors that may affect their ability to breastfeed successfully after they are discharged.

IV. Summary

As described in the preceding review, twenty-nine out of thirty-two breastfeeding promotion programs used some form of educational intervention, targeted at mothers either directly or through health care providers.

Despite the methodological problems inherent in some of these evaluations, (which are pointed out in the appendix) the consistently positive direction of the findings suggests that a wide range of breastfeeding promotion programs may be effective in increasing the prevalence and duration of breastfeeding, and in reducing the incidence of health problems resulting particularly from improper bottle feeding.

However, there are many important questions that have not been asked, and there is a need for new directions in program design and evaluation to examine some of the issues raised. In particular, there is a need to discover what the needs of different groups of mothers are, and explore ways of tailoring programs and targeting them more effectively to meet the needs of these groups.

TABLE 1. PROGRAM DESCRIPTIONS

A. Author/ Date	B. Design	C. Setting	D. Target Groups	E. Interventions	F. Objectives
Anand, R.K. (1981)	Non- Experiment	Urban hospital, India.	Hospital staff and mothers during perinatal period.	Presentations to sensitize mothers and staff to advantages of breastfeeding; changes in hospital routines.	To increase breastfeeding
Booth, E. (1983)	Unable to determine	Honduras	Health care providers and mothers.	Radio programs on breastfeeding were broadcast; mothers were encouraged to respond.	To change knowledge, attitudes, and practices related to breastfeeding in the regions as a whole.
Braune, Joan (1983)	Unable to determine	Wisconsin, USA (cities of Milwaukee & LaCrosse).	Health care providers, low income urban mothers, their families, and the community at large.	Lectures, presentations, lobbying efforts, development of support systems and educational materials.	To change knowledge, attitudes, and practices related to breastfeeding in the state as a whole.
Brim- lecombe, F.S.W. & D. Cullen (1977)	Quasi- experiment	Exeter health district, England.	Mothers (no targeting criteria).	Professional education	To improve the knowledge, attitudes, and practices of health care providers related to breastfeeding.
Committee on Breast- feeding, Manitoba Pediatric Society (1982)	Quasi- Experiment	Province of Manitoba, Canada.	Mothers, health care providers, and school- children.	Sent guidelines out to professionals, conducted seminars; produced a pamphlet, posters, and curriculum supplements.	To increase the prevalence and duration of breast- feeding through education.
Gueri, M. 1975)	Non- Experiment	Island of Trinidad, Trinidad & Tobago.	Women during the final weeks of pregnancy.	Mass media campaign; T.V. and newspaper ads; radio broad- casts, posters.	To assess the proportion of the population reached by the program; to investigate the impact of the campaign on knowledge, attitudes and practices related to breast- feeding.

A. Author/ Date	B. Design	C. Setting	D., Target Groups	E. Interventions	F. Objectives
Greiner, T. (1982)	Quasi- Experiment	2 areas of the city of Sana'a, and 1 area of the city of Ibb, Yemen Arab Republic.	All mothers with children under five years of age in areas residing near Maternal & Child Health clinics, in addition to fathers, clinic staff, business- men, government officials.	Promotional efforts: interpersonal communication; mass media; community meetings; efforts to curtail advertising of milk powder. Health professionals in other areas, and the Ministry of Health.	To increase the prevalence and duration of breast- feeding through changes in knowledge and attitudes.
Hardy et al. (1982)	Quasi- Experiment	2 hospitals in the city of Campinas, State of Sao Paulo, Brazil.	Mothers delivering in one of the two hospitals.	Professional and Maternal education; rooming-in.	To increase the duration of breastfeeding through changes in knowledge and attitudes.
Hoffman et al. (n.d.)	Non- Experiment	Heideveld, a coloured area 16 km from the centre of Cape Town, South Africa.	Low income mothers, health care providers, and broader audiences.	Professional education, maternal education, community education, and development of support groups.	To increase the breast- feeding rate (not clear a distinction is made between prevalence and duration.)
Israel, R.C. (1985)	Unable to determine	9 hospitals in urban Bangkok, Thailand.	Health care providers and low-income urban mothers.	Professional education, and changes in hospital routines.	To change the knowledge, attitudes and practices of mothers and health care providers through education.
Jelliffe D.B., & Jelliffe, E.F.P. (1983) and: Manoff, R.K. (1982)	Unable to determine	National program in Brazil with different state and local level interventions.	Mothers, health care providers, schoolchildren, and broader audiences.	Professional education, and public education through mass media; changes in hospital routines; marketing and maternity leave legislation; development of support systems.	To change the knowledge, attitudes, and practices of mothers, health care providers, and the community at large; to effect changes in the nursing mother's working environment, and to develop mother support groups.

A. Author/ Date	B. Design	C. Setting	D. Target Groups	E. Interventions	F. Objectives
Katcher & Lanese (1985)	Quasi- Experiment	Hunterdon Medical Center Hospital, Flemington, New Jersey (USA).	Mothers working on the hospital staff.	An electric breast pump was purchased and made available to employees during working hours.	To encourage hospital staff to continue breast- feeding after returning to work from maternity leave.
Kirk, T.R. (1980)	Quasi- Experiment	City of Edinburgh, Scotland.	Urban mothers and health care providers.	Passage of new recommendations by the Department of Health and Social Security, and professional education.	To see if the knowledge, attitudes and practices of health care providers in Edinburgh had changed as a result of the new guidelines, and whether this had an effect on mothers' knowledge, attitudes, and practices.
Lambert, J. (1980)	Quasi- Experiment	City of Port Moresby, Papua New Guinea.	Mothers living in Port Moresby.	Legislation to restrict the sales of bottles and and bottle feeding supplies.	To improve infant health and survival rates in Papua New Guinea with particular emphasis on the city of Port Moresby.
Lobach, K.S. (1980)	Non- Experiment	The Bronx Municipal Hospital (BMHC), York City, USA.	Mothers delivering at BMHC who had received prenatal care either at BMHC or at the Comprehensive Family Care Center of the Albert Einstein College of Medicine.	A 2 phase campaign involving education of hospital staff, and changes in policies and procedures at the hospital.	To increase the breastfeeding rate to 50% at the time of hospital discharge; to see if after the intervention there were still differences between BMHC and CFCC mothers.
Mansbach, I.K.	Quasi- Experiment	A hospital in Jerusalem, Israel.	Mothers in Jerusalem.	Advice about breastfeeding.	To see if advice from an obstetrician increased the prevalence and duration of breastfeeding.

A. Author/ Date	B. Design	C. Setting	D. Target Groups	E. Interventions	F. Objectives
Mata, L et. al. (1984)	Quasi- Experiment	Rural district in Costa Rica, and San Juan de Dios hospital in urban San Juan, Costa Rica.	Mothers from the rural district of Puriscal.	Prenatal, perinatal and postnatal education; changes in hospital routines.	To increase the prevalence and duration of breast- feeding among Puriscal mothers.
Myres, A.W., et al (1981) and, Myres, A.W. (1983)	Non- Experiment	National Programs Canada	Health Care Providers (Phase 1) and new mothers (Phase 2)	Distribution of information kits to health care providers, and brochures distributed to mothers through health professionals and commercial agencies.	To improve the successful management of breast- feeding by mothers who had chosen to breastfeed rather than to influence the breastfeeding decision.
Naylor & Wester (1985)	Non- Experiment	The Lactation Center at the University of California in San Diego, and 3 teaching hospitals in Indonesia.	Health care professionals and administrators.	In-service training courses in lactation management; follow-up visits to hospitals; presentations to health care professionals and administrators.	To improve lactation management in hospitals, through better health, professional knowledge, attitudes and practices, and changes in hospital routines.
Naylor & Wester (1984)	Non- Experiment	The Lactation Center at the University of California in San Diego, and teaching hospitals in the Philippines, Thailand and Indonesia.	Health care professionals and administrators.	In-service training in lactation management; follow- up visits to hospitals; presentations to health care professionals and administrators.	To improve lactation management in hospitals, through better health professional knowledge, attitudes and practices, and changes in hospital routines.
Naylor Johnson & Wester, n.d.	Non- Experiment	The Medical Center and Lactation Clinic, University of California, San Diego, USA.	Medical students, resident physicians, nurse practitioners; new mothers and their families.	Prenatal guidance for professionals; postpartum assistance for mothers and infants; a telephone consultation service for mothers and their families; and a Lactation Clinic.	To improve lactation management by both professionals and families; and to increase the incidence and duration of breastfeeding among mothers delivering at the Medical Center.

A. Author/ Date	B. Design	C. Setting	D. Target Groups	E. Interventions	F. Objectives
Okwesa B.A. (1982)	Unable to determine.	Rural and urban areas of Jamaica.	Health care professionals and the general public, especially pregnant women and mothers of young children.	Seminars for health care providers; a mass media campaign for the public, and interpersonal communication activities in the community.	To improve maternal and and infant nutrition - through better maternal nutrition, breastfeeding, and supplementation practices.
Verronen, P.	Quasi- Experiment	Central Hospital of Tampere, Finland.	Mothers delivering in the hospital.	Changes in hospital routines and follow- up care of study mothers through health care centers for 9 months.	To see if changes in neonatal health care routines had an impact on infant health, and if follow-up care could increase duration and improve maternal management of lactation.
Whitley, N. (1978)	Non- Experiment	Several prenatal classes in an unspecified location.	Mothers attending prenatal classes.	Optional breast- feeding session for mothers attending the classes.	To see what mothers who stated the intention to breastfeed actually did, and whether there was a relationship between attending the optional class, and breastfeeding rates.
WIC Currents (1981)	Non-Experiment	St. Albans, Vermont, a city with a lower breastfeeding rate than Morrisville, Vermont, USA.	Mothers in the WIC Program.	Seminar for Community Health Care Providers and changes in counselling procedures for WIC mothers.	To increase the number of women breastfeeding their babies in St. Albans, Vermont.
Zeldin, L. (1985) and: Autotte, P.A. (1985)	Quasi- Experiment	Urban Honduras	Health care providers and the public.	Training of health care providers, creation of breast milk banks; development and dissemination of educational materials; establishment of a documentation and information center on breastfeeding.	To develop and adopt institutional procedures in support of breast- feeding, to train health workers, and to develop norms for the urban population of Honduras.

A. Author/ Date	B. Design	C. Setting	D. Target Groups	E. Interventions	F. Objectives
Okwesa B.A. (1982)	Unable to determine.	Rural and urban areas of Jamaica.	Health care professionals and the general public, especially pregnant women and mothers of young children.	Seminars for health care providers; a mass media campaign for the public, and interpersonal communication activities in the community.	To improve maternal and and infant nutrition - through better maternal nutrition, breastfeeding, and supplementation practices.
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WIC Currents (1981)	Non-Experiment	St. Albans, Vermont, a city with a lower breastfeeding rate than Morrisville, Vermont, USA.	Mothers in the WIC Program.	Seminar for Community Health Care Providers and changes in counselling procedures for WIC mothers.	To increase the number of women breastfeeding their babies in St. Albans, Vermont.
Zeldin, L. (1985) and: Autotte, P.A. (1985)	Quasi- Experiment	Urban Honduras	Health care providers and the public.	Training of health care providers, creation of breast milk banks; development and dissemination of educational materials; establishment of a documentation and information center on breastfeeding.	To develop and adopt institutional procedures in support of breast- feeding, to train health workers, and to develop norms for the urban population of Honduras.

PROGRAM DESIGNS

COUNTRY	DATE	Experiment	Judges' Experiment	Non-Experimental	Unaware to Experimental	Effect			
1 India	1981			✓		✓			
2 Honduras	1983					✓			
3 U.S.A.	1983				✓	✓			
4 England	1977		✓			✓			
5 Canada	1982		✓			NO			
6 Trinidad	1975			✓		✓			
7 Yemen	1982		✓			✓			
8 Brazil	1982		✓			✓			
9 S.Africa	n.d.			✓		✓			
10 Thailand	1985				✓	✓			
11 Brazil	1983				✓	✓			
12 U.S.A.	1985		✓			✓			
13 Scotland	1980		✓			✓			
14 U.S.A.	1980			✓		✓			
15 Israel	1984		✓			✓			
16 PNG	1980		✓			✓			
17 Costa R.	1984		✓			✓			
18 Canada	1981			✓		✓			
19 Indonesia	1985			✓		✓			
20 Phil., I., T	1984			✓		✓			
21 U.S.A.	n.d.			✓		✓			
22 Brazil	1983	✓				✓			
23 Phillip.	1981		✓			✓			
24 Chile	1982			✓		✓			
25 Mexico	1982		✓			✓			
26 England	1975		✓			✓			
27 Indonesia	n.d.			✓		✓			
28 Finland	1980		✓			✓			
29 U.S.A.	1978			✓		✓			
30 U.S.A.	1981			✓		✓			
31 Honduras	1965		✓			✓			
32 Jamaica	1983				✓	✓			
			4	12	5	31			

AREAS OF INTERVENTION

COUNTRY	DATE	Professional Education	Maternal Education	Family Education	Public Education	Technical Professions	Business Agencies	Employer Practices	Government or Supportive Institutions	Other
1 India	1981	✓	✓		✓	✓				
2 Honduras	1983	✓			✓					
3 U.S.A.	1983	✓	✓		✓				✓	✓
4 England	1977	✓			✓					
5 Canada	1982	✓			✓					
6 Trinidad	1975				✓					
7 Yemen	1982			✓	✓		✓			
8 Brazil	1982	✓	✓							
9 S.Africa	n.d.	✓	✓							
10 Thailand	1985	✓				✓				
11 Brazil	1983	✓	✓		✓	✓	✓	✓	✓	
12 U.S.A.	1985					✓		✓		
13 Scotland	1980	✓				✓				
14 U.S.A.	1980	✓				✓				
15 Israel	1984		✓							
16 PNG	1980						✓		✓	
17 Costa R.	1984		✓			✓				
18 Canada	1981	✓	✓							
19 Indonesia	1985	✓								
20 Phil., I.	1984	✓								
21 U.S.A.	n.d.	✓	✓	✓					✓	
22 Brazil	1983					✓				
23 Phillip.	1981	✓	✓			✓				
24 Chile	1982		✓		✓					
25 Mexico	1982				✓					
26 England	1975	✓				✓				
27 Indonesia	n.d.	✓				✓				
28 Finland	1980	✓	✓			✓				
29 U.S.A.	1978		✓							
30 U.S.A.	1981	✓	✓	✓						
31 Honduras	1985	✓				✓				
32 Jamaica	1983	✓	✓		✓					
		3	5	7	2	12	3	2	4	7

PROGRAM OBJECTIVES

COUNTRY	DATE	Home - AP - Breast - -222-23	Home - AP - Supplementa- -222-	Home - AP - Proteins - -222-	Home - AP - KAP	Unit res: in Variables	Language reph: - -222-	Information - -222-	Public aware: - -222-	Public aware: - -222-
1 India	1981	✓		✓	✓	✓				
2 Honduras	1983	✓	✓				✓			
3 U.S.A.	1983	✓		✓	✓					
4 England	1977	✓	✓	✓						
5 Canada	1982	✓		✓	✓					
6 Trinidad	1975	✓								
7 Yemen	1981	✓			✓					
8 Brazil	1982	✓		✓						
9 S.Africa	n.d.	✓		✓						
10 Thailand	1985	✓	✓	✓			✓	✓		
11 Brazil	1983	✓			✓					✓
12 U.S.A.	1985	✓								
13 Scotland	1980	✓	✓	✓						
14 U.S.A.	1980	✓		✓			✓			
15 Israel	1984									
16 PNG	1980	✓				✓			✓	✓
17 Costa R.	1984									
18 Canada	1981	✓		✓						
19 Indonesia	1985	✓		✓			✓	✓		
20 Phil. I.	1984			✓			✓	✓		
21 U.S.A.	n.d.	✓		✓			✓			
22 Brazil	1983	✓								
23 Phillip.	1981	✓				✓				
24 Chile	1982	✓			✓					
25 Mexico	1982		✓		✓	✓				
26 England	1975	✓	✓							
27 Indonesia	n.d.									
28 Finland	1980									
29 U.S.A.	1978									
30 U.S.A.	1981	✓								
31 Honduras	1985	✓	✓	✓	✓	✓	✓	✓		
32 Jamaica	1982	✓	✓	✓	✓	✓				

PROGRAM OBJECTIVES (cont.)

COUNTRY	DATE	improve Mother's Conscience	improve M's income or resources	improve education of children	improve family structure	improve other support systems			
1 India	1981		✓						
2 Honduras	1983	✓		/	/				
3 U.S.A.	1983				/	✓			
4 England	1977								
5 Canada	1982								
6 Trinidad	1975								
7 Yemen	1982								
8 Brazil	1982								
9 S.Africa	n.d.								
10 Thailand	1985								
11 Brazil	1983					✓			
12 U.S.A.	1985								
13 Scotland	1980								
14 U.S.A.	1980								
15 Israel	1984								
16 PNG	1980								
17 Costa R.	1984								
18 Canada	1981	✓	✓						
19 Indonesia	1985		✓	✓					
20 Phil.I.	1984		✓	✓					
21 U.S.A.	n.d.	✓	✓	✓					
22 Brazil	1983								
23 Phillip.	1981		✓						
24 Chile	1982								
25 Mexico	1982								
26 England	1975								
27 Indonesia	n.d.								
28 Finland	1980								
29 U.S.A.	1978								
30 U.S.A.	1981		✓						
31 Honduras	1985			/					
32 Jamaica	1983		✓						

TARGET GROUPS

COUNTRY	DATE	Mother's- Generic	Urban Mothers	Rural Mothers	Health Care Providers	Low-income Mothers	High income Mothers	Younger Mothers	Older Mothers	Work Mo.
1 India	1981	✓			✓					✓
2 Honduras	1983	✓			✓					
3 U.S.A.	1983		✓		✓	✓				
4 England	1977	✓								
5 Canada	1982	✓	✓	✓	✓					
6 Trinidad	1975	✓								
7 Yemen	1982									
8 Brazil	1982	✓	✓		✓					
9 S.Africa	n.d.	✓	✓		✓	✓				
10 Thailand	1985		✓		✓	✓				
11 Brazil	1983		✓							
12 U.S.A.	1985									✓
13 Scotland	1980	✓	✓		✓					
14 U.S.A.	1980		✓		✓	✓				
15 Israel	1984	✓	✓							
16 PNG	1990		✓							
17 Costa R.	1984			✓						
18 Canada	1981	✓			✓					
19 Indonesia	1985				✓					
20 Phil. I., II	1984				✓					
21 U.S.A.	n.d.	✓			✓					
22 Brazil	1983		✓			✓				
23 Phillip.	1981	✓	✓		✓					
24 Chile	1982	✓	✓			✓				
25 Mexico	1982		✓	✓						
26 England	1975		✓							
27 Indonesia	n.d.	✓								
28 Finland	1980									
29 U.S.A.	1978									
30 U.S.A.	1981		✓							
31 Honduras	1985		✓		✓	✓				
32 Jamaica	1983	✓								

TARGET GROUPS (cont.)

COUNTRY	DATE	Other Family Members	School- Children	Broad Assurances	Income Matters					
1 India	1981									
2 Honduras	1983	✓								
3 U.S.A.	1983	✓		✓						
4 England	1977									
5 Canada	1982		✓	✓						
6 Trinidad	1975									
7 Yemen	1982			✓						
8 Brazil	1982									
9 S. Africa	n.d.			✓	✓					
10 Thailand	1985									
11 Brazil	1983		✓	✓						
12 U.S.A.	1985									
13 Scotland	1980									
14 U.S.A.	1980									
15 Israel	1984									
16 PNG	1980		✓	✓						
17 Costa R.	1984									
18 Canada	1981									
19 Indonesia	1985									
20 Phil. I., T.	1984									
21 U.S.A.	n.d.	✓								
22 Brazil	1983									
23 Phillip.	1981									
24 Chile	1982	✓								
25 Mexico	1982			✓						
26 England	1975									
27 Indonesia	n.d.									
28 Finland	1980									
29 U.S.A.	1978									
30 U.S.A.	1981									
31 Honduras	1985									
32 Jamaica	1983	✓		✓						
		5	3	5	1					

SETTING AND TIMING OF INTERVENTIONS

COUNTRY	DATE	HOSPITAL	Community/ Instruct	Region/ Country	Developed Country	Less-Developed Countries	Pregnant Women	Women during Pregnancy	Postnatal Period	Post- Part-
1 India	1981	✓				✓			✓	
2 Honduras	1983			✓		✓	✓	✓	✓	✓
3 U.S.A.	1983			✓			✓	✓	✓	
4 England	1977		✓		✓			✓	✓	
5 Canada	1982			✓	✓		✓	✓	✓	
6 Trinidad	1975			✓		✓	✓	✓	✓	
7 Yemen	1982		✓			✓	✓	✓	✓	
8 Brazil	1982	✓				✓			✓	
9 S.Africa	n.d.		✓			✓		✓	✓	
10 Thailand	1985	✓				✓			✓	
11 Brazil	1983			✓		✓	✓	✓	✓	✓
12 U.S.A.	1985		✓		✓			✓	✓	✓
13 Scotland	1980		✓		✓			✓	✓	
14 U.S.A.	1980	✓			✓			✓	✓	
15 Israel	1984	✓			✓				✓	
16 PNG	1980			✓		✓	✓	✓	✓	✓
17 Costa R.	1984			✓		✓		✓	✓	
18 Canada	1981	✓			✓				✓	✓
19 Indonesia	1985	✓				✓			✓	
20 Phil.I.	1984	✓				✓			✓	
21 U.S.A.	n.d.	✓			✓			✓	✓	✓
22 Brazil	1983	✓				✓			✓	
23 Phillip.	1981	✓				✓			✓	
24 Chile	1982		✓			✓			✓	
25 Mexico	1982		✓			✓	✓	✓	✓	
26 England	1975	✓			✓				✓	
27 Indonesia	n.d.	✓				✓			✓	
28 Finland	1980	✓			✓				✓	✓
29 U.S.A.	1978		✓		✓			✓	✓	
30 U.S.A.	1981		✓		✓			✓	✓	
31 Honduras	1985		✓			✓			✓	
32 Jamaica	1983			✓		✓		✓	✓	
		14	10	8	13	19	8	3	28	

OUTCOME VARIABLES

COUNTRY	DATE	Prevalence of infectious (times)	Duration of b.f. over time	Frequency of suckling	Change in position of the head	Change in position of the torso	Change in oral pressure	Change in hospital practice	Hospital- related infection	Change in Methicillin
1 India	1981				✓	✓	✓			✓
2 Honduras	1983									✓
3 U.S.A.	1983	✓				✓				✓
4 England	1977	✓	✓		✓					
5 Canada	1982	✓	✓							✓
6 Trinidad	1975	✓	✓							✓
7 Yemen	1982	✓	✓							
8 Brazil	1982		✓							
9 S.Africa	n.d.									
10 Thailand	1985				✓			✓	✓	
11 Brazil	1983	✓				✓				✓
12 U.S.A.	1985	✓	✓							
13 Scotland	1980	✓	✓		✓		✓			✓
14 U.S.A.	1980	✓								
15 Israel	1984	✓	✓							
16 PNG	1980	✓				✓				
17 Costa R.	1984	✓	✓			✓				
18 Canada	1981				✓					
19 Indonesia	1985				✓			✓		
20 Phil. I.	1984				✓			✓		
21 U.S.A.	n.d.	✓	✓		✓			✓		
22 Brazil	1983	✓								
23 Phillip.	1981	✓				✓				
24 Chile	1982									
25 Mexico	1982									✓
26 England	1975	✓	✓							
27 Indonesia	n.d.					✓				
28 Finland	1980	✓	✓			✓				
29 U.S.A.	1978	✓	✓							
30 U.S.A.	1981	✓	✓		✓					✓
31 Honduras	1985	✓	✓		✓	✓		✓	✓	✓
32 Jamaica	1983	✓								✓
		22	15	0	10	9	3	5	2	10

OUTCOME VARIABLES (CONT.)

COUNTRY	DATE	Cost Savings	Response to Campaign						
1 India	1931	✓							
2 Honduras	1983		✓						
3 U.S.A.	1983		✓						
4 England	1977								
5 Canada	1982								
6 Trinidad	1975								
7 Yemen	1982								
8 Brazil	1982								
9 S. Africa	n.d.								
10 Thailand	1985	✓							
11 Brazil	1983								
12 U.S.A.	1985								
13 Scotland	1980								
14 U.S.A.	1980								
15 Israel	1984								
16 PNG	1980								
17 Costa R.	1984								
18 Canada	1981		✓						
19 Indonesia	1985								
20 Phil. I., T	1984								
21 U.S.A.	n.d.								
22 Brazil	1983								
23 Phillip.	1981								
24 Chile	1982		✓						
25 Mexico	1982								
26 England	1975								
27 Indonesia	n.d.								
28 Finland	1980								
29 U.S.A.	1978								
30 U.S.A.	1981								
31 Honduras	1985	✓							
32 Jamaica	1983		✓						
		3	5						

OTHER VARIABLES MEASURED

COUNTRY	DATE	Maternal Age	Maternal SES	Maternal Education	Maternal Parity	Antenatal Care	Marital Status	Sources of Advice	Reasons for Cessation	Two-Weeks Ret.
1 India	1981									
2 Honduras	1983									
3 U.S.A.	1983									
4 England	1977	✓	✓		✓	✓	✓	✓	✓	✓
5 Canada	1982	✓			✓		✓		✓	✓
6 Trinidad	1975	✓		✓	✓	✓	✓			
7 Yemen	1982				✓				✓	
8 Brazil	1982	✓		✓	✓		✓			
9 S.Africa	n.d.	✓	✓		✓	✓				
10 Thailand	1985									
11 Brazil	1983									
12 U.S.A.	1985									
13 Scotland	1980		✓		✓	✓		✓	✓	
14 U.S.A.	1980					✓				
15 Israel	1984	✓	✓	✓	✓	✓		✓		
16 PNG	1980									
17 Costa R.	1984					✓				
18 Canada	1981									
19 Indonesia	1985									
20 Phil., I.	1984									
21 U.S.A.	n.d.									
22 Brazil	1983	✓	✓	✓	✓	✓	✓	✓		
23 Phillip.	1981									
24 Chile	1982									
25 Mexico	1982			✓						
26 England	1975		✓		✓			✓		
27 Indonesia	n.d.									
28 Finland	1980									
29 U.S.A.	1978	✓		✓	✓			✓		
30 U.S.A.	1981	✓		✓	✓			✓		
31 Honduras	1985									
32 Jamaica	1983									
		7	6	7	12	7	5	7	4	2

OTHER VARIABLES MEASURED (cont. - 2)

COUNTRY	DATE	Birth Interval	Mother reasons for placing C-section	where woman delivered	age at Supplemental	type of Supplement used	type of Delivery	husband's opinion on breast f.	Rooming-in	Knowledge of C-section
1 India	1981									
2 Honduras	1983									
3 U.S.A.	1983									
4 England	1977		✓	✓						
5 Canada	1982		✓		✓					
6 Trinidad	1975		✓		✓	✓		✓		✓
7 Yemen	1982		✓							
8 Brazil	1982									
9 S.Africa	n.d.	✓	✓							
10 Thailand	1985									
11 Brazil	1983									
12 U.S.A.	1985		✓							
13 Scotland	1980			✓	✓	✓				
14 U.S.A.	1980									
15 Israel	1984									
16 PNG	1980									
17 Costa R.	1984						✓			
18 Canada	1981									
19 Indonesia	1985									
20 Phil.I.	1984									
21 U.S.A.	n.d.									
22 Brazil	1983		✓				✓			
23 Phillip.	1981					✓	✓	✓	✓	
24 Chile	1982									
25 Mexico	1982									✓
26 England	1975									
27 Indonesia	n.d.						✓		✓	
28 Finland	1980									
29 U.S.A.	1978		✓							
30 U.S.A.	1981							✓		
31 Honduras	1985									
32 Jamaica	1983									
		1	2	2	3	3	3	3	2	2

OTHER VARIABLES MEASURED (cont.)

COUNTRY	DATE	Maternal Race/Ethnicity	Maternal Religion	Maternal Occupation	Paternal Education	Paternal Occupation	Previous Contraception KAP	Reading Plans	Home Media Materials	PSH Use
1 India	1981			✓						
2 Honduras	1983									
3 U.S.A.	1983									
4 England	1977					✓	✓			
5 Canada	1982									
6 Trinidad	1975	✓	✓	✓	✓	✓	✓	✓	✓	
7 Yemen	1982						✓			
8 Brazil	1982			✓	✓	✓				✓
9 S.Africa	n.d.						✓			
10 Thailand	1985									
11 Brazil	1983									
12 U.S.A.	1985									
13 Scotland	1980									
14 U.S.A.	1980									
15 Israel	1984	✓								
16 PNG	1980									
17 Costa R.	1984									
18 Canada	1981									
19 Indonesia	1985									
20 Phil., ...	1984									
21 U.S.A.	n.d.									
22 Brazil	1983						✓	✓		
23 Phillip.	1981									
24 Chile	1982									
25 Mexico	1982									
26 England	1975					✓				
27 Indonesia	n.d.									
28 Finland	1980									
29 U.S.A.	1978						✓			
30 U.S.A.	1981				✓		✓	✓		
31 Honduras	1985						✓			
32 Jamaica	1983						✓		✓	
		2	1	3	3	4	9	3	2	

OTHER VARIABLES MEASURED (cont. - 3)

COUNTRY	DATE	Mother fed as a baby	Duration of hospital stay	Child Health	Duration of Treatment	Support received for breast feeding	Timing of first feeding	Feeding Schedule	Mother's physical PAP
1 India	1981		✓						
2 Honduras	1983								
3 U.S.A.	1983								
4 England	1977	✓		✓					
5 Canada	1982			✓					
6 Trinidad	1975			✓			✓	✓	✓
7 Yemen	1982								
8 Brazil	1982								
9 S.Africa	n.d.								
10 Thailand	1985								
11 Brazil	1983								
12 U.S.A.	1985								
13 Scotland	1980								
14 U.S.A.	1980								
15 Israel	1984								
16 PNG	1980								
17 Costa R.	1984			✓					
18 Canada	1981								
19 Indonesia	1985								
20 Phil.I.	1984								
21 U.S.A.	n.d.								
22 Brazil	1983								
23 Phillip.	1981			✓					
24 Chile	1982								
25 Mexico	1982								
26 England	1975	✓	✓						
27 Indonesia	n.d.		✓	✓					
28 Finland	1980								
29 U.S.A.	1978	✓			✓	✓	✓	✓	
30 U.S.A.	1981								✓
31 Honduras	1985								✓
32 Jamaic	1983								✓

Appendix I

Evaluation designs

As presented in Table A-I a variety of designs have been used to evaluate the impact of breastfeeding promotion programs. Of the 32 studies reviewed, only one used a true experiment, in which subjects were randomly assigned to treatment and control groups. Quasi-experiments (no random assignment) were used by fourteen of the studies; and twelve of them used nonexperimental designs with pre- and post-treatment measures but no control groups for comparison. Four of the studies were put into a fourth category ("unable to determine") because the program documents reviewed were preliminary reports of programs in which the authors provided a qualitative description of outcomes which were not backed up by any kind of formal evaluation data.

The only study which used random assignment to treatment or control conditions was the one described earlier, done by Proclanoy et al. in Brazil, in which they attempted to measure the impact of organizational change in a hospital on the prevalence of breast feeding at the time of hospital discharge. In this study, the investigators compared 81 urban mothers delivering in a public hospital who roomed-in with their babies, to 75 control mothers, except that their babies were kept apart from them in the regular hospital nursery. The two groups were equivalent in terms of age, marital status, family income, education, prenatal care, and parity. Mothers who had received any kind of instruction about infant feeding during prenatal care were deliberately omitted from the sample in order to avoid confounding the effects of rooming-in with those of prenatal education. At the time of discharge from the hospital, there were significant differences between the groups in terms of feeding practices. As expected, there was a higher proportion of breastfeeding women in the rooming-in group than there was in the control group (73% vs. 43%). Unfortunately the study did not do a follow-up to see if the intervention resulted in an increased duration of breastfeeding over time.

Most of the studies reviewed here used quasi-experimental designs. There was no random assignment to treatment and control groups. Some studies compared a treatment group with a nonequivalent control group at a particular point in time. Others used interrupted time series designs to show the change that occurred within one group over time.

Hardy et al. for example, compared mothers delivering in a hospital that had a rooming-in program and an educational program to mothers delivering in another hospital with no rooming-in and no educational program. The two hospitals catered to mothers of similar socioeconomic background. There were no statistically significant differences between the groups in terms of education, marital status, and work status. There were however differences in age and parity. More women in the experimental group were 25 or over, and had had one or more previous pregnancies. The differences however disappeared they controlled for livebirths and numbers of live children. Breastfeeding rates were measured in each group at

monthly intervals up to the age of nine months. Separate calculations were made for rates of full and partial breastfeeding. A significantly larger proportion of the experimental group women fully breastfed their infants at each age up to nine months. The differences between experimental and control group mothers on partial breastfeeding were significant up to six months for older women, up to four months for less educated women, and nonsignificant for younger women and more educated women. Unfortunately, these differences could be due to a number of factors not controlled for in this study such as previous infant feeding experience, birth intervals, and prenatal education.

One of the studies used an interrupted time series design to analyze the differences in breastfeeding rates, and in the incidence of neonatal morbidity and mortality before and after a change in hospital practices. The intervention took place at the Baguio General Hospital in Baguio City, Philippines. The investigator examined the hospital records of 9886 infants born at the hospital during the two years prior to the intervention, and during the two years following the intervention. The intervention consisted of professional education for hospital staff, education for mothers at the time of delivery, organizational changes to permit rooming-in of infants with their mothers, and enforcement of new regulations banning access to the hospital by representatives of infant formula companies. 4720 infants were born during the pre-intervention period, and 5266 during the period immediately following the intervention. There were no significant differences between the two groups of infants in terms of gestational age, mean birth weight, % small-for-dates, % pre-term, % post-mature, and mean total Apgar score. There was however an increase in the proportion of exclusively breastfed infants which closely paralleled the increase in the number of infants roomed-in with their mothers. Bottlefeeding, which had been declining over the period just prior to the intervention, declined still further. The proportion of mixed-fed infants remained about the same. Over the same period, neonatal morbidity and mortality also declined dramatically.

Unfortunately, it is difficult to conclusively attribute the changes observed to the efforts of the program. The graphs show that rooming-in was already increasing, and that bottlefeeding was already decreasing during the two year period that supposedly predated the intervention being described. It is possible that the results were heavily influenced by other unmeasured factors. The author did not provide data for other comparable hospitals during the same period, so we can not even speculate on what the graph would have looked like in the absence of the intervention.

A large number of studies used non-experimental designs. Whitley (1978) for example, conducted a one-year follow-up of U.S. women who had attended different types of prenatal classes. All of the prenatal courses featured an optional one-hour session on breastfeeding. The sample consisted of 72 women who had participated in prenatal classes, and who had stated their intention to breastfeed. Of these, only 34 actually participated in the survey. Out of these 34, 25 had attended the optional breastfeeding class. The session included a discussion of the advantages of breastfeeding, an explanation of anatomy and physiology, preparation of the

breasts, the technique of breastfeeding, and anticipatory guidance on how to deal with potential problems. Following telephone interviews, the 34 mothers were classified into three groups, based on the duration of actual breastfeeding. Six women breastfed for less than six weeks (Group 1); 11 breastfed for 6-23 weeks (Group 2); and 17 breastfed for more than 24 weeks (Group 3). All of the women in Group 1 had no previous breastfeeding experience, and some had not received any instruction. Women who had previous breastfeeding experience, who had previously attended one or more breastfeeding courses, or had read educational materials tended to fall into Groups 2 and 3.

Unfortunately, because of the weaknesses of the design, including its small sample size, there is no way of knowing whether these results are attributable to the breastfeeding session, the prenatal course itself, or initial unmeasured differences between mothers interviewed in factors such as motivation. The study does not provide data from comparison groups, nor does it provide other information about the subjects that may be related to their infant feeding decisions, such as marital status, working status, how they themselves were fed as infants, their educational levels, income, and other factors sometimes associated with feeding choices.

The only study that did not find a positive result was the one undertaken in Manitoba, Canada, by the Manitoba Committee on Breastfeeding. This study compared infants born in the first week of December 1978 with infants born in the first week of December 1979. During the intervening year, the Committee had undertaken a number of professional and public education activities designed to promote breastfeeding throughout the province. They mailed out guidelines to physicians, conducted seminars for professional audiences, developed educational materials for junior and senior high school students, wrote articles and press releases, and broadcast a variety of public service announcements on radio and television.

Interviews were conducted by telephone, following an introductory letter from the Manitoba Department of Community Services and Corrections. The total sample consisted of 277 infants born in the first week of December 1978, and 249 born in the first week of December 1979. Mothers were asked, retrospectively, how they were feeding their infants at the time of hospital discharge, why they chose that method of feeding, and when and why they discontinued breastfeeding.

Analysis of the data using chi-square tests revealed that there were no significant differences between the two groups in terms of the proportion breastfed at the time of hospital discharge, or in the reasons mothers gave for discontinuing breastfeeding. There were no significant differences between rural and urban mothers, or differences according to the mother's parity, or the sex, weight, and maturity of the infant. Mothers who breastfed however, were considerably more likely to be older, to be married, and to be living in Winnipeg. The breastfeeding rates in Winnipeg at the time of hospital discharge, and at 1 and 3 months (in both 1978 and 1979) were 64%, 53%, and 43%, respectively. These rates are comparable to those for Toronto and Montreal during the same time period.

These results however should be interpreted with caution, since it is quite possible that the statistical test used was not powerful enough to detect an effect. The article does not provide much information about the socioeconomic and other characteristics of women living in Manitoba, or about the treatment itself, which would help to interpret the results, and to assess the adequacy of the intervention. Furthermore, the breastfeeding rate in Manitoba is already high compared to some other countries, so it may be more difficult to measure a marginal increase. In addition, some of the activities were targeted at secondary audiences such as schoolchildren, and the one-year elapsed between surveys was almost certainly not enough to measure the impact of those efforts. And finally, the sample size may have been too small, given the variation between groups in Manitoba, to detect an effect.

TABLE A-1

PROGRAM EVALUATION DESIGNS

A. Author/ Date	B. Design	C. Comparison Group	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Anand, R.K. (1981)	Non- Experiment	None	Health care providers' knowledge, attitudes and practices; infant health outcomes; amount of crying in the nursery; cost savings.	Not presented	Post
Booth, E. (1983)	Unable to determine.	Unable to determine.	Response by individuals to the mass media campaign; change in mothers' knowledge and attitudes related to breastfeeding.	Not presented	(Has not been formally evaluated.)
Braune, Joan (1983)	Unable to determine.	Unable to determine.	Prevalence of breastfeeding at a point in time; mother knowledge and attitudes related to breastfeeding; infant health outcomes; public response to mass media campaign.	Not presented	(Has not been formally evaluated.)
Brimble- combe, F.S.W. & D. Cullen (1977)	Quasi- Experiment	Mothers residing in Exeter health district, before and after the intervention.	Prevalence and duration of breastfeeding; knowledge attitudes, and practices of health care providers toward breastfeeding. (regardless of place of delivery).	4 Surveys: 2 before the intervention, (at time of discharge, and at six weeks;) and 2 after the intervention, at time of discharge and at 6 weeks).	Pre; post.
Committee on Breast- feeding, Manitoba Pediatric Society (1982)	Quasi- Experiment	Mothers of infants born the first week of December 1978 with mothers of infants born the first week of December, 1979.	Prevalence and duration of breastfeeding; mothers' knowledge and attitudes toward breastfeeding.	Introductory letters were mailed to study parents; Mothers were then contacted by phone and asked how their babies were being fed; why they chose that method, and when and why they discontinued breastfeeding.	Pre; post.

A. Author/ Date	B. Design	C. Comparison Groups	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Gueri, M. (1975)	Non Experiment	None	Prevalence and duration of breastfeeding. Mothers' knowledge and attitudes toward breastfeeding.	Mothers delivering in San Fernando and Port- of-Spain General Hospitals were interviewed while still in the hospital and again after 4 months.	Post
Greiner, T. (1982)	Quasi- Experiment	Mothers in Ibb (the "treatment" site) with mothers in the two areas of Sana'a (the "control" site).	Prevalence and duration of breastfeeding.	Surveys of feeding practices in the communities.	Post
Hardy et al. (1982)	Quasi- Experiment	Mothers who received an edu- cational inter- vention and delivered in a hospital with rooming-in, were compared with mothers who had not received an educational program who delivered in a hospital without rooming-in.	Duration of breast- feeding over time.	Short structured inter- views with mothers prior to treatment, at the time of discharge, and follow-up until 9 months, or cessation of breastfeeding.	Post
Hoffman (n.d.)	Non- Experiment	Mothers inter- viewed before the intervention were compared with mothers interviewed after the inter- vention.	Prevalence and duration of breastfeeding.	2 Surveys, composed of 2 interviews each. The first interview was conducted when the infant was 6 weeks old; the second 6 weeks later (infants 7-12 wks. old.)	Pre; Post.
Israel, R.C. (1985)	Unable to determine	Rates of breast- feeding in study hospitals before and after the intervention.	Rates of breastfeeding at the time of hospital discharge.	Brief observation of of project sites.	Pre; Post.
Jelliffe D.B. & Jelliffe E.F.P. (1983) and: Manoff, R.K. (1982)	Unable to determine	Comparison of post-intervention with baseline data.	Mothers' knowledge, attitudes and practices related to breast- feeding; infant health outcomes.	Brief observation of selected sites.	Pre; Post.

A. Author/ Date	B. Design	C. Comparison Groups	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Katcher and Lanese (1985)	Quasi- Experiment	Mothers who had taken maternity leave before implementation of the new policy, and mothers who had taken maternity leave afterwards.	Prevalence and duration of breast- feeding.	Telephone Interviews	Pre; Post.
Kirk, T.R. (1980)	Quasi- Experiment	Mothers who delivered in Edinburgh, before imple- mentation of the new guidelines, and mothers who delivered after.	Knowledge, attitudes and practices of mothers related to breastfeeding and supplementation.	2 Surveys, 1 conducted before, and 1 after the intervention.	Pre; Post.
Lambert, J. (1980)	Quasi- Experiment	Mothers in Port Moresby surveyed in 1979 were compared with mothers surveyed in 1975.	Proportion breastfed; proportion artificially fed, and infant health out- comes during each of 2 study periods.	2 Surveys.	Pre; Post.
Lobach, K.S. (1980)	Non- Experiment	Mothers who delivered at Bronx Municipal Hospital and had received pre-natal care there were compared with mothers who delivered there, but had received prenatal care elsewhere.	Percentage of women breast- feeding at discharge from BMHC Maternity Ward.	Hospital records.	Pre; Post.
Mansbach, I.K. et al. (1984)	Quasi- Experiment	Different Jewish groups delivering in Jerusalem, were compared with each other.	Prevalence and duration of breastfeeding.	Each mother was interviewed 4 times: within 24 hrs. of delivery, at discharge; at 6-7 weeks postpartum, at home; and at 4-5 months postpartum.	Post

A. Author/ Date	B. Design	C. Comparison Groups	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Mata, L et. al. (1984)	Quasi- Experiment	Mothers in Puriscal with mothers in another rural area of Costa Rica.	Administration of colostrum, infant health outcomes, and the prevalence and duration of breastfeeding.	Analysis of hospital records, and field observations in the hospital and in the subjects' homes.	Pre; Post.
Myres, A.W., et al. (1981) and Myres, A.W. (1983)	Non- Experiment	None	Knowledge, attitudes, and practices of health professionals and of others.	Mailed questionnaires	Post
Naylor & Wester (1985)	Non- Experiment	None	Knowledge, attitudes, and practices of health care providers; changes in hospital routines.	Brief observation of field sites.	Post
Naylor & Wester (1984)	Non- Experiment	None	Knowledge, attitudes, and practices of health care providers; changes in hospital routines.	Brief observation of field sites.	Post
Naylor Johnson, & Wester (n.d.)	Non- Experiment	None	Prevalence and duration of breastfeeding; knowledge, attitudes, and practices of health care providers.	Not presented	Post
Procia- ney et al. (1983)	Experiment	Mothers who had experienced rooming- in with those who had not.	Prevalence of breast- feeding at the time of hospital discharge.	An oral multiple-choice questionnaire administered at the time of hospital discharge.	Post

A. Author/ Date	B. Design	C. Comparison Groups	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Relucio Clavano, N. (1981)	Quasi- Experiment	Mothers who delivered before the intervention with mothers who delivered after the intervention.	Prevalence of breast- feeding while in hospital; infant health outcomes.	Analysis of hospital records for pre- and post-intervention periods.	Time Series. Analysis of four years of hospital records: 2 years preceeding and 2 following the inter- vention.
Search Consult- ores (1982)	Non- Experiment	None	Response by mothers and other audiences to the campaign.	Focus groups conducted after the mass media campaign.	Post
Simoni J.J. et al. 1982)	Quasi- Experiment	6 peri-urban and rural communities that received the treatment with 6 other peri-urban and rural communities that had not.	Mothers' knowledge, attitudes, and practices related to breastfeeding.	Social workers and nurses administered questionnaires to 20% of mothers in house- holds in test sites 60 to 70 days after the intervention.	Post
Sloper, K. et al. (1975)	Quasi- Experiment	Mothers who delivered at John Radcliffe Hospital, before and after the intervention.	Prevalence and duration of breastfeeding.	Administration of questionnaires.	Post: at dis- charge and follow- up at 8 1/2 months
Suradi, R., et al. (n.d)	Non- Experiment	Mothers who roomed-in with those who did not.	Infant health outcomes.	Analysis of hospital records.	Post

A. Author/ Date	B. Design	C. Comparison Groups	D. Dependent Variables	E. Methods of Data Collection	F. Measurement Periods
Okwesa B.A. (1982)	Unable to determine.	Unable to determine.	Prevalence of breast- feeding; mother knowledge, attitudes, and practices related to breastfeeding.	Not presented.	Baseline and follow-up.
Verronen, P.	Quasi- Experiment	Mothers delivering in the hospital before and after the inter- vention.	Prevalence and duration of breastfeeding; infant health outcomes.	Hospital records, and interviews with mothers after discharge from the hospital.	Pre: Post: follow-up at health care centers up to 9 months.
Whitley, N.	Non- Experiment	None	Prevalence and duration of breastfeeding among mothers who had initially decided to breastfeed.	Telephone interviews.	Post
WIC Currents (1981)	Non- Experiment	None	Prevalence and duration of breastfeeding; knowledge, attitudes and practices of health care providers.	Questionnaires administered through WIC Program.	Pre; Post.
Zeldin, L. (1985) and Autotte, P.A. (1985)	Quasi- Experiment	Mothers in Tegucigalpa and San Pedro Sula before and after the intervention; health care providers before and after.	Mothers' and health care providers' knowledge, attitudes, and practices related to breastfeeding, and changes in hospital routines.	Survey of health personnel; survey of postpartum mothers; survey of infant feeding practices.	Pre: Post.

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Breastfeeding Information
by Gayle Gibbons

There is a vast amount of information about breastfeeding that people need, but do not have access to. This includes both print and non-print materials on technical and program topics. In breastfeeding programs, the Information/Education/Communication (IEC) component is frequently reduced to education and communication. Information is devalued as a frill that becomes expendable in most program budgets. Improving breastfeeding practices, however, requires a variety of information activities to reach a diverse audience. And, appropriate information is critical if breastfeeding promotion and support are to be integrated into the community's long-term efforts to improve the health of women and children and continue after any individual campaign or project is completed. The development of publication, library, and media capabilities helps to ensure access to information and should include monitoring new research and learning about the experiences of other projects. Only trained information specialists will guarantee that information is widely disseminated in the most usable formats.

The kinds of breastfeeding information needed are as varied as the kinds of breastfeeding activities. Since 1979, the Clearinghouse on Infant Feeding and Maternal Nutrition at the American Public Health Association has been providing information to a multifaceted audience with a variety of information needs. Our target audience includes developing country health providers, non-governmental organizations, policymakers, and related sectors. In the last year, more than 3000 information requests were answered. Based on our experience, information is needed in a number of areas.

1. Program Information

Information about projects and programs is not widely shared or disseminated. Organizations are frequently unaware of breastfeeding activities that may be underway in neighboring countries or even nearby communities. New projects are started without the benefit of the experience and lessons of others.

2. Technical Information

Health professionals in many developing countries do not have access to large medical data bases. Information on new research about breastfeeding and lactation is unavailable to them. Access to the latest information strengthens the scientific basis for program decisions as well as assists in health provider efforts to revise curricula, change hospital practices, develop education and training materials and undertake research about breastfeeding.

3. Training/Education

Because few health providers are knowledgeable about breastfeeding,

training and education are an important component in breastfeeding promotion efforts. Therefore, health providers need to know where they can obtain training, sample curricula, and training materials on lactation management.

4. Policy/Legislation

Legislation and government policies are a major part of long-term efforts to institutionalize support for breastfeeding. Information about policies and legislation that support breastfeeding is crucial in any efforts to sensitize and inform policymakers in the public and private sector as well as health providers. Often relevant legislation such as maternity leave, creches at the work site, or a code of marketing of breastmilk substitutes may be a national law that is not enforced. Pediatricians may not know their government has adopted a code of marketing of breastmilk substitutes. Employers may not be complying with a law requiring creches at the work site.. Relevant policies include: maternity leave, breastfeeding "breaks" for working mothers, allowances - either case or commodities - for pregnant women and new mothers, flexible work schedules for new mothers, rooming-in at hospitals/maternity wards, creches at the work site and a national code of marketing of breastmilk substitutes.

5. Information Sources

How and where to obtain information is another critical need. There are many existing newsletters and numerous libraries and information centers that people in the field do not know about or how to use. In addition, information sources in developing countries need to be strengthened and developed. Self-sufficiency in information at the local and national level will empower local organizations to adapt the information and media appropriate to their needs. For example, locally produced newsletters can play an important role in this capacity by:

- synthesizing new information from other sources
- covering current programs
- focusing on the practical applications of research and technical information
- tailoring their contents to the specific needs of their audiences.

Numerous organizations are already producing publications that regularly feature breastfeeding issues including: Breastfeeding Information Group, Kenya; INCAP, Guatemala; Mauritian Action for the Promotion of Breastfeeding and Infant Nutrition, Mauritius; Caribbean Food and Nutrition Institute, Jamaica; and the International Organization of Consumer Unions, Malaysia.

There is no single way to improve information about breastfeeding. A recent UNICEF survey of the information needs and resources of health providers and policymakers in 18 developing countries suggested a number of options for improving access to information about nutrition including:

- Use existing libraries and information centers to achieve the optimum multiplier effect in distributing information and materials.
- Support the translation of key materials and subsidize distribution to appropriate target groups.
- Strengthen the information activities of local organizations through financial support, technical assistance and training.

CASE STUDY: THE BREASTFEEDING PROGRAM IN BRAZIL

by

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Introduction

Over the last two decades, breastfeeding in Brazil has been declining. Studies show that during the 1960s, the duration of breastfeeding ranged from four to twelve months. A study conducted 15 years later showed that 77% of infants in Sao Paulo and 52% of infants in Recife had been weaned by the age of one month. Studies conducted in other regions of the country during the same period showed similar results. The infant mortality rate in Recife during the study period jumped from 124 per 1,000 live births in 1966 to 198.8 per thousand at the point of restudy; 55.2% of all deaths among infants aged 1 to 5 months occurred among those who had been weaned before one month of age.

Prior to the fall of 1980, there had been some breastfeeding promotion activities in the country. However, some were developed by units within the Ministry of Health, others by universities. There was very little effort to coordinate activities within an overall program structure. The government did not have an explicit policy on breastfeeding.

The Brazilian Ministries of Health and Social Welfare recognized that the decline in breastfeeding and the concomitant increase in infant mortality were a public health problem. They therefore decided to implement a broad-based program to tackle the problem. The program was designed with support from UNICEF/Brazil, in accordance with the recommendations of the Joint WHO/UNICEF Meeting on Infant Feeding, which took place in 1979.

Breastfeeding is a process that is influenced by many interacting factors. It therefore became clear that a multi-faceted program would be needed to tackle all of them at once. A multi-disciplinary and inter-ministerial breastfeeding committee, was therefore organized, with representatives from the Ministries of Health, Social Welfare, Education, Interior, and Labour, along with professional societies such as Nutrition, Pediatrics, and Obstetrics, and International Agencies such as WHO and UNICEF. The committee was coordinated by the Institute of Nutrition of the Ministry of Health.

The committee was established to plan a widespread program to sensitize and inform people, and to promote conditions for successful breastfeeding aimed at increasing both its prevalence and duration. Members of the committee stimulated their respective organizations to participate actively in the program at both the State and National levels. Local resources were employed wherever possible, although some assistance was provided by UNICEF and other institutions. Later, the program components were to be incorporated into a standard system.

Baseline data

The program planners felt that an initial baseline survey would be needed to gather information about the extent of the breastfeeding problem and its causes, but they realized that such a survey would be difficult to undertake on a national scale because Brazil is a large country with a population of over 130 million people. They therefore designed a survey to be carried out in the urban areas of Sao Paulo and Recife, two cities that were generally felt to be representative of the country at large.

The baseline survey was the first activity to be implemented because the results were needed to select the target audience, and develop the communications strategy. The survey questionnaire was designed to elicit information about the breastfeeding-related knowledge, attitudes, and practices of mothers and of medical personnel; current hospital norms and practices; information about other factors that acted to either inhibit or facilitate the promotion of breastfeeding within the health care system; and the information-seeking behavior of women. The sample consisted of 1,000 pregnant and lactating mothers from the lower and middle socioeconomic groups with infants under 8 months of age; 200 health care providers (pediatricians, obstetricians, nurses, and attendants); and 105 administrators of health care institutions. The major findings are outlined below.

a. Mothers' attitudes and behavior:

- 95% of mothers with infants under 8 months of age initiated breastfeeding, but introduced the bottle within 15 to 20 days after delivery;
- The majority of women who introduced bottles had completely ceased breastfeeding within 15 days of when the first bottle was introduced;
- Only 10% of nursing women were still exclusively breastfeeding by the fourth month;
- 70% of mothers did not know how to handle potential problems with breastfeeding, and did not receive any instruction from health personnel;
- Husbands and health personnel had a tremendous influence on the mother's breastfeeding practice; 65% of women interviewed said they would use the bottle if their doctor advised it;
- Women who breastfed for longer periods of time had received support and information from experienced mothers in their community;
- 60% to 70% of lower income mothers listened to the radio and watched television during prime time;

- Only 15% of working women took maternity leave.

These findings made it clear that the breastfeeding program should:

- Target younger, poorer, and less educated women;
- Teach women breastfeeding techniques and reassure them of their ability to breastfeed successfully;
- Use experienced mothers to teach others;
- Sensitize husbands to the importance of breastfeeding;
- Inform working mothers of their legal rights;
- Channel information to mothers through both the health care system, and the mass media.

b. Attitudes and knowledge of health care personnel:

- 60% of health care providers prescribed breast milk substitutes at the mother's request;
- 60-70% had inadequate knowledge of breastfeeding; at the same time, they were exposed to intensive promotional efforts by the infant formula industry;
- 90% of obstetricians felt that breastfeeding was not their area of concern;
- 80% did not receive any instruction about breastfeeding in medical or nursing school.

Based on these data, planners concluded that intensive training programs, and new educational materials would be required to educate health care providers about the physiology and management of lactation. In addition, formula promotion would have to be curtailed.

c. Hospital routines and practices

- In 70% of maternities surveyed, successful breast-feeding was inhibited by the practice of keeping babies in separate nurseries, adherence to a rigid feeding schedule, and the long delay (12 hours or more) between birth and when babies were first brought to their mothers.

The Program Strategy

On the basis of the survey results planners concluded that there was a need to inform doctors and hospital administrators of the advantages of breastfeeding, and to change hospital practices in order to facilitate breastfeeding. Because of the multiplicity of problems, they concluded that the only way to solve the problem was to tackle several aspects of it at once through a comprehensive program.

Policy initiatives and funding were identified as being crucial to program success. Only then could people with administrative authority be convinced to carry out breastfeeding activities. The support of the Ministry of Health was felt to be particularly important. That support influenced state authorities to implement the necessary actions.

The creation of a national, interministerial committee made it possible to for the program to:

- recommend guidelines and plans of action to stimulate breastfeeding and foster appropriate conditions for their implementation;
- obtain access to the technical resources of the constituent organizations when necessary;
- provide technical assistance to the institutions involved in the execution of the program;
- develop educational inputs such as guidelines and educational input for the training seminars and workshops;
- develop joint plans for the production and distribution of educational materials, together with other sponsoring organizations;
- assist in the dissemination of program experiences and research results;
- coordinate efforts at the state level. Each state had its own coordinating body to maintain communications with the National Committee. By the end of 1981, all the states had established their own multidisciplinary working groups.

Program activities

The program strategy focused on five main activity areas: training and education; mass media; changing hospitals norms and practices; community action through mother support groups; and political action aimed at getting the Brazilian government to adopt the WHO code to regulate the marketing of breast milk substitutes.

a. Education and Training

Intensive training sessions for health professionals were organized at the state level and were led by knowledgeable local health personnel. The training sessions were focused on informing physicians and nurses about the advantages of breastfeeding, and aspects of lactation management. Participants were expected to train colleagues in their home institutions after completion of the course. Thus, physicians taught nurses, who trained auxiliary nurses, who trained other health personnel, including traditional birth attendants.

During the first three-year period, the program accomplished the following:

- 150 seminars and training symposia were held;
- 12,300 health professionals were trained, among them 15,000 auxiliary nurses, attendants and "curiosas", 19,000 community leaders of the Ministry of Education (MOBRAL), as well as 6,000 community leaders of the Ministry of the Interior (RONDON);
- Five regional and three national meetings were held to exchange experiences and discuss problems, difficulties, and solutions;
- Four posters, three training manuals, and a flip-chart were produced and distributed;
- 500 sets of 46 slides each for professional audiences and for University Departments of Pediatrics, Nutrition, Nursing, and Obstetrics were produced and distributed;
- 500 sets of 46 slides each for mothers' groups were produced and distributed.

As a direct result of the program, 15 states incorporated breastfeeding into the curricula of the first and second grades; members of the Brazilian Pediatric Society provided the relevant information. At the same time, a new breastfeeding curriculum was also developed for medical and paramedical schools. Special programs for pediatric residents were developed, and breast-feeding questions were included in the final examination for the pediatric specialty. The Pediatric Society and its counterpart state-level organizations also took an active role in the program by publishing papers on breastfeeding, disseminating information about laws related to nursing women, introducing the issue of breastfeeding at national, regional, and inter-institutional pediatric meetings, and providing technical support for research in this area.

b. The Mass Media Campaign

The project also included a mass media component. A 45-day information

campaign was launched in March 1981 on television, radio, and in the press, using time and space retained by the government. The messages were communicated via spots, films, day-time women's shows, variety shows, and soap operas. Nearly 600 radio stations and 100 television stations all over the country participated. Press advertisements and messages on lottery tickets, telephone bills, electricity and water bills, and bank statements helped to sensitize the public, and officials at various levels of the government all over the country. Well-known and respected sports and soap opera stars participated in the program by appearing in spots advocating breastfeeding. A second mass media campaign was launched a year and a half later. It also featured testimonials by leading TV and film personalities.

c. Changing Hospital Practices

The project also worked to promote the adoption of rooming-in. Initially, a national two-day seminar was held to discuss the advantages and the obstacles to its adoption. Guidelines were developed, and a report was prepared and distributed. One year later INAMPS, the institution that runs 90% of the maternity hospitals in the country, institutionalized rooming-in in its facilities. Approximately 60% of the institutions now offer rooming-in.

d. Developing Mother Support Groups

The project particularly wanted to reach low-income mothers. La Leche League (LLL) representatives helped create mothers' groups in low-income areas. This practice was introduced through the "Legiao Brasileira de Assistencia" (LBA), an institution which runs primary health care units. Presently there are 13,000 trained Breastfeeding Counseling mothers and 1,500 Breastfeeding Mothers' Clubs that deal only with this issue. Many other activities of this kind are also being implemented by institutions such as the Catholic Church, universities, and volunteer groups.

e. Policy Initiatives

Finally, the National Committee studied the WHO/UNICEF Code on Marketing of Breast Milk Substitutes and decided to adopt it with some modifications. Discussions took place during 1981 and 1982 with participants from four ministries, and the Brazilian Code was adopted in July 1982 and sent to the Minister of Health.

Progress Indicators

An evaluation of the overall program is expected to take place in the near future. However, some indications of progress have already been observed:

- Isolated follow-up studies show that in some cities, there has

been a notable increase in the incidence and duration of breastfeeding;

- In 1983-1984, 60% of the government maternity wards, and 25% of private maternity wards adopted rooming-in;
- 30 new milk banks were opened in the first two and a half years of the program;
- 13,000 Breastfeeding Counseling Mothers were trained and passed the test;
- More than 1,500 Mothers' Clubs dealing with breastfeeding were created;
- Breastfeeding was incorporated into the curricula of 32 medical and nursing schools;
- Two regional lactation management training centers were established;
- Breastfeeding appeared as a subject in several television soap operas, and was played up by the press. When members of the Brazilian women's basketball team were interviewed at the Rio airport in 1983, much was made of the fact that two of the team members were breastfeeding their babies;
- Three books on the advantages of rooming-in were published;
- Numerous journal articles on breastfeeding were published: 78 articles appeared in pediatric journals and 40 in women's magazines during the period from January 1982 to March 1983;
- A drawing competition was established in which school-children were asked to illustrate what breastfeeding meant to them; over 6,000 students participated;
- Hundreds of people participated in two national and six regional photography contests on breastfeeding; the winning entries were prominently displayed in several cities.

Further Comments

These experiences highlight what can be accomplished through an integrated effort.

Training was essential in persuading women to change their infant feeding practices, in disseminating scientific information to the Brazilian health community, and in motivating them to change their attitudes and practices. The training had to begin with the health professionals, since the baseline had shown that it was the most credible source of medical

information for mothers, and because they can help to spread the word about breastfeeding through their professional contacts.

The use of the mass media was also important to the overall program. The mass media are an excellent vehicle for quickly sensitizing the audience to a problem, and assisting them in the assimilation of new concepts. The preliminary results of the Brazilian campaign show that messages delivered by credible sources such as soap opera stars, were very effective in fostering change; in particular, they facilitated the acceptance of rooming-in.

Mother support groups are a very important way of helping mothers continue breastfeeding after they leave the hospital. "Mothers teaching mothers" have been shown to be the most reliable method for getting low income mothers to prolong breastfeeding. The program found that although breastfeeding practices have improved, there is now a more evident problem of malnutrition among infants of weaning age. The program is therefore beginning to focus increased attention on developing research and training strategies relevant to improve weaning practices.

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CASE STUDY: EL CENTRO DE APOYO DE LACTANCIA MATERNA (CALMA)

IN EL SALVADOR

by

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Introduction

In the past half century, the decline of breastfeeding and the increase in inappropriate and unsafe artificial feeding practices have had a devastating impact on infants throughout the world. Nowhere has this change been felt more acutely than in developing nations. Morbidity and mortality rates are staggering. Even in the 1980s, more than a million babies die annually of malnutrition, while many more are mentally or physically handicapped by it. It is well known that breastfeeding can make a difference.

Interest in combatting the tragic consequences of the decline in breastfeeding has long been in the hearts and minds of many. Independently and together, non-profit organizations and governments have worked toward solutions. One such cooperative effort enabled La Leche League International (LLLI), the world's oldest and foremost non-profit breastfeeding organization, to establish El Centro de Apoyo de Lactancia Materna (CALMA) in El Salvador.

The Calma Project

In late 1979, eight mothers living in San Salvador, El Salvador conceived the idea for a breastfeeding center to serve Central America. In El Salvador alone, they knew, 20% of the population of some four and a half million people were women of childbearing age, yet only one in ten babies under a year was breastfed. The situation was critical.

Satisfaction with their own breastfeeding experiences and delight in the outstanding health of their breastfed children made these women eager to help Salvadoran mothers breastfeed their babies. Attributing much of their own success to the literature and individual support that La Leche League had given them, they embraced the opportunity to work with a long time LLL Leader who was also a professional nurse administrator. With her they prepared a proposal to fund a three year project of nearly half a million dollars -- some monies to come LLLI, some from Salvadoran sources, and the largest part from the United States' Agency for International Development (AID). AID/El Salvador recognized the urgency of the problem, approved the project, and awarded a contract to LLLI to undertake a project designed to increase the incidence and duration of breastfeeding and improve family

health and nutrition throughout the country.

In the following six months, three of these mothers studied to become LLL Leaders and were prepared to do their part in the project by the time the grant was approved. Meanwhile, through social and professional contacts, the eight mothers established a broad base of support for CALMA in the private and public sectors of San Salvador. Several prominent Salvadoran citizens and the Ministry of Health of the Salvadoran government provided advice and practical assistance. From among these supporters, the Board of Directors of CALMA came into being and became the guiding force in the development of the Center's program services. In early 1981, CALMA received its personeria juridica (sic) and began to function as a non-profit entity in a permanent office in the hospital district of San Salvador.

Just as the Center was becoming fully active, the country's political problems accelerated. For personal, professional and political reasons, one by one the eight women, who had been expected to supply most of CALMA's volunteer support, left the country. Several members of the Salvadoran staff also found it impossible to remain and the La Leche League Director was again in need of new Salvadoran staff members, including a manager. Ultimately a member of the Board of Directors resigned from the Board and became the on-site manager. Much of the success of the project during this difficult period in CALMA's history was due to this woman, a pediatrician and experienced breastfeeding mother, who rallied the Center's educational and administrative staff to a high level of commitment and competence.

The tense political climate and internal strife in the country created other problems and frequently made it necessary for the staff to alter, or in some cases, halt CALMA'S outreach to outlying hospitals, clinics, and citizens' groups. Dangers brought about by the revolution and clashes between revolutionaries and the army often forced eleventh-hour changes in training sites, and the completion of a baseline study was months later than planned. For more than a year, cancellation of seminars and other educational programs in the country's six health regions became commonplace. Without the flexibility and persistence of persons -- in both El Salvador and the United States -- who were totally committed to its success, CALMA might not have survived.

But survive it did. And in February, 1983, CALMA became a wholly indigenous and autonomous institution, fulfilling the hopes and expectations of those who had conceived the project four years earlier.

Activities

CALMA used LLL information, techniques, support and methodologies, adapted to the context of Salvadoran culture, to assist mothers directly, and to promote training programs for health care workers, national decision-makers, and the general public. The project focussed on low-income urban, marginal, and rural mothers and babies as its primary beneficiaries. Education for improved family health and nutrition became a significant accompaniment of the breastfeeding education program.

In addition to offering direct education about breastfeeding to mothers, teenage high school girls, and nursing students, CALMA carried out training programs to prepare lay and professional health care workers -- both male and female -- as breastfeeding promotores, able to impart their knowledge to their own organizations and communities. To achieve this, the education staff of CALMA trained staff members of hospitals, nursing schools, the Salvadoran Ministry of Health, ASONDES, Save the Children, CARITAS, CASAD, Plan de Padrinos, CREFAC, CONADES, and numerous other indigenous and international institutions, both public and private. Dietitians, nutritionists, family planning workers, and students in these and other health care disciplines attended CALMA's classes.

In 1979, under the guidance of LLLI, CALMA carried out a national baseline survey to determine the status of breastfeeding in the country. Funding and technical assistance from the International Nutrition Communication Service (INCS) made it possible for CALMA to develop a survey instrument and a procedural framework for survey implementation, and to produce a handbook for interviewers.

INCS also funded a workshop for CALMA staff, Central American LLL Leaders, and supporting consultants to begin the development of a curriculum for breastfeeding counselors. This curriculum -- designed to be of use throughout Latin America and in border states of the United States -- was accompanied by a Teacher's Guide that includes multi-level teaching plans.

Accomplishments

Though not yet fully quantified, the impact of CALMA is visible everywhere in Salvadoran health institutions, especially in San Salvador. Whereas in the past babies were separated from their mothers after birth and often until the time of discharge, now most newborns go to their mothers within six hours of birth and remain with them until the time of discharge. Powdered milk is no longer routinely given upon discharge from the hospital and nurses now give supportive breastfeeding information to new mothers. Under CALMA's guidance, mini milk banks have been established in several hospitals throughout the country. Educational curricula have been changed to include maternal and infant nutrition at several high schools and in the National School for Nurses. In the curriculum of the first year of a Salvadoran medical school, a comprehensive course in maternal and infant nutrition is now a requirement. A significant new effort in the clinical routine of the Ministry of Health is the regular inclusion of breastfeeding instruction during prenatal visits.

By the time CALMA became autonomous in 1983, under the guidance of LLLI, it had had instructed well over 1200 promotores in more than twenty public and private institutions and counseled several thousand individuals in breastfeeding management techniques. It had also given out a host of information about various aspects of maternal, child, and family health and nutrition.

Follow-up

Today, CALMA has broadened its efforts. From 1979 through 1982, it focused exclusively on breastfeeding, and on maternal, child, and general family health and nutrition. As a result of organizational developments, funding constraints, and the problems of surviving in a politically volatile environment, CALMA has diversified its activities in order to broaden its base of support. Recently it has undertaken infant stimulation projects, and generates much-needed funds from such activities as selling baby carriers. It continues to enjoy a good relationship with the Salvadoran Ministry of Health, and participates in government projects directed toward the improvement of maternal child, and family health.

As an autonomous agency with minimal financial support from outside, CALMA has vigorously developed and sustained its basic instructional programs and public education. Funding is sorely needed, however, to ensure the expansion — perhaps even the continuation — of El Centro de Apoyo de la Lactancia Materna in the economically impoverished country of El Salvador.

PROALMA: A CASE STUDY OF THE PILOT BREASTFEEDING PROMOTION

PROGRAM IN HONDURAS

by

Judy Canahuati, Technical Consultant/PROALMA

Introduction

PROALMA, an acronym derived from the words that mean "project to support breastfeeding" in Spanish, was a two-year pilot project developed by the Honduran Ministry of Health (MSP), the Social Security Institute (IHSS), and the National Welfare Board (JNBS) in collaboration with the U.S. Agency for International Development (USAID).

During the pilot phase, 1983-1985, four teams of health professionals, including doctors, nurses, and nursing auxiliaries, under the direction of Dr. Argentina de Chavez, a Honduran pediatrician, worked with institutional counterparts in the MSP hospital (Maternal-Infant Hospital), MSP outpatient clinics, the IHSS hospital in Tegucigalpa, and the IHSS hospital in San Pedro Sula to promote breastfeeding.

The specific objectives of the project were to increase health professionals' awareness of the importance of breastfeeding promotion, and to generate changes in the institutional policies and practices of hospitals, to make them more supportive of breastfeeding and maternal-infant bonding.

Background

Honduras is a Spanish-speaking Central American country whose two principal cities, Tegucigalpa and San Pedro Sula, began urbanizing rapidly during the early 1920s. The process continues today.

As the country became increasingly urbanized, and lifestyles began to change, some of the traditional customs thought to have facilitated breastfeeding in the past, such as that of mothers carrying their babies on their backs, were abandoned, and breastfeeding began to decline.

While there are no longitudinal studies that can be used to measure changes in infant feeding practices in Honduras over time, cross-sectional surveys carried out in the late 1970s and the early 1980s suggested that breastfeeding had been declining all over the country; that there were differences in the duration of breastfeeding by both maternal age and area of residence; and that in general, urban women breastfed for a shorter period of time than rural women (Govt. of Honduras, 1983; Suazo et al., n.d.; O'Gara, 1983).

In 1982, Honduras had an estimated infant mortality rate of between 99

and 115/1000 live births. Data show that a large proportion of infant deaths were due to diarrhea and dehydration. The proportion of infant deaths attributable to diarrhea rose from an estimated 12% in 1977 to 24% in 1982 (USAID, 1982).

The decline in breastfeeding appeared to be associated with the infant morbidity and mortality rates. The findings of a retrospective study carried out in the IHSS Hospital in San Pedro Sula during the period 1983-1985 showed that 50% of all new cases of diarrhea were among children under one year of age, and the data suggested that these might be attributable to premature weaning from the breast. All of the children who died of dehydration resulting from diarrhea during this period were exclusively bottlefed (Romero, 1985).

Studies also showed that an average of 68.5% of mothers delivering in the MSP and IHSS hospitals in Tegucigalpa introduced bottles within 24 hours of birth (O'Gara, 1982), and that only 30% of the infants in low-income neighborhoods in Tegucigalpa were breastfed exclusively during the first month of life. Eighteen percent were exclusively bottlefed from the first month of age and over 80% of the infants had received bottles by two months of age (O'Gara, 1983).

Bottlefeeding therefore came to be perceived as a problem that was closely associated with urbanization, and the use of modern health care services. The fact that most urban births took place in hospitals (86% according to O'Gara 1983), led to the idea of a project to promote breastfeeding in several urban hospitals.

The Proalma Project

PROALMA was developed as a pilot project. The initial hypothesis, later supported by the results of the evaluation, was that the decline in breastfeeding observed in urban areas was not due to a disinclination on the part of mothers to nurse their babies, but to their inability to cope with problems that sometimes develop during early breastfeeding. This suggested that the principal need was for trained health professionals and other support personnel who could help mothers with their problems, rather than for a campaign to convince them of the value of breastfeeding. The project therefore adopted a "top-down" strategy based primarily on health professional training.

The objectives of the project were: to increase national awareness of the need to support breastfeeding; to change the knowledge, attitudes and practices of hospital staff with regard to breastfeeding (their current attitudes and practices were thought to be particularly detrimental to breastfeeding); to develop educational materials on breastfeeding; and to establish breastmilk banks for feeding premature and sick newborns.

The initial phase lasted two years. The plan was to conduct an impact evaluation after the completion of the pilot phase to determine whether the strategy adopted was effective, and whether it could be successfully

implemented on a national scale. Baseline data for the project were collected using three separate knowledge, attitudes, and practice surveys: one for physicians; one for post-partum mothers; and one for the community at large. The survey data were complemented by routine hospital observations, and the same instruments and methods were used to collect evaluation data after two years of work in the hospitals.

The main activity of the project consisted of training health professionals in hospitals and health centers in Tegucigalpa and San Pedro Sula. About 22,000 births a year take place in the three target hospitals.

At first, the project hired its own staff, instead of using regular hospital personnel. Each participating hospital had its own program coordinator and breastfeeding counselor supplied by the project. All project staff members were women. During the first year, only one of them had had actual breastfeeding experience. They were initially trained by the staff of CALMA, a Salvadorean breastfeeding promotion project. This training was sponsored by the International Nutrition Communication Service (INCS).

These coordinator-counselor teams, consisting usually of nurses and nurse auxiliaries, worked with the Director (a pediatrician), the Assistant Director (a nurse), and a Technical Consultant (an anthropologist who was also a La Leche League Leader), to carry out in-service training for health professionals within the hospitals. They also supervised daily ward activities, worked with hospital and health center counterparts, counselled mothers with special problems, and helped develop hospital norms for rooming-in, for reducing mother-infant separation time, and for providing breastmilk for sick and premature infants.

In addition to these activities, PROALMA also organized two national medical seminars, developed educational materials, and disseminated them. During the pilot phase very little emphasis was placed on reaching mothers directly. Only one pamphlet targeted at patients was produced, in contrast to more than a dozen pamphlets targeted at nurses and physicians. In all, close to 2,000 health professionals received information and training during this phase and more than 21,000 copies of different educational materials were distributed.

Results

The evaluation of the project took place between January and March, 1985. The project staff continued to work during that period. The results show that the project effected significant changes in hospital routines, and in mothers' and health professionals' knowledge, attitudes, and practices.

All three of the participating hospitals adopted "rooming-in" as a standard procedure (Autotte, 1985). The procedures related to rooming-in were formalized in a set of hospital norms which were adopted by the Obstetrical and Pediatric Services of 2 out of the 3 hospitals and are in the process of being adopted by the third.

Routine provision of bottles for newborns and formula feeding to premature and sick newborns was abolished. The breastmilk banks that had been established provided enough own mother's milk to feed a large majority of all sick newborns. These supplies were augmented by those of an increasing number of healthy breastmilk donors. In 1984, the three project milk banks provided 254 liters of breast milk for hospitalized newborns. In 1985, these banks collected over 1200 liters of breastmilk (PROALMA, 1984-1985).

Other hospital procedures were modified to facilitate early mother-infant bonding. The mean length of time between birth and the first time infants were touched by their mothers declined from 6.8 to 4.5 hours. During the postpartum survey, 77% of the mothers had their infants with them when they were interviewed, in contrast to 32% at the time of the baseline survey. In two of the three hospitals, 90% of the mothers had their infants in bed with them at the time of interview (Zeldin, 1985).

More mothers were breastfeeding within one hour of birth at the time of the evaluation. In 1982, none of the women studied initiated breastfeeding during the first hour after birth; in 1985, 63% of the mothers in San Pedro and 53% of the mothers in the Materno-Infantil hospital in Tegucigalpa had started breastfeeding their babies within the first hour.

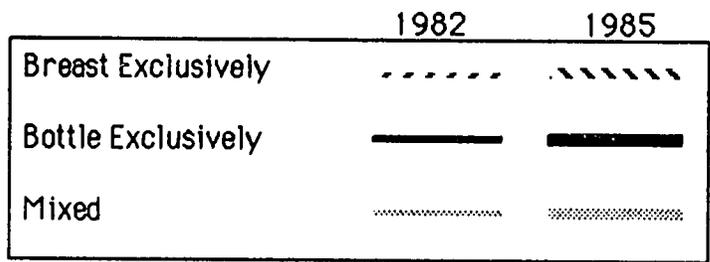
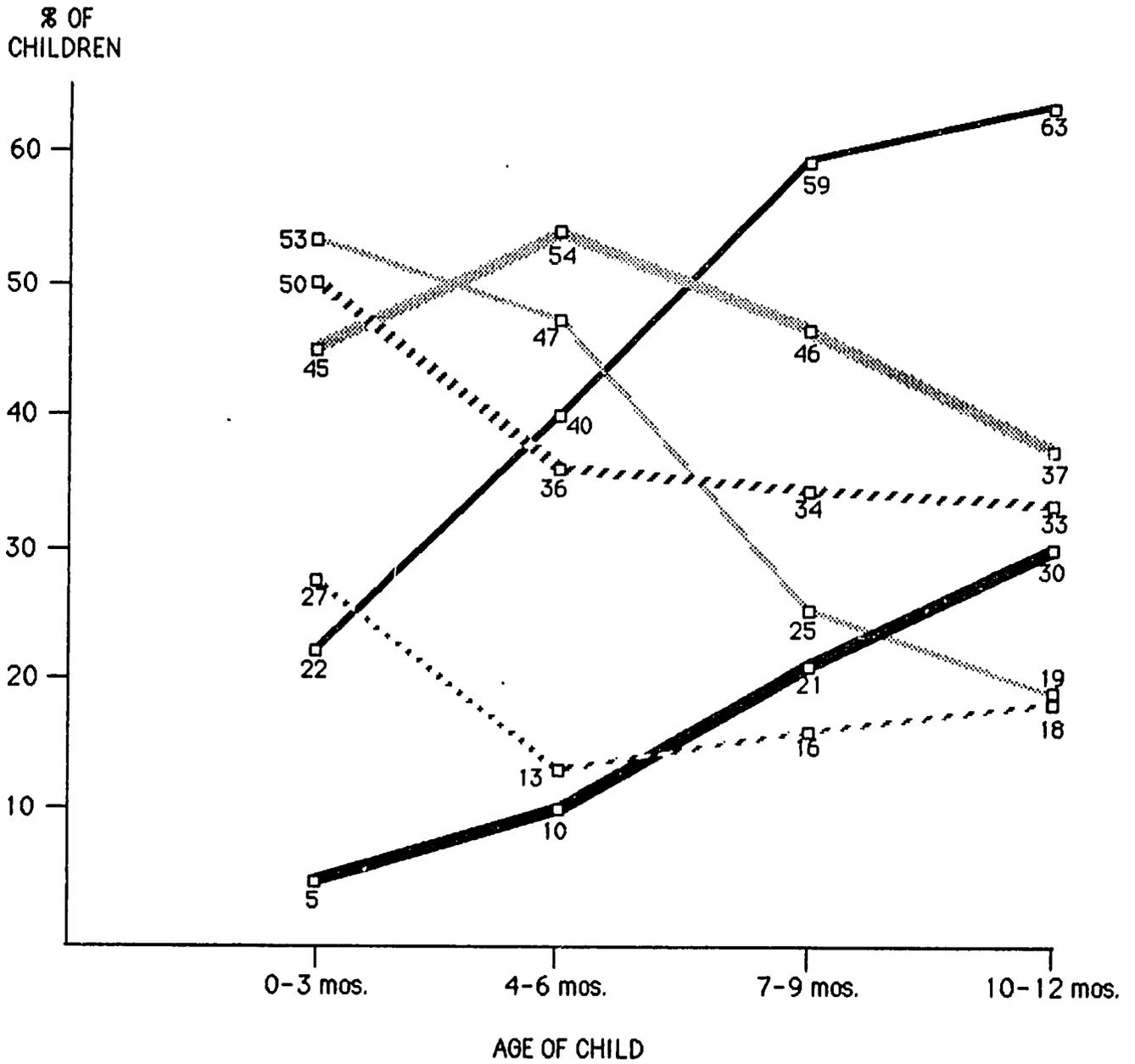
More mothers were receiving prenatal and postnatal education in 1985 than in 1982. In 1985, over 90% of the mothers interviewed in hospitals reported that someone had recommended breastfeeding to them; 55% were actually shown what to do. In comparison, in 1982, 62% had had breastfeeding recommended to them, but only 6.8% had been shown what to do. This was one of the most dramatic indications of the effectiveness of the project.

There was a dramatic increase in the number of doctors and nurses recommending breastfeeding. In 1982, physicians were generally slightly more supportive of breastfeeding than nurses. By 1985, overall numbers had increased dramatically, but the pattern had been reversed. In 1982, 20% of nurses and 35% of physicians surveyed recommended the initiation of breastfeeding at birth. In 1985, 75% of physicians and 89% of the nurses were in favor of breastfeeding. The percentage of doctors recommending on-demand breastfeeding increased from 46% to 68% during the pilot phase. The percentage of nurses favoring this procedure increased from 33% to 90%.

There was a dramatic change in mothers' infant feeding practices, as shown in the graph below (Zeldin, 1985). In 1982, exclusive breastfeeding averaged 19% among mothers surveyed and exclusive bottlefeeding averaged 46%. By 1985, exclusive breastfeeding had doubled, increasing to an average of 38% for the first year of life. Exclusive bottlefeeding dropped by two-thirds to an average of 15%.

The project technical staff had predicted an increase in the incidence of mixed feeding (it did increase modestly, from 36% to 46%) but no one had foreseen the great increase in exclusive breastfeeding or the dramatic

% OF CHILDREN BY MILK FEEDING PATTERN AND AGE



decline of exclusive bottlefeeding that occurred in just two years.

Infant morbidity and mortality also appeared to have declined. The extent of these changes has yet to be fully appreciated, but the survey provides some indication of the magnitude and direction. Women practicing exclusive breastfeeding reported a reduced frequency of child illness for both the two weeks preceding the interview, and other times, in relation to women practicing mixed or bottlefeeding. Only seven infant deaths (1.3% of the interviews) were encountered in the community sample. Of these seven infants, one was breastfed, one was mixed-fed, four were bottlefed, and one died at birth. It is clear, even from this small sample, that bottlefed infants are at a greater risk of illness and death than breastfed ones.

Necrotizing enterocolitis disappeared from the newborn nursery in San Pedro Sula. Its disappearance coincided with the period in which hospitalized newborns began receiving substantial quantities of breastmilk. The mortality rate for neonatal sepsis dropped from 1.9/1000 live births in the second semester of 1982 to 0 in the same period in 1984 (IHSS, 1985).

The use of infant formula declined. Consumption by the Social Security hospital system dropped by over 12,000 lbs., a decrease of 36%. In the San Pedro Sula hospital 2,427 cans of formula were distributed during the month of December, 1982. Consumption declined to 208 cans during November 1985, and averaged 296 cans a month for the year 1985, a drop of 87% with respect to 1982-1983.

Other Accomplishments

Breastmilk banks were established within target institutions. These banks played an important role in the decline of intra-hospital use of formula for hospitalized newborns. After an initial training course for PROALMA staff and counterparts in Costa Rica in 1984, all participating institutions set up these banks, which were equipped with electric and manual breast pumps donated by USAID.

A clearinghouse for information about breastfeeding was established. During the pilot phase, the project collected and catalogued over 500 documents, many in Spanish, related to its areas of concern. These documents have already been consulted by dozens of medical, nursing, and university students as part of their thesis or other research. In addition, it reproduced and distributed journal articles and book chapters to over 1,000 physicians and nurses.

Educational materials were developed. A pamphlet for mothers with basic information about breastfeeding was developed with funds donated by UNICEF. Since the evaluation, UNICEF has donated additional funds which have been used to develop a poster combining information on infant feeding with information about growth and development, to be used as a teaching instrument in MSP, JNBS, and IHSS infant facilities all over the country for 1986. In 1986, a pamphlet on nutrition for pregnant and lactating women and on infant feeding was also developed with support from private industry.

The Successes of Proalma

The PROALMA strategy can essentially be considered an integrated one. It combined all the necessary elements of breastfeeding promotion: health professional training; message dissemination; development and monitoring of hospital norms and practices supportive of breastfeeding (mother-infant bonding, rooming-in, elimination of routine bottles, etc.); and the development of breastmilk banks, mother support groups, and management of breastfeeding problems.

The approach aimed first at the nurses and physicians responsible for the management of neonatal services. Daily presence within the hospitals made it possible for project staff to work closely with both counterparts and mothers, to analyze the problems of these services, and to develop strategies for changing negative practices. The basic strategies developed for training hospital staff were daily ward rounds and periodic meetings, where staff members could discuss immediate problems with counterparts, and practical management courses for medical residents and interns which also involved ward rounds and practical problem solving.

Staff training appears to have been crucial in changing attitudes and practices, although the most visible aspect of its work has probably been its involvement with mothers, through community organizations, pilot mother support groups, and patient education.

Professional development undoubtedly contributed to the success of the project. The staff began with the formal training they received from CALMA staff, but over the course of the project they gained from both professional training and personal experience.

Personal experience was a particularly important source of growth and change. Whereas at the outset only a few of the women on the staff were mothers, by the second year, almost all of them had had babies, and become breastfeeding mothers. This experience heightened their understanding of breastfeeding problems, and gave them increased confidence in their interactions with mothers and health professionals.

Several different kinds of skills, all of them essential to breastfeeding promotion, emerged over the course of the project. Some members of the project staff and their counterparts became adept at individual problem solving and counselling; others developed skill in leading group discussions, which is crucial to the development of mother support groups. Some of the regular hospital staff acquired skills in breastfeeding education. As they did, they began assuming more of the responsibility for routine group instruction, but continued to refer problem cases to the PROALMA staff.

Continued study also contributed to the staff's growing expertise. After the initial CALMA course, project staff took a course in problem management given under INCAP auspices in 1984; a course on breastmilk bank

management given in Costa Rica; and prepared instructional materials for hospital staff training courses.

The project director participated in the Lactation Management Program offered by the University of California in San Diego. This course enabled her to develop training modules for physicians; these physicians in turn have begun to develop their own breastfeeding support activities in the hospitals and health centers to which they have been assigned.

What Remains To Be Done

In general, the evaluation shows the project was most successful in affecting mothers' attitudes and practices during the immediate post-partum period, a critical time and one of major emphasis in training courses. However, there are other areas that need work.

Little attention was paid to the processes of supplementing and weaning older infants. The evaluation showed that there were significant gaps in health professionals' knowledge of these areas, and that while there had been some change in their recommendations about feeding older infants, a great deal of confusion was still apparent. This confusion was mirrored in mothers' weaning practices, as evidenced by the results of the community survey. The survey showed that while juices tended to be introduced later, soups, vegetables and fruits were still being introduced earlier than the recommended 4-6 months.

There was also a gap in the area of family planning. Mothers had little knowledge of effective child-spacing methods and often believed that any kind of breastfeeding would offer contraceptive protection. Physicians also displayed little understanding of how to communicate options to parents.

Mother support groups that begin during pregnancy provide an appropriate forum for discussing many of these issues, and are also an effective means of providing the long-term support that breastfeeding mothers need. Traditional birth attendants, because of their own interest in these matters, can play a critical role in the development of a network of mother support groups in smaller towns.

In order to be able to accomplish all of these goals, new training strategies must be developed, appropriate for the education of both medical and non-medical support personnel. The PROALMA experience shows that both professional education and practical experience have an important role to play.

Recommendations

The PROALMA experience shows that both practical experience and professional education for both medical students and practicing physicians are important to the success of a breastfeeding project. Such training

helps them to give support both to mothers and to other health personnel who will be in closest contact with mothers.

Breastfeeding projects ought to include at least three kinds of activities:

a. Breastfeeding promotion, which should be carried out by individuals with a basic knowledge of the subject (including the advantages of breastfeeding for the growth and development of both sick and healthy newborns). Such individuals should also be trained in the basic strategies of primary maternal-infant health care and should understand the relationship of these issues to breastfeeding.

b. Mother support, which should be carried out preferably by women who have breastfeeding experiences of their own. These women should also know how to deal with common breastfeeding problems, how to lead small group discussions, and have some basic counseling skills. Support groups play an important role, and as more women return to breastfeeding, the need for them will become more apparent.

c. Breastfeeding consultations, which should be carried out by trained medical personnel or by lay experts who have in-depth knowledge and experience of breastfeeding problems. In addition to understanding the medical and technical aspects of breastfeeding and lactation, these individuals should also have the interpersonal skills required to promote and support it.

At the present time, PROALMA has had more experience in carrying out breastfeeding promotion and breastfeeding consultations, and only limited experience developing mother support groups. However, experience in Honduras and elsewhere suggests that these groups are particularly important in helping mothers maintain breastfeeding beyond the immediate post-partum period. In PROALMA II, it will be important to study the efficacy of different kinds of support groups.

The PROALMA experience has indicated the need for a "vertical" program within the health facility. Successful breastfeeding promotion requires substantial retraining of health professionals, and the development of new hospital procedures. Without a specific coordinator and a separate budget for breastfeeding activities, it becomes difficult to sustain the level of effort required to ensure proper staff training.

In summary, PROALMA has demonstrated the effectiveness of a vertical, "top-down" strategy in the development of breastfeeding support. Through the use of this strategy, staff members were able to generate changes in knowledge, attitudes and practices of both hospital personnel and mothers within a relatively short period of time. Although the major focus was on training, PROALMA had enough experience with both mother-support groups and mass media communications to indicate that these also have an important role to play.

Ideally, of course, a breastfeeding promotion program will contain the

three elements of training, communications, and mother support. However, PROALMA's experience suggests that "top-down" training is probably the most basic and important of the three.

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CASE STUDY: THE INDONESIAN NATIONAL BREASTFEEDING PROGRAM

Dr. Paul Matulesy, BK-PP-ASI

The Indonesian National Breastfeeding Program formally began in 1974 when the President of Indonesia, alarmed by the declining rate of breastfeeding and the increasing rate of infant morbidity and mortality, issued a Presidential Decree recommending that mothers return to breastfeeding.

Table: Infant Mortality Rate 1961 - 1984 for Indonesia

Y E A R	INFANT MORTALITY RATE *
1961	150
1971-1975	110
1980	98
1984	90.3

* Rates are expressed in units per thousand.

The Decree resulted in the creation of the Technical Commission of the Minister for People's Welfare and Health, an interministerial coordinating body composed of representatives of the Ministries of Social Welfare, Women's Welfare, Health, Family Planning, Education, and Telecommunications.

The Technical Commission created the institutional structure necessary for the implementation of programs to promote breastfeeding and set the stage for future activities.

In 1977, the proclamation of the International Year of the Child provided new impetus for breastfeeding promotion activities, and stimulated the creation of a new voluntary national working groups on breastfeeding, the BK-PP-ASI.

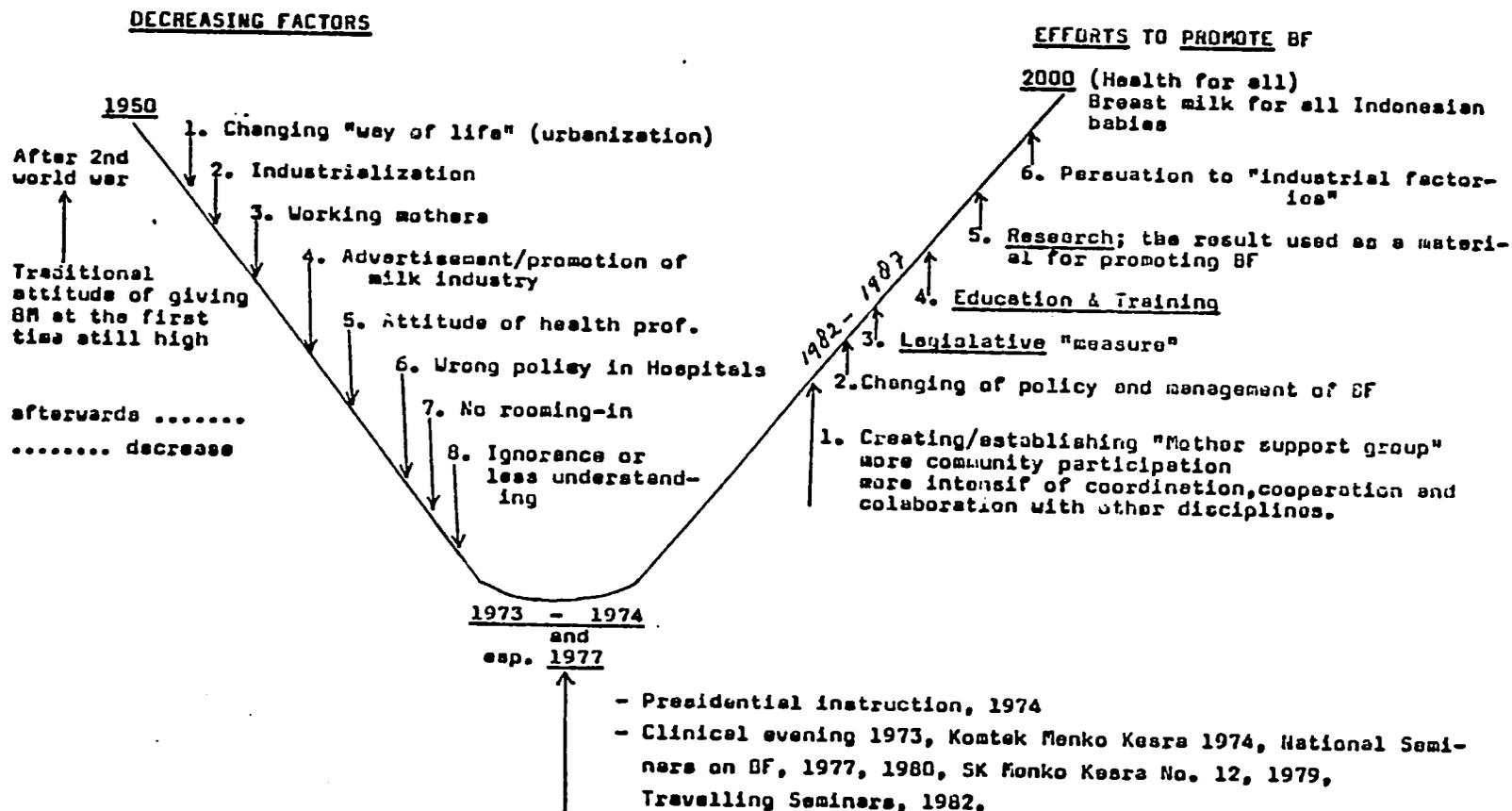
The new BK-PP-ASI was composed of representatives from the same Ministries that formed the Technical Commission, but it was expanded to include representatives from the major health professional associations, namely Pediatrics, Obstetrics, Nutrition, Midwifery, and Nursing, and from nongovernmental organizations. The purpose of this new body was to develop and implement breastfeeding promotion activities.

Between 1977 and 1982, the BK-PP-ASI implemented a variety of activities including continuing the mass media campaign that had started in 1977 through UNICEF efforts, sponsoring seminars and workshops for health professionals, and developing other activities to promote breastfeeding.

The major thrust of these activities was to sensitize health professionals about the advantages of breastfeeding and provide them with training opportunities. Seminars and workshops included visits by guest lecturers from other countries, including England, the U.S., and the Philippines.

In addition to the activities of the BK-PP-ASI, there were also policy initiatives implemented by the Indonesian Government which helped to create an environment favorable to breastfeeding. In 1977, the government banned

Fig. 1 SUGGESTION FOR WAYS IN WHICH BREASTFEEDING SHOULD BE PROMOTED IN-COUNTRY



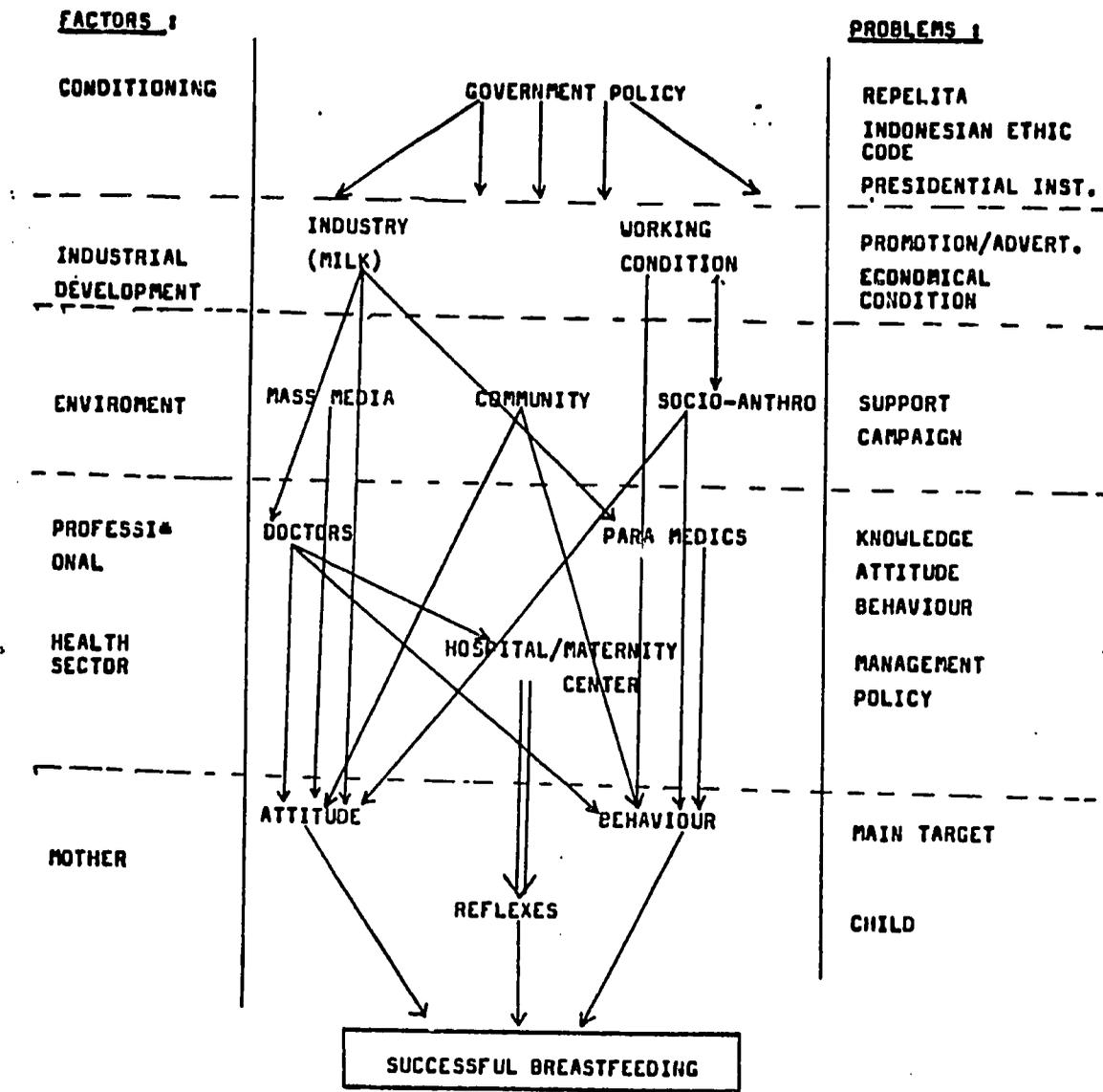


Fig. 2. Strategy for Planning Program

television advertising of all kinds and issued instructions to the manufacturers of breast milk substitutes requiring that their products carry a label explicitly stating that they should not be used as infant foods.

Concurrently, other initiatives were being taken by the private sector. La Leche League established its first chapter in Indonesia in 1979, through the efforts of a BK-PP-ASI midwife, Mrs. Mahar Marjono, wife of the Director of the University of Indonesia.

Mrs. Mahar Marjono was also instrumental in developing the first training manuals and materials. She translated La Leche League's The Womanly Art of Breastfeeding into Indonesian, and in addition she produced several leaflets on breast care and on the advantages of breastfeeding.

Geographically, the primary emphasis of these earlier activities was on Indonesia's major urban centers where bottlefeeding was a problem. However, breastfeeding problems also existed in rural areas, and the cultural differences between Indonesia's widely dispersed provinces had to be taken into consideration in program development.

In 1980, Indonesia began receiving assistance from USAID for breastfeeding promotion activities. The money received from USAID was used to extend the program into more distant rural areas. The geographic dispersal of Indonesia's islands gave rise to the idea of the Travelling Seminar. BK-PP-ASI requested assistance from The International Nutrition Communication Service (INCS)* in providing specialists for this seminar.

The Travelling Seminar consisted of a panel of internationally renowned experts on breastfeeding, including Dick Jelliffe, Patrice Jelliffe, and Audrey Naylor, who, over a two-month period in 1982 travelled to Semarang, Medan, Denpasar, and Bandung. During their trip, they met with local health professionals and conducted discussions with them to help diagnose the particular problems of each region and to formulate appropriate strategies for solving them.

Upon their return, members of the Seminar presented their recommendations to the Indonesian Government, to foreign donor agencies, and to nongovernmental organizations. They recommended the expansion of breastfeeding promotion activities to include training for health services staff, school teachers, and community leaders; the development of support groups for nursing mothers; and the promulgation of labor legislation to protect working mothers, and marketing legislation to restrict the sales and distribution of infant formula, which was beginning to make inroads into the rural areas. In addition, the panel recommended that pilot research projects be undertaken to help develop activities appropriate to the needs of each region.

The BK-PP-ASI received more prominence and visibility as a result of the INCS Travelling Seminar consultant report and in 1982 it replaced the Technical Commission as the formal coordinating body for the National Breastfeeding Program.

*INCS = a USAID-funded program that provides technical assistance and institutional support to nutrition education and social marketing programs overseas. The principal INCS' organizations are Education Development Center, Inc., and Manoff International.

Also as a result of the Seminar, new activities were developed. International agencies sponsored members of BK-PP-ASI to attend international conferences and to visit other countries that had ongoing breastfeeding promotion programs, including the Philippines, the U.S., Jamaica, and Brazil. In addition, a number of its members, including its Executive manager, Dr. Paul Matulesy, attended the Lactation Management Program at the University of California Medical Center in San Diego.

As the momentum for breastfeeding activities increased between 1982 and 1985, new legislative initiatives were developed that helped to further the promotion of breastfeeding. In 1982, for the first time, breastfeeding promotion was explicitly included in the National Five Year Plan (1982-1987), which assured it of a small but needed source of revenues.

Under Dr. Matulesy, changes were also made within BK-PP-ASI to help it further its goals. The organization was reorganized into five working committees, each with separate responsibilities in the following areas: government policy; industrial policy; the environment; the health sector; and individual-level (mother) behavior. What follows is a table showing the working committees and their responsibilities.

Table 1: Working Committees of BK-PP-ASI

<u>Committee</u>	<u>Responsibilities</u>
1. Public Service and Information	To develop campaign materials, leaflets, and posters for families and communities.
2. Education and Training	To change medical and paramedical curricula, and to provide refresher courses, seminars, and workshops for health professionals.
3. Breastfeeding Management	To encourage the development of mother support groups by training kaders, and prepared educational materials for kaders and mothers.
4. Research	To compile relevant research (from 1969 onwards); to maintain a file of research priorities for university-based research; to establish an information and documentation center on breastfeeding; to conduct pilot projects, and in some cases, obtain money from other sources to conduct research.
5. Legislation and Ethics	To lobby for legislation; monitor the implementation of the Indonesian Code on the Marketing of Breast Milk Substitutes; and to provide a high standard of professional ethics.

TABLE 2: INFANTS ROOMING-IN AS A PERCENTAGE OF TOTAL DELIVERIES

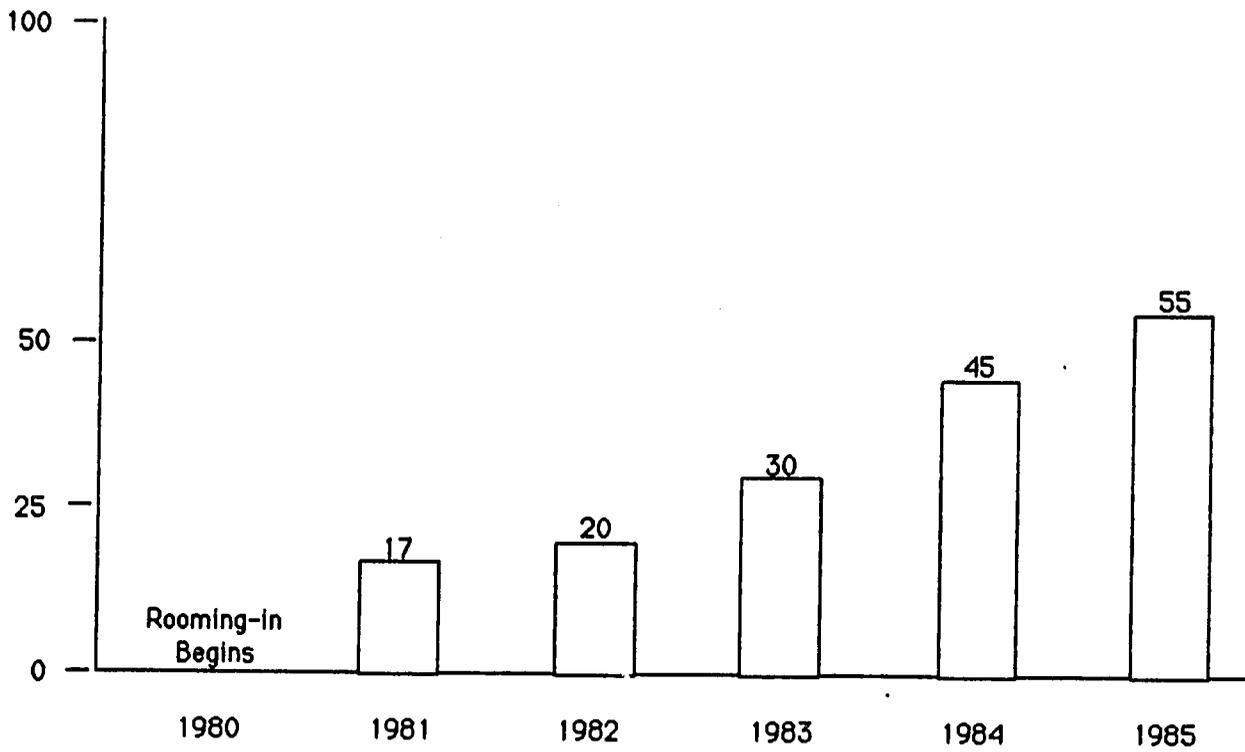


TABLE 3: CHANGES IN FEEDING METHOD IN RELATION TO THE INTRODUCTION OF ROOMING-IN

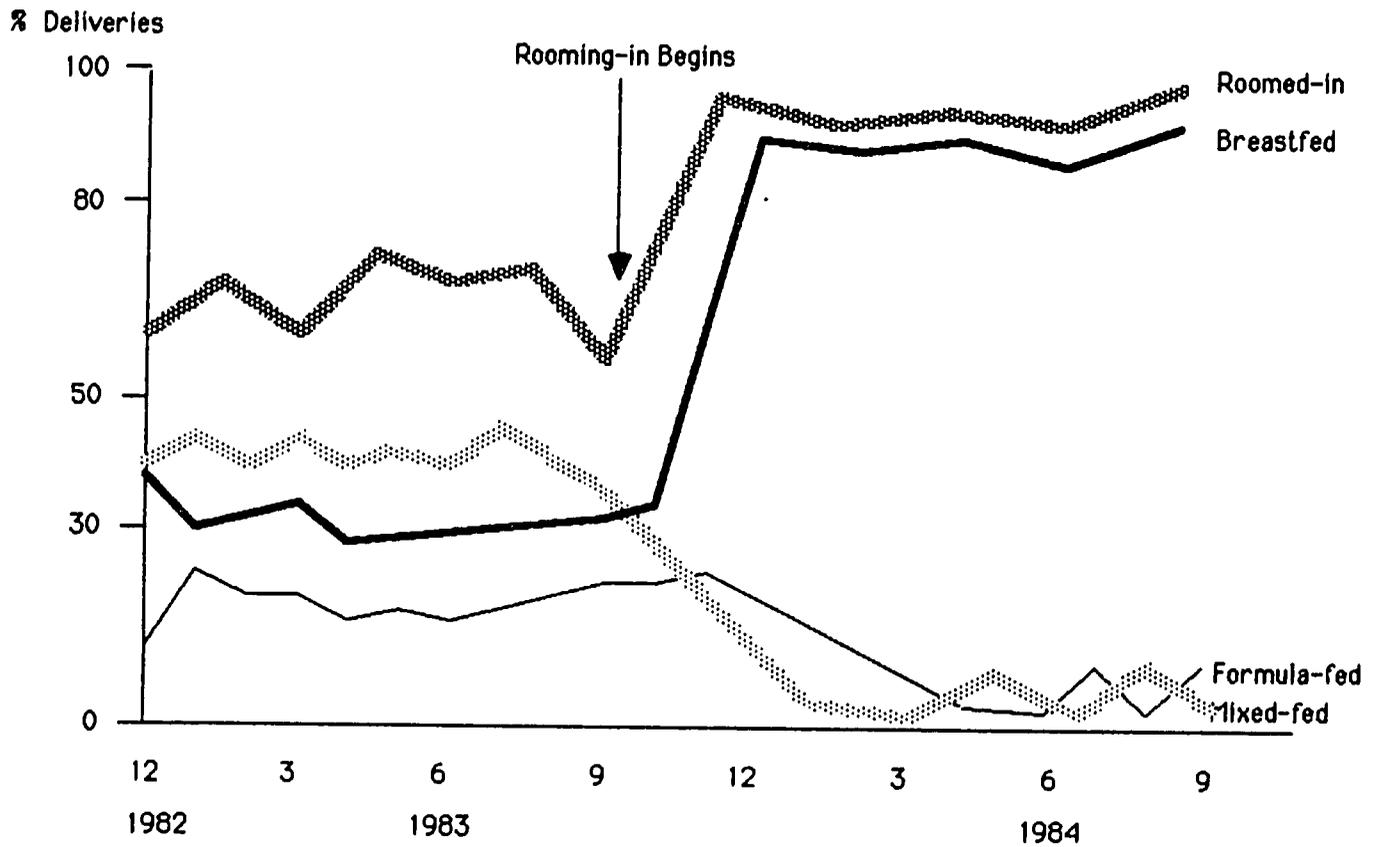


TABLE 4: USE OF INFANT FORMULA IN RELATION TO THE INTRODUCTION OF ROOMING-IN

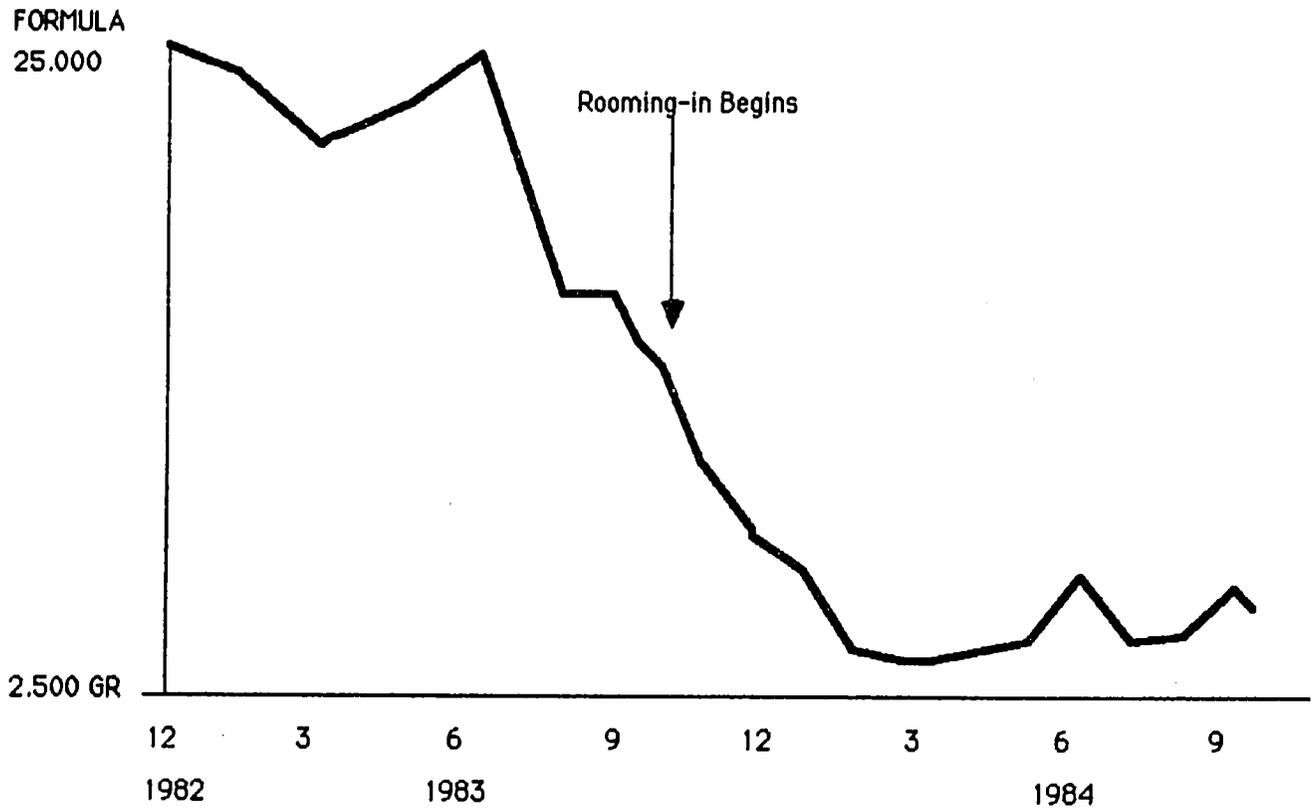
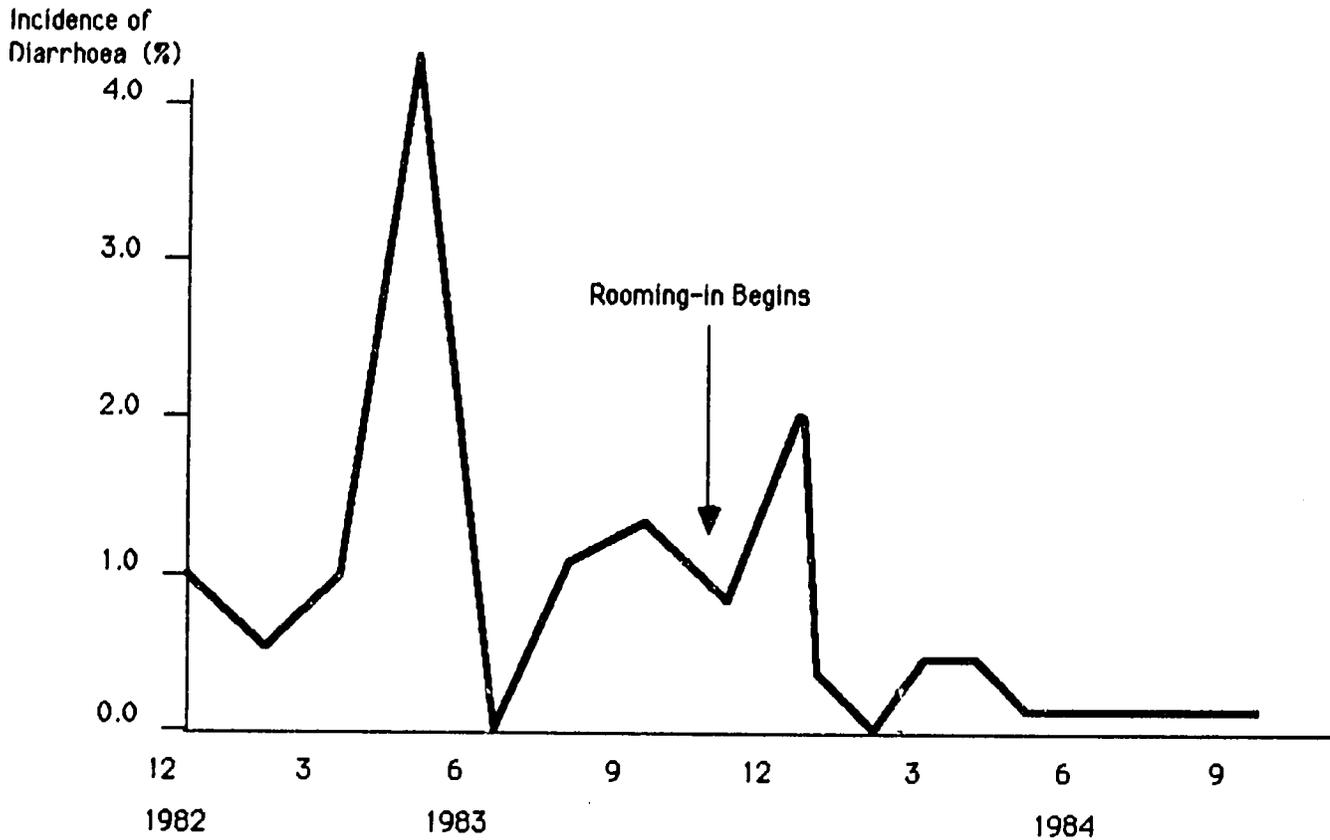


TABLE 5: INCIDENCE OF DIARRHOEA IN RELATION TO THE INTRODUCTION OF ROOMING-IN



Although the program has not been formally evaluated, a number of changes have taken place that strongly suggest that it is succeeding in achieving its goals, as shown in Tables 2, 3, 4, and 5. Rooming-in has increased steadily in hospitals around the country. As it increased, the use of formula and the incidence of diarrhea in hospitals decreased. Breastfeeding has shown corresponding increases.

Although a great deal has been accomplished, more needs to be done. In particular, there is a need for more training on breastfeeding techniques and lactation management for medical and paramedical staff, along the lines of the San Diego program, which was judged to be very effective.

In addition, there is a great need for educational materials for both professional and lay audiences. The National Family Planning program's experience in using video for educational purposes suggests that these might also be effective in promoting breastfeeding, because in Indonesia televisions are widely available in public places. Both funding and technical assistance, however, are required for effective implementation.

There is also a need to focus on the needs of working mothers. Between 1971 and 1976, female participation in the labor force grew by 9/2% per annum, and married women are more widely represented in wage labor than unmarried women.

Finally, there is a need for more baseline research to identify the nature and the magnitude of problems related to weaning, which are thought to be a major public health problem.

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CASE STUDY: BREASTFEEDING PROMOTION IN KENYA

by

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Introduction

Kenya lies on the east coast of Africa along the Equator. It is about 536,000 square kilometers, but only one fifth of it is readily inhabitable. Ninety percent of the population lives in this small area. The major urban centers and agricultural lands are located within it.

The estimated population in mid-1985 was twenty-one million with an annual growth rate of around 4%; 65% of the population is under twenty years of age. Approximately one million newborns are added to the population each year.

Table 1 indicates the demographic trend since independence in 1962. The most remarkable and disheartening finding is that the declining infant mortality rate has not been accompanied by a parallel decline in the total fertility rate. Instead, the total fertility rate has increased, leading to a rapidly rising population growth rate.

Contraceptive use has been disappointing. In 1979 only 7% of eligible women were using contraceptives. However, the recent contraceptive prevalence survey indicates that this figure has risen to some 14%, a 100% increase in five years.

The Problem

It is estimated that breastfeeding is one of the most effective contraceptive methods for rural women. However, the practice of breastfeeding has been a cause for concern, because it has been declining rapidly, particularly in the urbanized areas.

In rural areas, women still breastfeed for relatively long periods of time, typically 14 to 22 months. However, failure to supplement at the right time is relatively common, and of great potential danger to infant health. Studies by various agencies over the last few years, particularly the Central Bureau of Statistics, have revealed a trend towards increasing malnutrition from the age of six months up to the second year of life, after which nutritional status tends to improve slightly.

Past studies have indicated that urban mothers believe that formula is more beneficial to their babies than breast milk. They also believe that breast milk alone is not adequate for their babies. For these two main

reasons they often begin supplementing when the baby is one to two months of age. The formula companies have had a heyday in Kenya advertising and popularizing their merchandise. Their products have penetrated the most remote areas of the country.

The 1978-79 Child Nutrition Survey, conducted by the Central Bureau of Statistics of the Ministry of Planning and Economic Development, indicated that 58% of children 6-60 months of age had weights below the ninetieth percentile of the 1978 WHO standards. The proportion of stunted children in the 6-11 month age group was less than in the 12-23, and 24-47 month age groups, respectively.

The Strategy

The overwhelming evidence from these studies led to the development of a series of workshops, organized by academicians, civil servants, and non-governmental organizations, to work out ways to arrest the decline in breastfeeding, to improve weaning practices, and to counteract the adverse influence of the formula companies.

The workshop participants agreed that there was an urgent need to curtail the promotion, marketing, and free supply of formula in the country. They also considered the training of health workers in breastfeeding and weaning to be of paramount importance, because these workers would then be able to teach mothers about breastfeeding and weaning practices, and set a good example for them.

The Government of Kenya voted to adopt the UNICEF/WHO International Code on the Marketing of Breastmilk Substitutes in May 1981. Kenya published its own version of the Code in 1983. This Code leaves a lot to be desired. It could benefit, for example, from the addition of a penalty clause for companies not adhering to it. It would also be more effective if it indicated which government agency is responsible for its enforcement.

In April 1983, a multi-sectoral workshop on infant feeding was held in Nyeri. It prepared far-reaching recommendations for the promotion, protection, and support of breastfeeding. An almost immediate outcome of the workshop was the publication of a circular on infant feeding practices by the Director of Medical Services (MOH) in June 1983, addressed to all health institutions managed by the government, by NGOs, and by the private sector. The circular (see Appendix I) directed the institutions to implement early initiation of breastfeeding and rooming-in, to stop prelacteal feeds except under a doctor's orders, to promote exclusive breastfeeding up to 4 months, and to facilitate breastfeeding on demand. It banned the use of formula for healthy infants, and prohibited the display of formula company posters and other advertisements, and the distribution of free formula samples in hospitals and clinics. This action was a major shot in the arm for breastfeeding, because such circulars carry a lot of weight, and are closely adhered to by the institutions involved.

Another consequence of the Nyeri Workshop was the formation of an

Infant Feeding Committee. The Committee was charged with the responsibility for implementing the recommendations of the workshop. The recommendations related to the training of health workers, to the implementation of policy initiatives banning the advertising and marketing of breast milk substitutes, to the improvement of breastfeeding-related practices in health care facilities, to maternity leaves and breastfeeding opportunities for women in paid employment, and to public information and education in breastfeeding.

Activities

a. Health Professional Training

The Committee developed a plan of action to implement these recommendations. They considered the training of health workers and the enforcement of the Code to be the top priorities. Members had noted that many medical specialists were not very supportive of breastfeeding, and attributed this to a lack of knowledge about breastfeeding and its advantages. The Committee therefore focussed its attention on obstetricians, pediatricians and gynecologists, because of their contact with mothers during the crucial periods of pregnancy, delivery, and follow-up care. They also identified senior nurses and general duty medical officers as another primary target for training, because of their role in administering health institutions.

The Committee therefore organized a series of one- and two-week workshops/seminars to train health professionals. The seminars were conducted by a Kenyan pediatrician and two senior nurses who had attended the Lactation Management Program at the University of California in San Diego in January 1984. Since their return, they have been very active in conducting training seminars, and in monitoring breastfeeding promotion activities at home.

The objectives of these seminars were: a) to review the art and science of breastfeeding; b) to update knowledge of the anatomy and physiology of lactation; c) to review the advantages of breastfeeding, and the disadvantages of artificial feeding; d) to facilitate the sharing of breastfeeding knowledge and experiences among health care institutions; e) to improve the knowledge and attitudes of senior health officials on how to promote, protect, and support breastfeeding; and f) to disseminate and discuss the latest breastfeeding-related research findings from national and international sources.

The seminars began in late 1984. Appendix II provides more detail on what has been accomplished so far. Health workers from all parts of Kenya were invited to participate. As a result, Kenya now has a growing core team of trained health workers who have already begun disseminating breastfeeding and weaning-related information all over the country.

Initially the participants invited to these seminars were very skeptical about being trained in breastfeeding. However, by the end of the

seminar, almost all of them expressed surprise at how little they had actually known, and how much they had taken breastfeeding for granted.

b. Manuals and Materials

Another recommendation of the Nyeri Workshop was that a manual be prepared to help health workers teach mothers to breastfeed. The project was undertaken, and a manual was published in November 1985 which is now being distributed to health workers all over the country. In addition, the African Medical and Research Foundation (AMREF) reprinted the Manual on Helping Mothers to Breastfeed, by Dr. F.S. King.

c. Public Education Efforts

In addition to health professional training, other activities were also undertaken which were aimed at increasing awareness of the importance of breastfeeding among the public, and fostering the use of more appropriate weaning practices. The mass media, radio, television, and local newspapers have been used for this purpose. Several radio and television programs have been aired on an ad hoc basis. Members of the committee also wrote and published articles. Articles on breastfeeding have become a regular feature in newspapers and magazines. A government directive banned the advertising of formula by the mass media, including mobile vans with loudspeakers. This directive has been adhered to almost to the letter for the last eight years or so. Appendix III provides the list of Ministries, agencies, and organizations that are heavily involved in this effort. The MCH/FP and Nutrition Division also teaches breastfeeding.

d. Research

A workshop held at Karen College of Nutrition in May 1981 identified the following as priority research areas:

- feeding patterns in local communities;
- the knowledge, attitudes and practices of health workers with regard to breastfeeding;
- the relationship between maternal nutrition and the outcome of pregnancy;
- breastfeeding practices among working women on maternity leave;
- the relationship between maternal weight gain and the outcome of pregnancy;
- appropriate technologies to ease the burden of milling, preparing, preserving, and storing food; and collecting and storing water.

So far, studies have been carried out on the first two topics. It is possible that research on the other topics has either been completed, or is being undertaken at the present time. The Committee is often uninformed as to what studies are being undertaken because there is no central coordinating body or referral point for nutrition research. This is a constraint that the committee has had to face.

Other Organizations Active in Breastfeeding Promotion

Other organizations that are active in breastfeeding promotion in Kenya are the Breastfeeding Information Group (BIG), the Family Planning Association of Kenya (FPAK), the International Baby food Action Network (IBFAN), the Maendeleo ya Wanawake, and the YWCA.

BIG is a voluntary, non-profit organization formed by people committed to healthier breastfeeding and weaning practices. It has been a pioneer in the promotion of breastfeeding. It organizes lectures, radio and television programs, and publishes a newsletter. It also plans and supports a mother-to-mother information network. FPAK promotes breastfeeding for health and demographic reasons. IBFAN publishes a newsletter, and they have also been featured on television and in the newspapers. The Maendeleo ya Wanawake maternal and child health and family planning unit promotes breastfeeding through some 10,000 women's groups for both health and demographic reasons. The YWCA has initiated a project for home support for working mothers by offering training for child-minders and home helpers. The organization also conducts classes on parenting, and prenatal and postnatal care.

Breastfeeding is also being promoted through the primary health care system. All community health workers (including traditional birth attendants), family health field educators, and community-based distributors of contraceptives undergo training in breastfeeding. Through their efforts, many rural parents and future parents receive relevant information and education about the vital importance of breastfeeding.

These activities are being sponsored by FPAK, the Kenya Catholic Secretariat, the Maendeleo ya Wanawake, the PCMA, and the Ministry of Health.

Future activities

Among the activities planned for the future are: to expand health worker training to include more community health workers and traditional birth attendants; to include material on breastfeeding and weaning in primary and secondary school curricula so that boys and girls will learn about them during their formative years; and to include the same topics in greater detail in the curriculum for the School of Nurses, the Medical School, and the College of Nutrition.

Three courses for senior doctors and nurses are currently being planned, but in view of the difficulty of keeping doctors and senior nurses

in a training facility for more than a week, this course will be shortened to five days only. It will be very intensive and require full participation of all concerned.

Results

About 75% of the seminars planned have already been held; about 90% of those invited attended them. There is a committed team of breastfeeding promoters within the Ministry of Health who are Section/Division Heads. They have regularly devoted time to the seminars, and have often stepped in when others failed to turn up.

One of the yardsticks for evaluating the impact of these activities is to look at changes in breastfeeding practices in health care institutions. A study carried out in April/May 1985 looked at compliance with the Code as well as infant feeding practices in a sample of health institutions in seven districts and Nairobi City. The results showed that the directives of the circular were being followed fairly closely, but that compliance with the circular was generally much better in government institutions than in private organizations.

In around 65% of government and non-government maternity units, babies were being breastfed within one hour of delivery. This was considered to be a high proportion because in Kenya, many of the mothers who deliver in hospitals have health problems, and may experience difficulty breastfeeding due to anaesthesia, or other complications.

In over 90% of institutions, there was total rooming-in. This is most encouraging. A few years ago, even healthy babies were kept in nurseries and breastfed on a tight schedule of every 3-4 hours. Demand feeding is now being carried out in 72% of the health institutions.

Prelacteal feeds, such as glucose or dextrose continued to be given to newborns by more than 60% of maternity units. This was a major cause for concern. The training program for health workers will need to lay more emphasis on the dangers associated with this practice. A second edition of the Director of Medical Service's circular scheduled to be issued early in 1986 will highlight this problem. Part of the problem is that glucolin is still widely advertised in the mass media. However, efforts are afoot to prohibit these advertisements. It is important to consider glucolin as a breast milk substitute and restrict its distribution according to the provisions of the Kenya Code.

In 80% of health facilities, cups and spoons, rather than bottles, were used to feed infants who for one reason or another could not be breastfed. The Kenyatta National Hospital (the national referral and major medical training center) and the Pumwani Maternity in Nairobi, no longer use infant formula to feed premature babies, and babies whose mothers are unable for one reason or another to feed them. This is a tremendous improvement. Only a few years ago, the use of the bottle was almost universal. The campaign against the bottle has gained a lot of converts.

Unfortunately, feeding bottles and teats continue to be advertised and displayed in shop windows. There will always be some elites who will use this equipment, and perhaps to expect none in the shops is wishful thinking. There is a move to make them available only in pharmacies, to be sold on a doctor's prescription. This action may be a long time coming, since no other country has managed to do it successfully except possibly Papua New Guinea.

Conclusions

The last two years have witnessed a tremendous spurt in breastfeeding promotion activities in Kenya. Significant progress has been made, but much remains to be done. In order to give greater credibility to this program, politicians need to be educated about breastfeeding. We must draw their attention to the disturbing effects of improper feeding, and the benefits to be derived from a return to traditional breastfeeding practices. This should have special appeal. In public meetings, politicians can then appeal to the public to promote, protect, and support breastfeeding. Politicians can even legislate for longer paid maternity leave than exists today, for nursing breaks, and for the provision of creches by employers to facilitate breastfeeding.

The other major constraints to breastfeeding promotion in Kenya are as follows:

- Resource people have other duties to attend to, and cannot spend the amount of time required on breastfeeding activities. Some regularly fail to show up for assigned duties because they have other commitments. Persons knowledgeable about breastfeeding can rarely afford to spend more than a day or two conducting training sessions.
- Educational materials and visual aids are scarce due to limited funding and a lack of available, trained people to produce them.
- Officials on the Infant Feeding Committee are publicity-shy, and few turn up for mass media interviews.
- Doctors and nurses tend to feel they already know all there is to know about breastfeeding, so they do not turn up in the numbers expected for training sessions.

One way to get around some of these problems would be to create a breastfeeding unit in the Ministry of Health similar to those handling EPI and ORT. There is also a need for more trained personnel who can devote their time to the training courses. The San Diego Lactation Management Program should be replicated in Kenya. However, in order for this to succeed, organizations and institutions must be sensitized to the importance of breastfeeding promotion so that they will release their personnel more

readily for training and breastfeeding activities. In addition, more audio-visual aids need to be developed.

USING EDUCATIONAL STRATEGIES TO PROMOTE BREASTFEEDING:

A CASE STUDY OF THAILAND

by

Somchai Durongdej and Ronald C. Israel

Introduction

The following case study describes a project designed to change breastfeeding practices at nine hospitals in Bangkok, Thailand which began in 1984, and was recently evaluated. The project was developed by the Faculty of Public Health, Mahidol University with assistance from the International Nutrition Communication Service (INCS). It was designed to promote breastfeeding-related institutional changes in eight of the major hospitals where 70% of all births in Bangkok take place. The project received assistance in implementing this educational effort from INCS and from LINTAS, a private sector advertising firm in Bangkok.

The project was developed in response to a three year study of the determinants of infant feeding practices, funded by the U.S. Agency for International Development (USAID) and carried out by the Mahidol University and a consortium of U.S. institutions, including the Population Council, Cornell and Columbia University. That study became the baseline against which the impact of the project is currently being measured.

The Baseline

The baseline study identified an important trend away from breastfeeding towards early and often inappropriate supplementation practices. A major determinant of this trend appeared to be a health care delivery system that failed to provide adequate medical support for mothers who wanted to breastfeed.

Prior to the intervention, mothers and infants were usually separated from each other right after birth, and babies were kept in a separate nursery. The study documented a widespread belief among Thai health professionals that separation of mother and child after birth would lessen the rate of infection, despite recent evidence to the contrary.

The study also showed that health professionals lacked the practical knowledge to help mothers who had difficulties with lactation, and that mothers often received free samples of infant formula in hospitals.

Furthermore, even though mothers from poor and congested urban areas had sufficient milk to nurse for 3 to 4 months, the majority of them began bottlefeeding their infants from the very beginning. Infant formula and other breast milk substitutes were often improperly used, and foods consumed by young children were often highly contaminated, resulting in high rates of

infant morbidity and mortality.

The Project

The project adopted a four-tiered strategy aimed at: a) increasing the breastfeeding-related knowledge, attitudes skills and practices of health professionals in Bangkok through professional training; b) changing hospital practices to increase the incidence of rooming-in and other practices that facilitate breastfeeding c) improving the infant feeding behaviors of low-income mothers in Bangkok through a combined hospital and communications-based strategy; and d) institutionalizing public sector support of breastfeeding promotion activities through supportive legislation.

During the course of the project, the third objective was operationalized as an increase in the percentage of mothers initiating breastfeeding and practicing exclusive breastfeeding during their hospital stay.

The strategy focussed on a series of action-oriented training seminars for health professionals from each of nine participating hospitals. Primary emphasis was placed on this component because of the important role that health care providers have been shown to play in determining the initiation and continuation of breastfeeding up to three months of age.

The project was conducted through the Faculty of Public Health, Mahidol University, under the direction of Dr. Somchai Durongdej, in collaboration with INCS. INCS provided direct support to the project by sponsoring the training of Thai health professionals by the San Diego Lactation Management Program, and by providing technical assistance in the development of the communications and intervention strategies.

Initially, a four member Thai health professional team, sponsored by INCS, was trained in lactation management techniques at San Diego Lactation Management Program in San Diego, California. Upon their return, this core team, along with faculty from Mahidol University and Siriraj Hospital became the principal trainers at three week-long workshops for approximately 75 other health professionals from each of the eight hospitals.

Eight hospitals participated in the project. These were: Rajvithi, Ramathibodi, Siriraj, Pramongkutklao, Vachira, Taksin, Somdejphrapinklao, and Bangkok Christian. All are government hospitals, except for Bangkok Christian, which is affiliated with The Church of Christ in Thailand. Of these, Vachira, Siriraj, Pramongkutklao, Somdejphrapinklao, and Rajavithi are utilized primarily by lower and middle socioeconomic groups.

Each hospital was invited to send a team consisting of a pediatrician, an obstetrician, a pediatric nurse and an obstetric nurse. At the training session, staff from each hospital were asked to serve as lactation management trainers for colleagues who did not attend, and to develop goals for improving infant feeding practices at their hospitals. Staff from the

Faculty of Public Health provided organizational support and encouragement for efforts that took place at individual hospitals.

At the end of the workshop, each group prepared goals and plans to encourage breastfeeding in their home institutions. These plans consisted mainly of strategies for changing hospital practices, disseminating scientific and technical information, and passing along skills acquired through the workshop. Each group shared its plans with the others during the last session of the workshop. Administrators from each institution were also invited to participate in this session in order to allow them to make comments, and to increase their commitment to the program.

LINTAS, an international advertising firm with offices in Thailand, implemented the communications component. They developed two posters and one leaflet promoting rooming-in, which were widely displayed on the walls of the maternity wards and hospital corridors, and were distributed to mothers during antenatal visits. The leaflets also contained a breastfeeding "passport", which was designed to be carried by mothers when they went to the hospital, to signal that they intended to breastfeed and provide information to help them obtain the kind of care necessary. A booklet on the promotion of breastfeeding was also developed and distributed to working mothers from low-income groups.

The Ministry of Public Health recently issued guidelines to all public hospitals located in Bangkok. The guidelines contain information on how to establish rooming-in and other breastfeeding supportive practices in public health hospitals.

Results

All hospitals implemented an intensive effort to change their practices. In teaching hospitals, the practice of separating infants from their mothers is now being gradually abandoned. Other efforts to change hospital practices include discouraging the use of medications during delivery that might inhibit lactation, providing early contact between infants and mothers, and withholding prelacteal feeds. These changes are being accomplished more slowly in private than in public hospitals. However, when INCS Director Ron Israel visited the project in April 1985, he noted that impressive changes had taken place in all of the hospitals he visited.

At Vachira Hospital, a government hospital under the responsibility of the Bangkok Metropolitan Administration (7,755 deliveries in 1984), the newborn nursery had been abolished except for babies with complications; infant formula and prelacteal feeds were no longer given out; all hospital staff had been trained in lactation management; several nurses had been given specific responsibility for promoting breastfeeding; mother-infant separation had been reduced to 4-6 hours; and a rotating milk-bank had been established.

At Pramongkutklao, a government hospital under the responsibility of the Medical Department of the Royal Thai Army, (4,246 deliveries in 1982) babies were being returned to their mothers within 6 hours of delivery; vigorous promotion of breastfeeding had resulted in estimated savings of 700 formula bottles per day; and an outpatient baby contest had been established for breastfed babies.

At Siriraj, a government hospital under the responsibility of the State University Bureau, and the teaching hospital that pioneered breastfeeding promotion in Thailand (19,817 deliveries in 1982), babies roomed-in with their mothers after a separation of only 4-6 hours; infant formula, prelacteal feeds and water bottles were no longer being given; privately purchased bottles were not permitted in the hospital; and an active training program had been established for health professionals.

At Somdejphrapinklao, a government hospital under the responsibility of the Naval Medical Department (6,196 deliveries in 1983), rooming-in was total; mothers began breastfeeding immediately after delivery; infant formula and prelacteal feeds were no longer given out; a mother education program had been instituted; a lactation clinic for new mothers had been set up; and a breastfeeding promotion video had been produced.

At Rajavithi, a government hospital under the responsibility of the Ministry of Public Health, administrative steps had been taken to shorten mother-infant separation time, and to discourage the use of prelacteal feeds; a lactation training center was being organized; a lactation component had been integrated into the activities of the hospital's well baby clinic; a lactation management workshop had been scheduled; and a new program had been established to counsel mothers, conduct breast examinations, and correct any physiological problems that might impair breastfeeding.

The evaluation showed that there was a positive association between the percentage of health professionals trained in a given hospital, and the percentage of mothers initiating breastfeeding. There was also a decrease in the length of time between delivery and the initiation of breastfeeding. The proportion of mothers breastfeeding at the time of discharge from the hospital ranged from 2% to 100%, with an average of 56%.

Mothers' responses to a questionnaire showed that their knowledge of breast care had increased with respect to the pretest, and that knowledge of breast cleaning and care was significantly associated with exclusive breastfeeding at one month. 85% of mothers were rated moderate or high in breastfeeding-related knowledge on the post-test. As knowledge increased, the proportion of mothers initiating breastfeeding within 24 hours also increased.

The data also showed that in 7 out of 8 hospitals, the proportion of mothers exclusively breastfeeding at six weeks postpartum was higher among mothers who had initiated breastfeeding within 24 hours than it was among mothers who did not initiate breastfeeding within 24 hours. The proportion of babies being exclusively breastfed at six weeks of age ranged from 20% to

74%, with an average of 50%.

On average, 89% of mothers reported that they followed their doctor's instructions with regard to breastfeeding and other child-rearing practices. Many of those who did not comply with their doctors' instructions reported that they worked outside the home, that they did not have sufficient milk, that their babies refused the breast, or that they had health problems.

Summary

It appears as if the Bangkok Breastfeeding Promotion Project is having a major impact on breastfeeding practices in Bangkok hospitals. Five years ago, Bangkok was at the heart of the infant formula controversy. Today, the situation has radically changed.

As a result of the project, 80% of the staffs from the participating hospitals have been (or will shortly be) trained in lactation management skills. Infant feeding practices in each of the participating hospitals have changed. The new policies and practices are supportive of breastfeeding. A Ministerial Order on hospital practices related to infant feeding, originally drafted by project staff, has been issued by the Ministry of Public Health. Although it does not have the force of law, it has served as a catalyst to galvanize hospitals into action.

The project has also had an effect on non-participating institutions: representatives of several of these institutions have already been sent as observers to lactation management workshops. The effect is also beginning to spread outside of Bangkok. Maharaj, a major hospital in northern Thailand is also undertaking a major effort to improve infant feeding practices. Posters and materials produced by the project are being disseminated to hospitals throughout the country.

What is needed now are funds to support follow-up studies to track the post-hospital infant feeding practices of mothers who deliver at the eight project hospitals. This information would help shed some light on the degree to which changes in hospital practices influence subsequent infant feeding behavior and the extent to which further educational interventions are needed. Nutrition educators agree, however, that hospitals are where the process must begin.

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THE SAN DIEGO LACTATION MANAGEMENT PROGRAM:
A CASE STUDY OF HEALTH PROFESSIONAL TRAINING

by

Audrey J. Naylor, M.D.

Introduction

Abundant evidence from laboratory and clinical studies leaves no doubt that breastfeeding is best for human infants and their mothers. The complex, species-specific nature of the nutritional and immunologic components which meet the changing needs of the infant are impossible to duplicate. Additionally, there is no way to replicate the ever-changing physiological, psychological, and developmental interaction which occurs between the nursing mother and her infant.

It is also clear that the superiority of human milk and breast-feeding over formula and bottle-feeding holds true for rich and poor families alike, and persists whether they live in developing countries or industrialized nations such as the United States. Breastfeeding is a major factor in the prevention of infant morbidity and mortality in the developing world.

Through the complexity of immune factors and the well-balanced nutrient content in human milk, as well as its availability to contribute to oral rehydration, breastfeeding can prevent one million infant deaths each year. Its endocrinologic influence on fertility and child spacing provides an estimated 30% more contraceptive effect than is provided by other family planning programs currently in place in developing nations.

The importance of health professional training

A fundamental obstacle to successful breastfeeding has been the lack of health professionals with knowledge and training in the clinical management of lactation and breastfeeding. Most health professionals are ill-equipped to give their patients advice about breastfeeding, and to deal with the problems that may arise. In addition, many hospitals follow procedures that disrupt lactation.

As a result, as increasing numbers of women came into contact with modern health care services, unintended weaning became increasingly common. The realization that this process contributed significantly to infant morbidity and mortality gave rise to efforts to promote breastfeeding in both the developed and the developing world.

The promotion of breastfeeding is a multi-faceted process, but essential to its success are perinatal health care providers who understand the complexities of lactation and suckling, and who are trained to apply this understanding to the clinical management of breast-feeding. In addition, medical attitudes and hospital practices must be changed. In

order to do so, health professionals must have accurate and current scientific information about lactation, breast milk and breastfeeding, and have opportunities for supervised clinical training in how to manage the nursing mother and her infant.

In many developing nations, as in the United States, medical, nursing and midwifery education as well as postgraduate training in the perinatal specialties have been deficient in lactation education. The deficiency is perpetuated by the lack of knowledgeable faculty to provide the needed training.

During the past 5-10 years, however, there has been a significant increase in the information provided for students of the health professions regarding the advantages of breast milk and breastfeeding. The neuroendocrinology of lactation is also being more thoroughly discussed in many professional programmes, but instruction regarding the clinical management of lactation and breastfeeding is still far from universal and supervised clinical experience rarely available.

The San Diego Lactation Management Program

As a means of solving the problem of health professional training, a program to train health professionals was developed at the University of California San Diego Medical Center (UCSDMC) in September 1977.

The Lactation Program was multi-departmental in design with contributions from Reproductive Medicine, Pediatrics, and Community and Family Medicine, as well as from the hospital's Nursing and Social Service Departments.

Educational activities of the program included staff inservice education and instruction of medical students and post-doctoral trainees. Six distinct program components were developed: 1) prenatal guidance; 2) skilled immediate postpartum assistance; 3) a 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.

In 1983, the program moved its base of operation to a nearby affiliated teaching hospital, Mercy Hospital and Medical Center (MHMC). In July 1985, the program took another major developmental step forward, becoming an independent non-profit educational organization (known now as Wellstart/San Diego Lactation Program) and is now located in its own facility within a short walking distance of both UCSDMC and MHMC. Much of the seminar, small group teaching and outpatient clinical experiences are provided within this facility. In-patient rounds are arranged at UCSDMC and home visits and community clinic activities are carried out in cooperation with the San Diego County Public Health Department.

The Program has a large collection of teaching aides, which include professional textbooks, reprints, slides, films and videotapes, a 35 mm.

slide projector and screen, videotape player, a breast examination self-instruction set, and numerous pumps and other devices sometimes used to assist a breastfeeding mother and/or infant.

In 1983, the program expanded its educational activities to include a series of special training courses for health professionals from developing countries. These training courses were funded by U.S.A.I.D. via a subcontract with The International Nutrition Communication Service (INCS).

This intensive four-week course in lactation management was specifically designed for physician-nurse teams from teaching hospitals in developing countries. The specific objectives of the international training were:

- a) to train teams of physicians and nurses from teaching hospitals as lactation specialists, so they would be prepared to assume responsibility for breastfeeding programs designed to offer both service and teaching and to function as models for possible replications in other teaching hospitals;
- b) to assist these teams in developing a model service and teaching program appropriate to their own setting;
- c) to assist these teams in designing inservice and continuing education activities regarding lactation and breastfeeding for their physician and nursing colleagues; and
- d) to assist the teams in selecting or developing appropriate teaching materials for their own programs.

Trainees participate in 50 hours of classroom instruction, 50 hours of clinical work and case conferences, 12 hours of review of teaching methods and aides, and 12 hours of field observations. At the conclusion of the courses, each team selects a core of teaching slides and references and develops plans for lactation programs which they will undertake after returning home.

All aspects of the program emphasize the complex physiology of lactation, the multi-determined, learned nature of successful breastfeeding, the biological interdependence of a mother-infant couple, and the family's influence on nursing. Trainee clinicians and observers also become comfortable with maternal breast examinations, and come to understand the importance of carefully observing nursing technique. Both groups learn physiologically sound methods of preventing and treating common breastfeeding problems, such as let-down inhibition, engorgement, nipple abrasion, clogged ducts, and mastitis. They become knowledgeable about the causes and treatment of suckling dysfunction, and learn how to approach the diagnosis and treatment of slow weight gain and reluctant nursers without immediately recommending weaning or supplementing.

Physician-nurse teams from nine countries (Indonesia, Kenya, the Philippines, Thailand, Honduras, Costa Rica, El Salvador, Dominican

Republic, and Guatemala) completed the training course during the first four sessions. In fifteen major teaching hospitals in these countries, lactation programs are now vigorously developing. Early nursing without prelacteal feedings, total rooming-in and elimination of supplements are becoming standard practice. Residents, students and staff are participating in breastfeeding rounds and lactation clinics, and courses and conferences are being provided for other institutions and professional groups in the community. These lactation programs, with their focus on health professional education, are providing an essential prerequisite for the change in medical attitudes and practices needed for an effective breastfeeding promotional campaign in these developing countries.

The teams trained in the first four courses had a major impact on the breastfeeding promotion activities in their nations. Because of the apparent success of the courses, the Program was awarded additional direct grant funding from U.S.A.I.D. to offer additional courses. The grant funds were used to cover the cost of participants' tuition, room, and board costs for four weeks in San Diego. Funds for transportation were provided by nongovernmental organizations, in-country AID missions, and by the participants themselves. The grant also provided funds for post training technical assistance to help course graduates get their own teaching programs underway.

Results and Conclusion

The fifteen teams trained in this project (as of January 1985) work in hospitals with a total annual number of deliveries of 143,422. If total deliveries remain at approximately the same level, 587,638 mother-infant pairs will have been cared for in these institutions, and affected by the new perinatal care routines by the end of five years.

By the end of 1985, these teams will have trained approximately 2,500 other health professionals in their own countries. If each of these professionals provides care for only two mother-infant pairs each week (an extremely conservative estimate) 750,000 mother-infant pairs will have been cared for in five years. The estimated cost of the training, per mother-infant pair affected, based on these projections, comes to 22.2 cents.

If breastfeeding is to be seriously promoted throughout the world, and if infants from all walks of life are to receive the many benefits of human milk and breastfeeding, then skilled services from knowledgeable health professionals are essential. In order to assure the availability of such professionals, clinical learning opportunities concerning lactation and breastfeeding must become an unquestioned, standard unit of medical and nursing education and of postgraduate training in the perinatal specialties.

Teaching hospital-based lactation programs offer an ideal means of providing these learning opportunities. Because of the complexity of both the physiology of mother and infant and of the interactive behavior between them, such programs deserve the same degree of attention and support given to any other complex subspecialty, and should be under the direction of

knowledgeable and experienced medical faculty with primary training in one of the perinatal specialties. Lactation programs such as this can make a major contribution to the successful promotion of breastfeeding for all infants and mothers.

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APPENDICES

APPENDIX A

SUMMARY OF THE SESSIONS

The A.I.D./INCS sponsored International Breastfeeding Conference provided an opportunity for professionals with experience in breastfeeding promotion to come together to: a) discuss current issues in breastfeeding promotion; b) make some specific recommendations about the direction breastfeeding promotion should take over the next decade; and c) to identify ways in which more resources can be allocated to breastfeeding programs in developing countries.

The sessions were organized around several broad topics. The first session dealt with the adequacy of existing research, and whether there was a need to increase data collection efforts, or modify existing methods in order to obtain information needed for breastfeeding program development and evaluation. Most participants agreed that the existing knowledge base is limited by: a) the fact that much breastfeeding information comes from surveys carried out primarily for other purposes; b) the lack of a consensus definition of breastfeeding; and c) the imprecision with which terms used to describe other feeding methods (e.g. weaning) are used.

The participants also discussed the effectiveness of recent programs, and concluded that the success of recent breastfeeding promotion programs needs to be communicated to a broader international audience. A need for a simple, uniform methodology for collecting and analyzing evaluation data was also expressed.

Participants generally agreed that because of the central importance of breastfeeding to infant health, it should be integrated with other child survival activities such as oral rehydration and immunization. However, concern was expressed that an integrated strategy might not be enough to ensure adequate attention to breastfeeding. Participants felt that it was important that the area of breastfeeding be the specific responsibility of one individual who would be able to push for breastfeeding activities and ensure that its importance is not forgotten.

Resources for breastfeeding programs are scarce, as the participants noted, and over time there has been a tendency for funding to decrease, as breastfeeding gives way to newer, "more exciting" health saving technologies. They agreed that emphasis needs to be placed on getting results out to policymakers and the public to make them more aware of the continuing importance of breastfeeding, and to make it a higher funding priority.

In terms of future directions, most participants agreed that emphasis should continue to be placed on professional training. They praised the San Diego Lactation Management Program and suggested that it should be either expanded or replicated elsewhere in the world to make it accessible to a larger number of health professionals. They also agreed that mass media, health maintenance organizations and mother support groups would continue to have an important role to play.

Strategies for supporting breastfeeding among working women were also discussed. Participants agreed that there needs to be more emphasis on working women, but that policy initiatives such as the provision of

maternity leaves or services (creches, for example) have to be applied in such a way as to minimize the economic disincentives against hiring women.

Finally, they cautioned that the public should not become complacent about the bottlefeeding controversy. The problem will still be with us for some time, and health professionals need to develop a strong code of ethics to guide their relationships with the private sector.

A number of mechanisms were identified for increasing the status of breastfeeding as a public health concern, including the establishment of an International Breastfeeding Consultative Group. The two day meeting concluded with participants agreeing to urge donor agencies and ministries of health in LDCs to consider adopting the Conference recommendations.

APPENDIX B

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APPENDIX C

CONFERENCE SCHEDULE

MONDAY, DECEMBER 16

A. WHAT DO EXISTING TRENDS IN BREASTFEEDING PRACTICES TELL US?
10:00 a.m. - 12:30 p.m.

(Reference papers by Notzon, Forman and Popkin and
New Westinghouse Questionnaire available for participants)

Issues: Many landmark studies on breastfeeding practices are now 5-10 years old (e.g., the World Fertility Study, the WHO Nine Country Study, the Contraceptive Prevalence Studies). Do we know more now?

What are the gaps in our knowledge? Is it important to fill them?

Do the proposed breastfeeding questions in the new Westinghouse study help fill the gaps in our knowledge?

What existing data remains unanalyzed?

How important is it to collect new data and in which specific areas?

MODERATOR: Ted Greiner

B. HAVE RECENT PROGRAMS BEEN EFFECTIVE? 1:30 p.m. - 3:00 p.m.

Issues: What has been accomplished by specific programs in the following areas: hospital-based programs; training of health professionals; mass media campaigns; community-based support groups; private sector initiatives; policy and legislation?

How have these programs been evaluated, i.e., what are the strengths and weaknesses of our analysis? (Background papers on Breastfeeding Program Evaluation available for participants)

MODERATOR: Dick Jelliffe

C. SHOULD BREASTFEEDING PROGRAMS FOLLOW A VERTICAL OR AN INTEGRATED STRATEGY?
3:30 - 5:00 p.m.

Issues: What are advantages and disadvantages of vertical and integrated programs?

What should be our criteria for making strategic choices?

How should vertical programs be organized, e.g., should special breastfeeding program coordination offices be established within ministries?

What happens to breastfeeding promotion in the context of an integrated program, e.g., GOBI initiatives, primary health care, family planning?

What are the roles of NGOs and the private sector in integrated programs?

MODERATOR: Patricia Marin

TUESDAY, DECEMBER 17

D. WHAT ARE THE RESOURCES FOR BREASTFEEDING PROMOTION?
HOW CAN THEY BE TARGETED? HOW CAN THEY BE INCREASED? 9:00 a.m. - 10:30 a.m.

(Background papers available for participants)

Issues: Who is currently supporting breastfeeding promotion programs in LDCs and to what extent?

What are trends in levels of funds available and foci of support?

What strategies for breastfeeding promotion should be targeted for support?

Are an International Consultative Group or an International Center of Excellence viable concepts?

What strategies are appropriate for targeting more resources for breastfeeding promotion programs, e.g., selling a package of success stories?

MODERATOR: Ron Israel

E. WHAT ARE FUTURE PRIORITIES FOR BREASTFEEDING PROGRAMS IN DEVELOPING COUNTRIES? 11:00 a.m. - 12:00 noon

Issues: How should the issue of breastfeeding and working women be addressed?

How can the initial successes in health professional training and hospital practices be expanded upon?

How can the private sector be encouraged to be more supportive of mothers who want to breastfeed?

How can community support groups be strengthened?

In what ways should mass media be used?

MODERATOR: Paul Matulesky

- F. HOW CAN A.I.D. BEST BE SUPPORTIVE OF BREASTFEEDING IN DEVELOPING COUNTRIES?
1:30 p.m.- 3:00 p.m.

MODERATOR: Chloe O'Gara

- G. PRESENTATION AND REVIEW OF RECOMMENDATIONS 4:00 p.m - 5:00 p.m.

WEDNESDAY, DECEMBER 18

- H. PROMOTING BREASTFEEDING. A PRESENTATION AND PANEL DISCUSSION ON PROGRAMS, ACTIVITIES, AND OUTCOMES.

IMPORTANT: This meeting will be held at:

Department of State
21st and C Streets, NW
Room 3524 (3rd floor)

International participants will be invited to Boston for December 19 - 20 to work on case study materials and to give a presentation at the Harvard School of Public Health.

APPENDIX D

LIST OF BACKGROUND MATERIALS AVAILABLE AT THE CONFERENCE

- Brown, Roy E. "Breastfeeding and Family Planning: A Review of the Relationships Between Breastfeeding and Family Planning." The American Journal of Clinical Nutrition, January, 1982.
- Da Cunha, Gerson. "Communications and a Breastfeeding Programme in Brazil." UNICEF Publication, 1982.
- Forman, Michele R. "Review of Research on the Factors Associated with Choice and Duration of Infant Feeding in Less-Developed Countries." Pediatrics, 1984
- Greiner, Ted. "Infant Feeding Policy Options for Governments." Draft report for the USAID-funded Infant Feeding Consortium, Division of Nutritional Sciences, Cornell University, November, 1982.
- Greiner, Ted. "Making Optimal Use of Breastfeeding for Birth Spacing Planning for Action within the Health Sector." A Report for the WHO Inter-Regional Workshop on Breastfeeding and Fertility, WHO Regional Training Centre, Mauritius, October, 1985.
- Greiner, Ted. "Swedish Development Assistance Related to Breastfeeding - Past, Present and Future." Background paper for the SIDA/SAREC meeting, Stockholm, May, 1982.
- Marin, Patricia, and Yedda Oliveira. "The Breastfeeding Programme in Brazil." UNICEF Publication, 1985.
- Matulessy, Dr. P.F. and Dr. Poerwanto, "Breastfeeding in Indonesia." Presented at the Asian Regional Seminar for the Promotion of Breastfeeding, Manila, September, 1982.
- Matulessy, Paul and Suharyono. Promoting and Protecting Breastfeeding in Indonesia. BK.PP.ASI, Jakarta, Indonesia, 1985 (unpublished).
- Michael, Ruby A. "Promotion of Breastfeeding in Health Centres in Malaysia." Paper written for Regional Graduate Applied Nutrition Course, University of Indonesia, Jakarta, 1984.
- Notzon, Francis. "Trends in Infant Feeding in Developing Countries." Pediatrics, 1984.
- Palafox, Estrella F. "The Effects of Nutritional Status of Lactating Mothers on the Adequacy of Lactation." Paper written for Regional Graduate Applied Nutrition Course, University of Indonesia, Jakarta, 1985.

- Popkin, Barry M., Richard E. Bilsborrow, and John S. Akin.
"Breastfeeding Patterns in Low-Income Countries", Science, 1982.
- Potts, Malcolm, Shyam Thapa, and M.A. Herbertson, (eds). "Breastfeeding and Fertility." Journal of Biosocial Science Supplement No. 9, Cambridge, England: Galton Foundation, 1985.
- Sangvi, Tina. Summary of International Assistance for Breastfeeding Promotion Activities, Clearinghouse on Infant Feeding and Maternal Nutrition, American Public Health Association, Washington, D.C., December, 1985 (unpublished).
- Spring, Patricia Marin, Olga Maria Silverio Amancio, Fernando Nobriga, Galba Araujo, Sian Koppel and John Dodge. "Fat and Energy Content of Breastmilk of Malnourished and Well-Nourished Women." Annals of Tropical Paediatrics, Vol. 5, 1985.
- Tognetti, Janet. A Review of Breastfeeding Program Evaluations, paper presented at the International Breastfeeding Conference sponsored by INCS and AID, S&T/N, Washington, D.C., December 16-18, 1985.
- Weiss, Joseph and Patricia Marin. Breastfeeding Baseline Study, Sao Paulo and Recife Metropolitan Areas, Brazil. Summary of final report of the same title, UNICEF, Brazilia, January, 1982.
- Westinghouse Electric Corporation Health Systems. "Model Questionnaires for High (Core A) and Low Prevalence (Core B) Countries." Demographic and Health Surveys Project.
- Winikoff, Beverly, Virginia Hight Laukaran, Deborah Myers, and Richard Stone. The Dynamics of Infant Feeding: Mothers, Professionals and the Institutional Context in a Large Urban Hospital. The Population Council, New York, 1985.

APPENDIX E

23 January 1986

Dear:

Current world health priorities are rightly focused on preventing disease and death in young children in less technically developed countries. Such activities have come to be labeled as the "child survival development revolution" and are being vigorously pursued by national governments and by international agencies, such as WHO, UNICEF, and US AID. These programs are channeled through increasingly extensive networks of primary health care services and staffed by community health workers with limited technical training and resources of all kinds.

Until recently, the key practical, feasible activities which could produce the most effect were sometimes summarized by the acronym: "GOBI-FF" ("G"--growth monitoring by serial weighing and recording on weight charts; "O"--oral rehydration for dehydrated children with diarrhea; "B"--breastfeeding; "I"--immunization; "F_p"--family planning; "F_d"--feeding of older infants and mothers).

This combined package is of the highest importance as it leads to the greatest benefit for the least cost for the largest number of young children. However, in the past two years, an imbalance appears to have been developing, with increasingly overwhelming emphasis given to the "O" and the "I"--that is, to oral rehydration and immunization--with breastfeeding having a very minor, almost token role in planning, training, and, most importantly, in funding. This is emphasized by the fact that of the \$85 million appropriated by the US Congress for Child Survival programs in fiscal year 1985, less than \$200,000 (or approximately 0.2%) was allocated for breastfeeding activities.

This is perhaps understandable in modern technological society. The important and life-saving results of oral rehydration therapy (ORT) have scientific biochemical appeal (for example, the metabolic influence of glucose on the "sodium pump" in the intestinal mucosa) and fit into the "quick fix" or "magic bullet" approach that is the main characteristic of western-derived allopathic medicine.

Also, the important spread of immunization (via the "Expanded Program of Immunization" [EPI]) is a technological way of approaching the prevention of many important infections in children, especially when they are malnourished. However, it is an effective, but largely mechanistic, approach with technological considerations dominant, including, for example, the maintenance of a "cold-chain" for vaccines and equipment for administering them.

Likewise, both oral rehydration and immunization have very substantial commercial impetus for the producers of ORS (oral rehydration salts), vaccines, and immunization apparatus--and this is, of course, excellent.

Figure 1: Breastfeeding as a component of all elements of GOBI-FF (see text for explanation)

Breastfeeding has an important role in all aspects of GOBI-FF (Figure 1). First, it is the major key to satisfactory growth (G) in early infancy. It both protects against diarrhea and also should form an essential part of oral rehydration (O), as modern research shows the desirability of continuing breastfeeding throughout episodes of diarrhea. Breastfeeding (including the use of colostrum) is part of both passive and active immunization (I) against some infections. When practised in a biological fashion--that is, with frequent feedings during the 24 hours--breastfeeding provides more "couple-years protection," in other words, child spacing or family planning (F_p), than is attainable from currently available technological contraceptive services. Lastly, in traditional societies, breastfeeding into the second year of an infant's life supplies a small, but invaluable, supplement (F_d) to the other foods the child should be consuming from the age of six months or so.

It is the view of the undersigned that equal attention be given to all components of the child survival packet. This is not to disparage the great importance of ORT and EPI. In particular, the need is for breastfeeding to be given full attention and adequate funding. No other activity has such a wide range of effects. To give less than equal attention to breastfeeding than to other more technologically appealing approaches would be a tragedy and a most serious loss.

Both ORT and EPI are vital components of the child survival program and need dynamic continuation and development. Their increasing use and effectiveness is to be applauded. However, by contrast, the biological process of breastfeeding is being given decreasing attention. Together with current reappraisal of the practical usefulness of growth monitoring undertaken by community health workers (G), difficulties with modifying weaning diets (F_d), and with funding restrictions unfortunately limiting family planning (F_p), there is a danger of GOBI-FF becoming OI and gbff. This is

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unwise, unfortunate, and needs urgent attention and reorientation by policy makers.

In particular, it has been emphasized that the "B" part of the survival packet is biological, poses no logistic problems, and affects all aspects of GOBI-FF (Figure 1).

We are writing this to draw the attention of policy makers and health professionals. The child survival development revolution has to be based on a blend and balance between technology and biology.

Sincerely,

Dr. Roy E. Brown
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Dr. Sandra Huffman
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San Diego Lactation Program

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Ms. Marian L. Tompson
Board Member & Founding Mother
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Dr. Nancy Williamson
Director, Program Evaluation
Family Health International

Dr. Beverly Winikoff
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APPENDIX F

A NOTE ABOUT THE CONTRIBUTORS

Martin J. Forman -

is Director of the Office of Nutrition, USAID in Washington, D.C., having held that position for approximately 10 years.

Ronald C. Israel -

is Vice-President and Director of EDC's International Programs and has served as the Director of EDC's International Nutrition Communication Service (INCS) since 1979. A social marketing specialist, he has been involved in development of all INCS health communications projects.

Chloe O'Gara -

is a Nutrition Advisor in the Office of Nutrition, USAID in Washington, D.C. She holds a doctorate in education and provided technical assistance to the PROALMA project in Honduras.

Tina Sanghvi -

is a free-lance consultant who has worked throughout the world on health and nutrition projects. She has served as Nutrition Advisor in AID's Office of Nutrition.

Audrey J. Naylor -

is Director of Project Wellstart (formerly the San Diego Lactation Program. She is one of the first medical professionals to recognize the need for and to organize training courses for health professionals to promote breastfeeding.

Richard K. Manoff -

is President of Manoff International, Inc. He has been a leader in applying commercial marketing techniques and strategies to programs aimed at solving social problems such as malnutrition and family planning. He is the author of the book, Social Marketing: A New Imperative for Public Health.

Marcia Griffiths -

is Senior Vice President of Manoff International, Inc. She has had a decade of experience working with community-based growth monitoring and education programs in more than 10 countries around the world. She is the author of Growth Monitoring of Preschool Children, a UNICEF/World Federation of Public Health Association monograph.

Robert C. Hornik -

is well known for his research and evaluation work in development communications and public health education programs. An associate professor at the Annenberg School of Communications at the University of Pennsylvania, he has also worked on media-based educational programs in Latin America and Asia.

Janet Tognetti -

is a graduate student at the Harvard School of Education and specializes in the design and evaluation of nutrition education programs in developing countries. She is currently employed by the Harvard School of Public Health.

Gayle Gibbons -

is Director of APHA's Clearinghouse on Infant Feeding and Maternal Nutrition and the editor of the newsletter, "Mothers and Children". She is an education and information specialist.

Patricia Marin -

is Project Officer for UNICEF/Guatemala. She has long been involved in maternal/child health projects in Latin America. She played a major role in the social marketing program in Brazil that promoted breastfeeding on a national scale.

Betty Ann Countryman -

was Director of the CALMA project in El Salvador. She has been actively involved with La Leche League for over 25 years, having served as the Chairman of the Board for La Leche League International.

Judy Canahuati -

is a consultant in lactation management and breastfeeding promotion. She is a technical consultant to the PROALMA project carried out in Honduras.

Paul Matulessy -

is Executive Manager of the BK.PP.ASI (the National Working Group of Breastfeeding Promotion and Protection in Indonesia). He specializes in training related to breastfeeding.

John Kigundu -

is Director of the Division of Family Health, Ministry of Health in Kenya. He has long been involved in efforts to promote breastfeeding within his country, as well as throughout Africa.

Somchai Durongdej -

is a professor of nutrition at the Faculty of Public Health, Mahidol University. He is Director of the Infant Feeding Practices Project and was the Thai coordinator for the USAID-funded Infant Feeding Practices Determinants Study.