

BREASTFEEDING: INVESTING IN CALIFORNIA'S FUTURE

*Breastfeeding Promotion Committee Report
to the California Department of Health Services
Primary Care and Family Health*

DEPARTMENT OF HEALTH SERVICES

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November 15, 1996

Dear Colleague:

It gives me great pleasure to forward the final report of the Statewide Committee on Breastfeeding Promotion entitled, "Breastfeeding: Investing in California's Future."

Primary Care and Family Health's Collaborative Breastfeeding Efforts

In 1994, the Women, Infants, and Children (WIC) Supplemental Nutrition, Maternal and Child Health (MCH), and Children's Medical Services Branches worked within Primary Care and Family Health (PCFH) to convene the Statewide Committee on Breastfeeding Promotion to provide PCFH recommendations to increase breastfeeding incidence and duration rates in California. I am impressed with the collaborative relationship that has existed thus far within PCFH to address this issue as well as the professional expertise of the members who serve on this breastfeeding advisory committee.

Breastfeeding Promotion Is Part of Governor Wilson's Prevention Agenda

This report clearly outlines why breastfeeding promotion activities should and will be part of the Governor's Prevention Agenda. The International Journal of Gynecology and Obstetrics reported in 1994 that two to four billion dollars could be saved annually in health care expenditures in the United States if all women breastfed their infants for as little as 12 weeks. Given these statistics, breastfeeding promotion must be taken seriously. Breastfeeding promotion will enhance existing department efforts to reduce sudden infant death syndrome and breast cancer, as breastfeeding reduces the risk for these diseases. In addition to augmenting these preventive programs, success in promoting breastfeeding has the potential to reduce health care costs by reducing the incidence of osteoporosis, ovarian and cervical cancer, certain childhood cancers, lower respiratory tract infections, ear infections, Type I insulin dependent diabetes mellitus, and a host of other illnesses. Just looking at ear infections alone, infants who are exclusively breastfed for at least four months are half as likely as artificially fed infants to have ear infections during the first year of life.

Given these health benefits, it is important for us to work toward implementing the recommendations to improve breastfeeding incidence and duration rates in California. This report provides 17 recommendations within six areas: professional education, mother-to-mother support, health care systems, public education, workplace and educational centers, and research. In addition, the Committee made three additional overriding recommendations they thought to be of fundamental importance.

Breastfeeding Promotion Committee's Overriding Recommendations

The first overriding recommendation is to "establish in the Department of Health Services (DHS) an Office of Breastfeeding Promotion." Although I respect the underlying goal behind this recommendation, I am confident the Department can achieve the breastfeeding goals outlined in the report without creating another office within the Department. To do so would run

counter to the Governor's desire to streamline and reduce the layers in State Government. As a first step towards implementing a unified approach to breastfeeding promotion within DHS, I have convened a special work group which will establish a breastfeeding policy for the entire Department.

The second overriding recommendation is "all breastfeeding promotion activities at all levels must be culturally relevant to the diverse populations in California and must be implemented by individuals who are culturally competent." To effectively meet the needs of our ethnically and culturally diverse population, special attention needs to be given to ensure cultural relevancy and competency. This Department has already established an Office of Multi-Cultural Health to assist with efforts such as this.

The third overriding recommendation cautions against accepting funds from the manufacturers of artificial baby milk for the implementation of the recommendations of this report. I encourage all health care institutions and providers to consider the cost of accepting such "free" gifts.

Breastfeeding Promotion Committee's Recommendations in Six Strategic Areas

The Committee provided 17 additional recommendations within six strategic areas. I would like to provide my support for these recommendations and comment on each area.

Health Care Systems: The recommendation given the highest priority by the Committee is "ensure that all mothers have access to culturally appropriate breastfeeding information and professional lactation services, especially in communities with high birth rates and low prevalence of breastfeeding." Clearly, we have a long way to go to meet this objective; however, I am confident that we are moving in the right direction. In addition to PCFH's establishment of the Statewide Committee on Breastfeeding Promotion, the following steps have been taken by the Department to improve access to breastfeeding information and services:

1. The Medi-Cal Program has taken action to support breastfeeding by notifying all Comprehensive Perinatal Service Providers of Medi-Cal benefits available for breastfeeding women and children. Providers receive reimbursement for prenatal, perinatal, and postpartum lactation education and support which may include home visits by licensed personnel and breast pumps. I applaud Medi-Cal for their efforts to educate providers about reimbursement for lactation support which is an essential component of increasing breastfeeding duration. I fully support regulations to ensure that all women have access to these services.

2. The Medi-Cal Managed Care Program is investigating methods to incorporate additional breastfeeding support within Managed Care Plans, such as breastfeeding training for health care providers, culturally appropriate breastfeeding education for all prenatal clients, and additional breastfeeding support services for all breastfeeding women.

3. Children's Medical Services (CMS) provides nutrition education resources to Child Health and Disability Prevention (CHDP) providers. In turn, CHDP providers include anticipatory guidance on breastfeeding to families as part of their children's CHDP health examinations. County CHDP programs also follow up on identified breastfeeding problems, through referrals to lactation counselors, and providing breastfeeding support resources.

4. The MCH Branch has incorporated breastfeeding promotion into their five year (1995-2000) Title V plan. The plan includes developing activities to address the recommendations of the Statewide Committee on Breastfeeding Promotion, collaborating with Medi-Cal to increase lactation support, the inclusion of breastfeeding promotion into appropriate MCH programs, and developing core breastfeeding education competencies for MCH providers. In response to the Committee's recommendations, MCH is planning to provide breastfeeding support skills training to MCH contractors, play a supportive role in the Baby Friendly Hospital Initiative, and encourage the inclusion of research-based, culturally competent lactation education into the Schools of Public Health at UCLA and UC Berkeley through their MCH Nutrition Leadership Grants.

5. The WIC Branch has allocated two full-time state positions for breastfeeding promotion and more than eight million dollars in breastfeeding promotion expenditures for federal fiscal year 1995. Many local WIC agencies are providing outstanding breastfeeding promotion services such as 24-hour breastfeeding help lines, peer counseling programs, lactation consultant services, in-hospital breastfeeding support to new mothers, and media coverage for special breastfeeding promotional activities. I encourage all local WIC agencies to adopt model breastfeeding promotion and support practices within their local programs and collaborate on breastfeeding promotion efforts with other agencies, including hospitals, by becoming involved in breastfeeding coalitions.

In addition to hospitals collaborating with other health care agencies to improve the incidence and duration of breastfeeding, I also encourage all health care institutions and health plans that provide maternity services and care for newborns to implement the voluntary World Health Organization (WHO)/United Nations International Children's Emergency Fund (UNICEF) ten step program to support breastfeeding in their health care settings. Implementation of the WHO/UNICEF Baby Friendly Hospital Initiative could have a significant impact in supporting women to breastfeed.

Public Education: In the area of public education, I support the concept of developing and implementing a social marketing campaign. In fact, California was recently chosen to participate as one of ten pilot states in the Best Start Social Marketing and the U.S. Department of Agriculture Food and Consumer Services (FCS), *WIC National Breastfeeding Promotion Project*. Social marketing research is currently underway in two local WIC agencies (Sacramento and Merced Counties) in preparation for implementation of this project which will include a media campaign targeted towards improving breastfeeding rates in low income African American and Hispanic mothers. Implementation of the project is scheduled for summer of 1997 through spring of 1998.

DHS has been very successful in achieving a variety of program or social outcomes through several media campaigns, such as the Tobacco Education Media Campaign, the BabyCal Perinatal Outreach Campaign, the Statewide Family Planning Media Campaign, and the Women's Targeted Outreach for Breast Cancer Campaign. I look forward to seeing a statewide breastfeeding promotion media campaign through the leadership of the Best Start/FCS media campaign.

Professional Education: More breastfeeding education needs to be incorporated into professional schools and continuing education programs for health care providers. I will forward this report to the medical professional schools in California and request their support for the recommendations listed in this area.

Workplace and Educational Centers: More needs to be done to reduce the barriers to breastfeeding for working mothers, and the Department of Health Services will take the lead among other State agencies and businesses. Adopting breastfeeding friendly workplace policies makes sense not only for the health of mothers and infants but also for the benefits that employers receive. Mothers of breastfed infants require less time off to care for sick children and make fewer visits to the pediatrician which leads to increased employee productivity. The WIC Branch is establishing a lactation room in its new office space and the DHS is establishing such a room at our headquarters.

Mother-to-Mother Support: Breastfeeding mothers can be helpful to other mothers who choose to breastfeed, but may need assistance. I support strategies given to achieve this goal of establishing stronger and formal as well as informal mother to mother support groups.

Research: Further research is needed to identify the best way to improve breastfeeding rates among vulnerable groups and design the most cost-effective programs. With this in mind, I look forward to the strategies being developed to improve breastfeeding rates among African American and Hispanic women from the consumer research in the Best Start/FCS project. In addition, the Department plans to conduct a women's health survey by telephone beginning January 1997, which will include questions to obtain information on women's breastfeeding attitudes and behaviors. I encourage further research into this area as well as studies evaluating the cost savings and other benefits to different sectors associated with increased breastfeeding rates.

I would like to express my gratitude to the Statewide Committee on Breastfeeding Promotion and the many others who gave their valuable time and expertise to produce this report. This report will certainly increase your appreciation of the benefits that breastfeeding provides to mothers and infants. I ask you to join me and the Statewide Committee on Breastfeeding Promotion in our vision that "Breastfeeding will be the norm in California for at least the first year of life and preferably longer." Together, we can make this happen.

Sincerely,



S. Kimberly Belshé
Director

*D*EDICATION

*Dedicated to the children of California,
in hopes that an increasing number of them
will enjoy the many benefits of breastfeeding.*

M I S S I O N & *V* I S I O N
O F T H E B R E A S T F E E D I N G
P R O M O T I O N C O M M I T T E E

The Breastfeeding Promotion Committee's mission is to develop strategies, recommendations, and implementation guidelines to promote, support, and protect breastfeeding in California.

Our vision is that breastfeeding will be the norm in California for at least the first year of life and preferably longer.

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With the gift of breastfeeding, a mother continues the process which began within her womb, giving of herself in a way that is universal yet unique. Once thought to be “no longer worth the bother,”¹ breastfeeding has been rediscovered by modern science as a means to save lives, reduce illness, and protect the environment. Policy makers are increasingly recognizing that breastfeeding promotion efforts can reduce health care costs and enhance maternal and infant well-being.

BREASTFEEDING PROMOTION AND SUPPORT HAS BEEN RECOGNIZED AS A HEALTH CARE PRIORITY.

The American Academy of Pediatrics, the American Dietetic Association, and the American Public Health Association recommend that infants be exclusively breastfed for the first 4 to 6 months. Breastfeeding complemented by appropriate introduction of other foods is recommended for the remainder of the first year or longer if desired.

The World Health Organization included breastfeeding promotion as a strategy in achieving its goal of Health For All by the Year 2000.

The national health objective for breastfeeding is to increase to at least 75 percent the proportion of mothers who initiate breastfeeding and to increase to at least 50 percent the proportion who continue to breastfeed until their infants are 6 months old.²

Breastfeeding promotion and support has now become a focus for the California Department of Health Services, consistent with Governor Wilson’s prevention agenda.

“Breastfeeding is the most precious gift a mother can give her infant. When there is illness or malnutrition, it may be a lifesaving gift; when there is poverty, it may be the only gift.”

—Ruth Lawrence, M.D.³

WHY IS BREASTFEEDING SO IMPORTANT FOR INFANTS?

Human milk is uniquely suited for human infants

Human milk is easy to digest and contains all the nutrients that babies need in the early months of life.

Breast milk contains factors that help infants grow and mature.

Factors in breast milk protect infants from a wide variety of illnesses.

Breast milk contains antibodies specific to illnesses encountered by each mother and baby.

Fatty acids, unique to human milk, may play a role in infant brain and visual development.

In several large studies, children who had been breastfed had a small advantage over those who had been artificially fed when given a variety of cognitive and neurological tests, including measures of IQ.

Breastfeeding saves lives

Lack of breastfeeding is a risk factor for sudden infant death syndrome (SIDS).

Human milk may protect premature infants from life-threatening gastrointestinal disease.

Breastfed infants are healthier

Infants who are exclusively breastfed for at least 4 months are half as likely as artificially fed⁴ infants to have ear infections in the first year of life.

Breastfeeding reduces the incidence and lessens the severity of bacterial infections such as meningitis, lower respiratory infections, and bacteremia in infants.

Breastfeeding is protective against infant botulism.

Evidence suggests that exclusive breastfeeding for at least two months protects susceptible children from Type I insulin dependent diabetes mellitus (IDDM).

Breastfeeding may reduce the risk for subsequent inflammatory bowel disease, multiple sclerosis and childhood lymphoma.

Breastfed infants are less likely to have diarrhea.

WHY IS BREASTFEEDING SO IMPORTANT FOR MOTHERS?

Breastfeeding helps mothers recover from childbirth

Breastfeeding helps the uterus to shrink to its prepregnancy state and reduces the amount of blood lost after delivery.

Mothers who breastfeed for at least 3 months may lose more weight than bottle-feeding mothers.

Breastfeeding mothers usually resume their menstrual cycles 20 to 30 weeks later than bottle-feeding women.

Breastfeeding keeps women healthier throughout their lives

Breastfeeding can be an important factor in child spacing among women who do not use contraceptives.

Breastfeeding reduces the risk of breast and ovarian cancer.

Breastfeeding may reduce the risk of osteoporosis.

During lactation, total cholesterol, LDL cholesterol, and triglyceride levels decline while the beneficial HDL cholesterol level remains high.

WHY IS BREASTFEEDING SO IMPORTANT FOR SOCIETY?

Breastfeeding is economical

The cost of artificial baby milk⁵ has increased 150 percent since the 1980s.

If California infants were not breastfed, the cost of artificial baby milk alone would exceed \$400 million per year.

Breastfeeding reduces health care costs.

Breastfeeding is environmentally sound

Unlike artificial baby milk, breastfeeding requires no fossil fuels for its manufacture or preparation.

Breastfeeding reduces pollutants created as by-products during the manufacture of plastics and artificial baby milk.

Breastfeeding reduces the burden on our landfills.

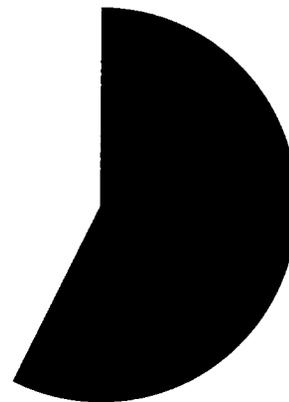
WHAT IS THE STATUS OF BREASTFEEDING IN CALIFORNIA?

Despite overwhelming evidence supporting the numerous health benefits of breastfeeding, too few California women nurse their infants beyond the first few weeks of infancy. Based on the most recent data, 74 percent of California mothers choose either breastfeeding, or breastfeeding combined with artificial baby milk supplements, at the time of hospital discharge. This is close to the Year 2000 Health Objective for breastfeeding initiation. However, for many California infants, breastfeeding is already being supplemented in the hospital, and it has been demonstrated that supplementation with artificial baby milk leads to early termination of breastfeeding. The in-hospital supplementation rate in California is over twice the rate reported for all U.S. infants.⁶ This may be the result of a high prevalence of maternity ward routines in California hospitals that encourage supplementation (i.e., distribution of free artificial baby milk, routine feeding of artificial baby milk, and separation of mother and baby).

DISTRIBUTION OF BREASTFEEDING PRACTICES

*In-hospital, 1993
California Data*

- Exclusive 43.0%
- Supplemented 31.0%
- None 26.0%



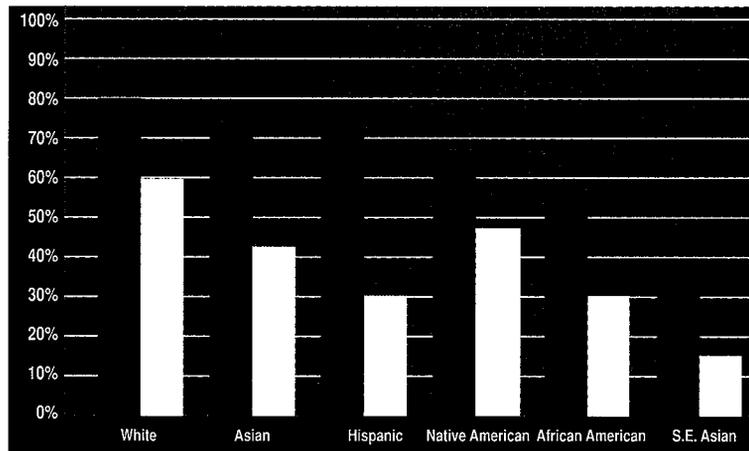
WHAT ARE THE INITIATION RATES AMONG CALIFORNIA'S ETHNIC GROUPS?

Among certain demographic groups, the breastfeeding initiation rate is far below the Year 2000 Health Objective. The lowest incidence of breastfeeding is among Southeast Asian women. Only 36 percent of California mothers of Southeast Asian ethnicity breastfeed at all in the hospital, and most of those who do so also supplement with artificial baby milk. African American mothers have one of the lowest breastfeeding rates (54 percent), second only to Southeast Asian women.

IN-HOSPITAL BREASTFEEDING RATES

California, by Ethnicity, 1993-94

- Any Breastfeeding
- Breast Only



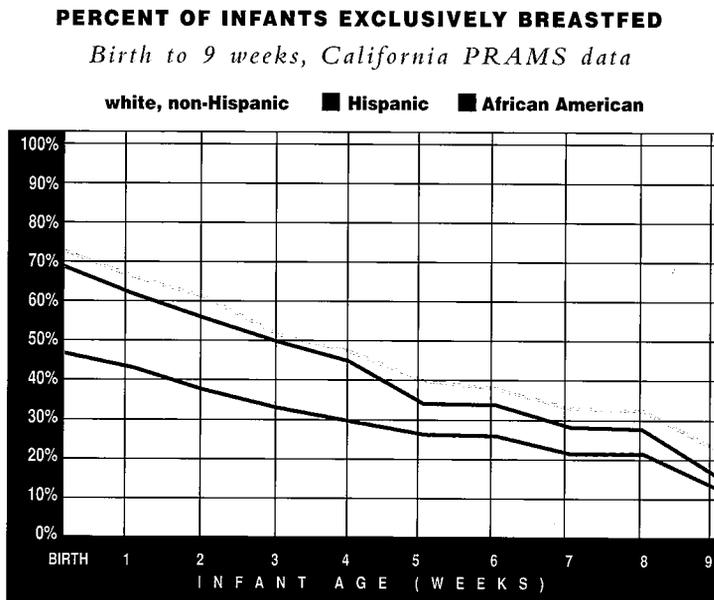
WHAT REGIONS IN CALIFORNIA HAVE THE LOWEST RATES OF BREASTFEEDING?

Regions with very low breastfeeding rates: Central Valley counties, Los Angeles County, San Bernardino County, and Imperial County.

Within the state, initiation rates vary widely by region. The percentage of newborns being solely breastfed ranges from 15 percent in Colusa County to 88 percent in San Luis Obispo County. The lowest breastfeeding rates occur in the Counties of the Central Valley, Los Angeles, and southeastern California. The counties with high initiation rates tend to be in the coastal and mountain regions of California, regions with a low population density and a predominantly white, non-Hispanic population.

HOW MANY CALIFORNIA MOTHERS ARE BREASTFEEDING THEIR INFANTS FOR AT LEAST SIX MONTHS?

The Year 2000 Health Objective for breastfeeding duration is that at least 50 percent of infants be breastfed for six months. The actual percentage of California infants breastfed for this long is likely to be much lower than this, extrapolating from the high rate of in-hospital supplementation. Unfortunately, statewide data on duration of breastfeeding beyond the newborn period do not exist. Preliminary data from the California Pregnancy Risk Assessment Monitoring System (PRAMS) suggest that many women discontinue breastfeeding soon after their baby is born.⁷ Though 66



percent of the mothers in the PRAMS sample initiated breastfeeding, only 18 percent exclusively breastfed their infants for more than eight weeks. In California, many women initiate breastfeeding, but few continue beyond a few weeks. This pattern suggests that while most California women recognize that “breast is best,” they are not receiving adequate support in order to continue breastfeeding. As a result, only a small fraction of California’s infants are receiving the many benefits of breastfeeding throughout their first year of life, despite this being the recommended ideal.

WHAT ARE THE BARRIERS TO BREASTFEEDING SUCCESS?

While most women believe that breastfeeding is beneficial, many barriers stand in the way of breastfeeding becoming the cultural norm of our society. Women choose not to breastfeed, or terminate breastfeeding early, for a variety of reasons:

Lack of basic knowledge about breastfeeding coupled with no role models or access to mother-to-mother support groups leave many new mothers with no one to turn to for advice and support.

Hospital policies such as the separation of mother and baby, gifts of free artificial baby milk, early discharge, and inadequate follow-up and support in the early days of breastfeeding have been shown to shorten the duration of breastfeeding.

Very few health care professionals have received the training (knowledge or skills) needed to assess, support, and assist women and their infants with breastfeeding.

Limited maternity leave and lack of workplace breastfeeding facilities are common barriers faced by working mothers.

Lack of support from one's peers and family members has an even greater impact on the decision to breastfeed than advice from health care providers. One of the greatest influences often is a woman's male partner.

Embarrassment, lack of confidence, lack of desire, poor previous breastfeeding experience, fear of loss of lifestyle, or concerns about their physical appearance inhibit some women from breastfeeding.

The pattern of infant feeding observed in California — many women initiating breastfeeding, but few continuing beyond a few weeks — suggests that women are not receiving adequate support in their efforts to breastfeed.

WHAT CAN BE DONE TO IMPROVE BREASTFEEDING PRACTICES IN CALIFORNIA?

Incorporating strategies to increase breastfeeding rates is consistent with the focus on preventive health maintained by California's Department of Health Services. To provide guidance in its breastfeeding promotion effort, the Department of Health Services convened a committee of experts from throughout the state. The committee was formed as a collaborative effort among three branches within the Department of Health Services: Women, Infants and Children (WIC) Supplemental Nutrition, Maternal and Child Health (MCH), and Children's Medical Services (CMS).

Committee members represent a wide variety of practice settings including academia, hospitals, managed care organizations, public agencies, foundations, community organizations, lactation consultants, and local WIC agencies. In this report, the Breastfeeding Promotion Committee presents its prioritized recommendations for increasing breastfeeding incidence and duration in California.

RECOMMENDATIONS

Seventeen recommendations were prioritized by the Committee, but three others were thought to be of such fundamental importance that they should be listed separately. The three overriding recommendations are:

Overriding Recommendations

- I. Establish an Office of Breastfeeding Promotion in the Department of Health Services.
- II. All breastfeeding promotion activities at all levels must be culturally relevant to the diverse populations in California and must be implemented by individuals who are culturally competent.
- III. No money or goods should be accepted from the manufacturers of artificial baby milk for the implementation of the recommendations of this report. Gifts from manufacturers of other infant feeding and lactation products should be used only with great caution and should be progressively eliminated.

The seventeen recommendations are summarized below, in priority order. These recommendations encompass six strategic areas of focus (professional education, health care systems, public education, mother-to-mother support, workplace and educational centers, and research), which are of equal importance in improving breastfeeding status in California.

Prioritized Recommendations

1. Ensure that all mothers have access to culturally appropriate breastfeeding information and professional lactation services, especially in communities with high birth rates and low prevalence of breastfeeding.
2. Develop an overriding policy to be governed by the State of California in which all health care institutions and health plans that provide maternal and child health services will facilitate breastfeeding for all mothers and infants including those with special care needs. As a first priority, facilitate the implementation of the Baby Friendly Hospital Initiative.
3. Facilitate integration of appropriate and culturally relevant breastfeeding training into the curriculum at health-related professional schools throughout the state to ensure that health professionals are technically and culturally competent in delivering breastfeeding services.
4. Adopt model standards of breastfeeding promotion and support for the WIC program based on best practices, and ensure that these standards are implemented uniformly throughout the state.
5. Develop and implement a social marketing campaign to promote breastfeeding in California's diverse populations with an emphasis on increasing breastfeeding duration.
6. Develop incentives that make it simple, interesting, and profitable for health care providers to receive continuing education in breastfeeding-related topics.
7. Work with small businesses, educational sites, corporate executives, employees, labor unions, and others to promote breastfeeding friendly workplaces and to negotiate health care plans with enhanced maternity and lactation benefits. The State of California, as a major employer, should take the lead in providing a breastfeeding friendly workplace.

8. Evaluate the cost savings and other benefits to different sectors associated with increased breastfeeding rates, and use the information to help convince policy makers to implement programs to promote breastfeeding.
9. Develop a partnership with the media to promote breastfeeding images targeted to specific communities. Seize opportunities to include breastfeeding promotion as part of other media events.
10. Evaluate the cost-effectiveness of alternative strategies to promote breastfeeding. For example, determine the optimal use of professionals, paraprofessionals, and lay health workers for breastfeeding support. Use the information to choose the models that have the biggest impact per unit cost.
11. Incorporate breastfeeding education into the science and health curricula of schools at preschool, primary, secondary, continuation, technical, adult, job training, and professional education levels.
12. Support research on risk factors for early termination of breastfeeding.
13. Recommend legislation that supports breastfeeding by working mothers.
14. Ensure that effective mother-to-mother support is accessible for all breastfeeding women in California.
15. Develop and implement mechanisms for ongoing evaluation of breastfeeding incidence and duration in California.
16. Encourage breastfeeding promotion through local breastfeeding coalitions, including existing support groups and religious and community organizations, in order to reach local communities in a culturally competent and accessible manner.
17. Conduct needs assessment studies to assist in planning and targeting breastfeeding promotion programs.

CONCLUSION

The information presented in this report confirms that breastfeeding can make an important contribution to the health and well-being of our state's population. While many California women initiate breastfeeding, few do so without supplementation and very few continue beyond the first few weeks. Furthermore, there are large discrepancies in initiation rates among California's many ethnic groups and geographical regions.

The vision of the Breastfeeding Promotion Committee is that Breastfeeding be the norm in California for at least the first year of life and preferably longer. Many challenges lie ahead before this vision can be realized. The seventeen recommendations of the Committee address these challenges in a way that promotes and supports breastfeeding among the widely diverse populations of California. For further information and documentation, please refer to the full committee report.

As we step forward into the next century, we must recognize the value of breastfeeding to society as a whole. Today's investment in efforts to support and promote breastfeeding will deliver a brighter future for us all.

Notes:

1. "Formula feeding has become so simple, safe, and uniformly successful that breastfeeding no longer seems worth the bother." Lee Forrest Hill in "A salute to La Leche League International." *J Pediatr* 1968; 73: 161-162.
2. In: *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, [U.S. Department of Health and Human Services.] Publication No. (DHS) 91-50213, (1991).
3. In: *Breastfeeding: A Guide for the Medical Profession*. 4th Edition, Mosby, 1994.
4. "Artificially fed" refers to children fed with any milk or milk substitute other than human milk.
5. "Artificial baby milk" refers to any other milk or milk substitute designed to replace or serve the same function as human milk in an infant or child's diet.
6. The Newborn Screening Program is the source of data for breastfeeding initiation in California. U.S. data are based on information from the Ross Laboratories Mothers' Survey. Some of the differences observed in supplementation rates may be due to differing data collection methods of the two data sources.
7. Based on July 1-December 31, 1993 PRAMS data. The data are from the Part 2 questionnaire (mail/phone follow-up phase) of PRAMS. The rate of completion for Part 2 was 60 percent of the sample. The response rate for the breastfeeding questions was 75 percent of the sample that completed part 2 (46 percent of the total sample). The data represents three California regions (33 counties in sample hospital catchment areas): Northeastern California Perinatal Program, Perinatal Network of Alameda and Contra Costa, and San Joaquin Valley Regional Perinatal Program.

INCREASING BREASTFEEDING RATES IS A NATIONAL OBJECTIVE

With the gift of breastfeeding, a mother continues the process which began within her womb, giving of herself in a way that is universal yet unique. Once thought to be “no longer worth the bother,”¹ breastfeeding has been rediscovered by modern science as a means to save lives, reduce illness, and protect the environment. Policy makers are increasingly recognizing that breastfeeding promotion efforts can reduce health care costs and enhance maternal and infant well being.

In 1978, the World Health Organization, recognizing the many benefits of breastfeeding, included breastfeeding promotion as a strategy in achieving its goal of Health For All by the Year 2000. Increasing breastfeeding rates and duration has been a national health objective for the United States ever since. As published in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, the breastfeeding objective is to increase to at least 75 percent the proportion of mothers who initiate breastfeeding and to increase to at least 50 percent the proportion who continue to breastfeed until their infants are 6 months old.² In 1984, the Surgeon General convened the first national Workshop on Breastfeeding and Human Lactation in Rochester, NY.³ It was the first national meeting devoted entirely to breastfeeding promotion. Two follow-up reports have been published,⁴ evaluating the success of the original strategies that were developed as the U.S. began efforts toward making breastfeeding the norm for nourishing infants.

Breastfeeding promotion and support has now become a focus for California’s Department of Health Services. Increasing the incidence of breastfeeding among California infants is consistent with many aspects of Governor Wilson’s preventive health agenda, such as promoting preventive services, closing the gaps in health status and controlling health care costs. As we step forward into the next century, we must recognize the value of breastfeeding to society as a whole. Today’s investment in efforts to support and promote breastfeeding will deliver a brighter future for us all.

MANY CALIFORNIA WOMEN LACK SUFFICIENT SUPPORT TO SUCCESSFULLY BREASTFEED

Despite overwhelming evidence supporting the numerous health benefits of breastfeeding, too few California women are choosing to breastfeed their infants, and few continue beyond the first weeks of infancy. Recent data suggest that less than 18 percent of California infants are solely breastfed for longer than 8 weeks.⁵



The national breastfeeding health...
in...
mothers...
the...
at least 50 percent...
proportion who continue to breastfeed until their babies are 6 months old.

Women choose not to breastfeed, or terminate breastfeeding early, for a variety of reasons:

- Lack of basic knowledge about breastfeeding coupled with no role models or access to mother-to-mother support groups leave many new mothers with no one to turn to for advice and support [1, 2].
- Hospital policies such as the separation of mother and baby, gifts of free artificial baby milk, early discharge, and inadequate follow-up and support in the early days of breastfeeding have been shown to shorten the duration of breastfeeding [3, 4].
- Very few health care professionals have received the training (knowledge or skills) needed to support and assist women and their infants with breastfeeding [5, 6].
- Limited maternity leave and lack of workplace breastfeeding facilities are common barriers faced by working mothers [7, 8].
- Lack of support from one's peers and family members has an even greater impact on the decision to breastfeed than advice from health care providers, with one of the greatest influences often being a woman's male partner [2].
- Embarrassment, lack of confidence, lack of desire, poor previous breastfeeding experience, fear of change in lifestyle, or concerns about their physical appearance inhibit some women from breastfeeding [9, 10].



While most women believe that breastfeeding is beneficial, many barriers stand in the way of breastfeeding becoming the cultural norm of our society. There are opportunities for eradicating these barriers and creating a supportive environment for breastfeeding through the media, the health care system, the workplace, our community support systems, and all levels of our educational system. The 17 recommendations presented within this report address the most critical issues in increasing breastfeeding rates and duration among California mothers.

Despite the barriers that exist, the state of California possesses many strengths that will facilitate a breastfeeding promotion effort. Californians are health conscious and trendsetters, eager to improve their health and well-being. California has several medical and nursing schools and some of the leading training centers in lactation management. The state has a dedicated Breastfeeding Promotion Committee with a broad range of experience and ideas to contribute to the goal of increasing the number of successfully breastfeeding women in California.

ROLE OF THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES' BREASTFEEDING PROMOTION COMMITTEE

The Breastfeeding Promotion Committee guides DHS in its breastfeeding promotion efforts

Incorporating strategies to increase breastfeeding rates is consistent with the focus on preventive health maintained by California's Department of Health Services. To provide direction and priority to its breastfeeding promotion effort, the Department of Health Services convened a committee of experts from throughout the state. The term "committee" was chosen rather than "task force" because committee implies an ongoing, long-term work group. The committee was formed as a collaborative effort among three branches within the Department of Health Services: Women, Infants and Children (WIC) Supplemental Nutrition, Maternal and Child Health (MCH), and Children's Medical Services (CMS). Breastfeeding is an important element in maximizing infant health, which is central to the mission of all three branches.

The Committee represents a broad range of experiences

The Breastfeeding Promotion Committee consists of 26 members, chosen from a pool of 200 applicants. Member selection was designed to create a multidisciplinary, multicultural committee representing a broad range of experience with breastfeeding promotion throughout the State of California. Committee members represent a wide variety of practice settings including academia, hospitals, managed care organizations, public agencies, foundations, community organizations, lactation consultants, and local WIC agencies.

Several objectives were identified by the committee

The Breastfeeding Promotion Committee provides recommendations and strategies to increase incidence and duration of breastfeeding in California to the levels recommended by the U.S. Public Health Service Healthy People Year 2000 Objectives. Strategies target populations with a very low incidence of breastfeeding, particularly low-income women.

PRIMARY OBJECTIVES:

- Evaluate available data on current breastfeeding rates in California.
- Assess barriers to breastfeeding for California mothers.
- Review the documented benefits of breastfeeding.
- Identify and prioritize breastfeeding support needs.



The goal of
Breastfeeding
Committee
of breastfeeding
Committee
2000 objectives.



SECONDARY OBJECTIVES:

- Recommend breastfeeding intervention strategies for specific programs within the Department of Health Services such as WIC, CHDP, CPSP, and Managed Care.
- Recommend components for a statewide breastfeeding promotion media campaign.
- Investigate forming regional breastfeeding coalitions.
- Recommend breastfeeding education materials for DHS use.

This report presents a thorough literature review of the documented benefits of breastfeeding and summarizes current infant feeding practices in the state. Following this background information are the Breastfeeding Promotion Committee's recommendations for achieving the vision of breastfeeding as the cultural norm in our state. Six strategic areas of equal importance have been identified as targets for improving breastfeeding practices:

- Professional Education
- Health Care Systems
- Public Education
- Mother-to-Mother Support
- Workplace and Educational Centers
- Research

Within these six areas, 17 recommendations are presented, representing the most important and effective actions that can be taken to improve breastfeeding practices in the state.

Notes:

1. "Formula feeding has become so simple, safe, and uniformly successful that breastfeeding no longer seems worth the bother." Lee Forrest Hill in "A salute to La Leche League International." *J. Pediatr* 1968; 73: 161-162.
2. In: *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, [U.S. Department of Health and Human Services.] Publications No. (DHS) 91-50213, (1991).
3. U.S. Department of Health and Human Services. Report of the Surgeon General's Workshop on Breastfeeding and Human Lactation, 1984 USDHHS Publication No. HRS-D-MC 84-2.
4. The first was published in 1985: U.S. Department of Health and Human Services. Follow-up Report: The Surgeon General's Workshop on Breastfeeding and Human Lactation, USDHHS Publication No. HRS-D-MC 85-2. The second was published in 1991: Spisak, S. and Gross, S.S. Second Follow-up Report: The Surgeon General's Workshop on Breastfeeding and Human Lactation. NCEMCH, Washington, D.C.
5. See related sections of this report for more detailed information on the health benefits of breastfeeding and current data on breastfeeding rates and duration in California.

THE BENEFITS OF BREASTFEEDING

Throughout history, breastfeeding has been the primary means by which women have nurtured their infants. It is only in the last 50 years that artificial baby milk became widely available. Lack of medical and community support combined with aggressive marketing of breast milk substitutes resulted in a precipitous drop in breastfeeding rates in the U.S. during the 1950s and '60s followed by a similar drop in the Third World. In developing countries, the effect of the decline of breastfeeding on infant morbidity and mortality was dramatic and disastrous. Since that time, scientists around the world have turned their attention to the impact of feeding mode on the health of mothers and their infants. While the evidence from industrialized nations is not as startling as that from developing countries, the message is consistent. Breastfeeding offers advantages to the vast majority of mothers and infants whatever their economic circumstances.



BENEFITS TO THE INFANT

Human milk is nutritionally complete

Human breast milk provides all the nutrients that infants need in the early months of life. The American Academy of Pediatrics [11-12], the American Dietetic Association [13], and the American Public Health Association [14], recommend that infants be exclusively breastfed for the first 4 to 6 months. Breastfeeding complemented by appropriate introduction of other foods is recommended for the remainder of the first year or longer if desired [15-16].

Human milk contains factors that help infants grow and develop

Human milk contains a variety of hormones and hormone-like substances that are not found in artificial baby milk. Evidence from animal studies indicates that many of these hormones and growth factors are absorbed and exert important functions in the newborn infant [17-18] including gastrointestinal maturation [19].

Fatty acids found in human milk may also play a role in infant development. One of these fatty acids, docosahexanoic acid (DHA), is highly concentrated in brain and retinal tissues [20-21] and is believed to play an important role in their function. Breastfed infants have higher DHA levels and perform better on tests of visual function than artificially fed⁶ infants [22]. In several large studies, children who had been breastfed had a small but statistically significant advantage over those who had been artificially fed on a variety of cognitive [23-25] and neurological tests [26], including measures of IQ. Differences between groups were seen in children as early as 1 year of age [24] and as late as 15 years of age [25], even after taking into account other factors known to affect IQ.



Human breast milk contains factors that protect infants from a wide variety of illnesses

Breastfed infants are less likely than artificially fed infants to be exposed to pathogens introduced through contaminated foods or fluids. This indirect protection is not the only means by which breast milk contributes to the well-being of the infant. Human milk contains anti-inflammatory agents, antioxidants, enzymes, and white blood cells such as neutrophils and macrophages. Antimicrobial factors that are resistant to the digestive processes of the infant's gastrointestinal tract are produced throughout lactation and work alone or in combination to inhibit or kill microbial pathogens [27]. Antibodies, abundant in human milk, are directed against specific pathogens encountered by both the mother and the infant [28]. Other constituents of human milk believed to have immunological properties, such as antiviral lipids and antiprotozoan factors, are still being investigated.

Breastfeeding protects infants from the devastating effects of diarrheal disease

Breastfeeding protects infants against diarrheal diseases [29-32] and against specific enteric pathogens such as rotavirus [33], *Giardia lamblia* [34-35] and *Shigella* [36-37]. Exclusive breastfeeding provides the greatest protection. In several studies conducted in developing countries, supplementation with other foods or fluids was associated with higher rates of morbidity and/or mortality [29, 30, 38]. Breastfeeding also protects against dehydration and malnutrition associated with recurrent diarrheal disease. Infants with diarrhea are likely to shun solid foods but often continue breastfeeding [38-39]. Breastfed infants are less likely to be hospitalized during diarrheal illness [32].

Breastfed infants are less likely to suffer from lower respiratory illnesses and ear infections

Breastfeeding is protective against lower respiratory illness [32, 40-42] and otitis media (an infection of the middle ear) [43-45] in the first year of life. Breastfeeding protects infants from respiratory syncytial virus (RSV), one of the most common causes of severe respiratory illnesses among infants. In one study, bottle-fed infants were twice as likely as breastfed infants to be hospitalized with RSV infections [42]. Breastfeeding reduces the risk of both acute and recurrent otitis media during the first year of life [44]. In a study involving more than 1,000 infants, infants exclusively breastfed for four or more months had half the mean number of episodes of acute otitis media as those not breastfed and 40 percent less than those given supplementary foods before 4 months [44]. Breastfeeding also reduces the risk of prolonged ear infections (those lasting more than 10 days) [45].



Breastfeeding is protective against bacterial infections

Breastfeeding is also protective against diverse illnesses including bacteremia, meningitis, and urinary tract infections. In 1990, 108 California infants were stricken with bacterial meningitis [46]. In the same year, *Haemophilus influenzae* was isolated as the source of infections in 187 infants suffering from a variety of different illnesses [46]. *H. influenzae* infections have been shown to cause bacteremia and meningitis in infants. Human milk reduces the ability of these microorganisms to cause infection in infants [47-50]. Breastfed infants are less likely to be hospitalized with bacterial infections [51] than artificially fed infants. Breastfeeding is also protective against bacterial infections that cause urinary tract infections and kidney disease [52-53].

Breastfeeding reduces the risk of “baby-bottle tooth decay” in infants

Baby-bottle tooth decay (BBTD) refers to dental caries detected on the upper front primary teeth in early childhood. BBTD is caused by putting a baby to bed with a bottle filled with liquid other than water. If a baby falls asleep with a bottle in bed and the liquid pools in the mouth, this may cause cavities that start on the upper front teeth. Treatment of severe BBTD may require the use of general anesthetic and cost more than \$1,000 per child [54]. Fourteen percent of California’s preschoolers suffer from BBTD, according to the results of a recent oral health needs assessment [55]. Infants who are breastfed are at a lower risk for BBTD than those who are artificially fed [56-57].

Breastfeeding is protective against infant botulism

In 1992, there were 66 reported cases of infant botulism nationwide. Fifty-six percent of the cases occurred in California [58]. Breastfeeding was once considered a risk factor because most hospitalized cases were found to have been breastfed. However, when infants with botulism who died suddenly were compared with those who were hospitalized and recovered, it was found that artificially fed infants were over represented in the sudden death group, while most of the survivors were breastfed [59]. Artificially fed infants tend to be younger at onset of infant botulism and experience more severe illness [59].

Breastfed infants are less susceptible to some chronic diseases

Diabetes

Exclusive breastfeeding for at least two months is associated with a reduced risk for developing Type I insulin dependent diabetes mellitus (IDDM) in susceptible children. In a case control study involving nearly 700 IDDM children less than 15 years of age [60], risk of IDDM was doubled in children who were not exclusively breastfed at least 2 months and doubled among those introduced to cow’s-milk-based products before 2 months of age. In an analysis combining the results from 19 studies examining the relationship



Fourteen percent of

California’s preschoolers

suffer from baby-

bottle tooth





between infant feeding and IDDM [61], IDDM patients were more likely to have been breastfed for less than 3 months than healthy controls. Early exposure to a protein found in cow's milk has been implicated as a trigger for the autoimmune response that results in IDDM [62].

Other Chronic Diseases

Lack of breastfeeding has been associated with increased risk of subsequent Crohn's disease [63-64], ulcerative colitis [65-66], and childhood cancer. In three case-control studies, children who were artificially fed or breastfed for less than six months were more likely to develop lymphoma before 15 years of age [67-69]. In a recent study, patients with multiple sclerosis were less likely than controls to have been breastfed for a prolonged period of time [70].

Allergy

During the period of exclusive breastfeeding, many infants are protected against symptoms of food allergy [71]. Breastfeeding results in delayed exposure to many allergenic compounds in foods. Whether this protection against allergy extends beyond the period of exclusive breastfeeding has been the subject of considerable controversy. Some studies have reported protective effects associated with exclusive breastfeeding for 4 to 6 weeks, while others have found no protective effect after 3 to 6 months [72]. In a recent follow-up study, breastfeeding was found to be protective against allergic disease throughout childhood and adolescence [73]. Further studies are needed to establish the length of protection against allergies afforded by breastfeeding.

Exclusive breastfeeding protects against sudden infant death syndrome

Sudden infant death syndrome (SIDS) is the second leading cause of infant mortality in California and the nation as a whole. In 1991, 724 SIDS deaths were recorded in the state of California, accounting for 16 percent of all infant deaths [74]. Lack of breastfeeding has been a significant risk factor for SIDS in several studies [75-78] even after controlling for several social and demographic factors. In the New Zealand Cot Death Study [78] exclusive breastfeeding was protective against SIDS after controlling for infant age, region, season, maternal age, smoking habits and education, infant sex, birth weight, prematurity, ethnicity, and sleep position.

Human milk is especially important for premature infants

In 1992, there were 35,608 infants born in California who weighed less than 2,500 grams at birth, accounting for nearly 6 percent of all live births [79]. In the United States, many premature and low-birth weight infants are not fed human milk. However, human milk is highly digestible and provides preterm infants with many immunological and growth promoting factors.

Unlike artificial baby milk, human milk helps the premature gastrointestinal tract to develop, which can lead to earlier full oral feedings and shorter hospital stays [80]. Human milk fat is more readily absorbed in the presence of milk lipase and other enzymes in human milk. It is reported that very low-birth-weight infants absorb 90 percent of human milk fat versus 68 percent of cows-milk-based formula fats [81]. As seen in term infants, docosahexanoic acid (DHA) levels in preterm infants are correlated with psychomotor and mental development indexes [22, 23, 82]. Children who received their mother's milk as premature infants scored higher on IQ tests at 7 and 8 years of age [23] than those who had not.

The anti-microbial properties of preterm milk are very similar to or better than those of term milk [83-84]. Premature infants are prone to devastating infections including respiratory syncytial virus, rotavirus, and necrotizing enterocolitis (NEC). NEC is a serious gastrointestinal illness affecting newborns with a 20-40 percent mortality rate in severe cases. Studies in animals have shown that human milk is protective against NEC [85-86], and recent evidence suggests that feeding human milk may drastically reduce the number of NEC cases among human infants [87-88].

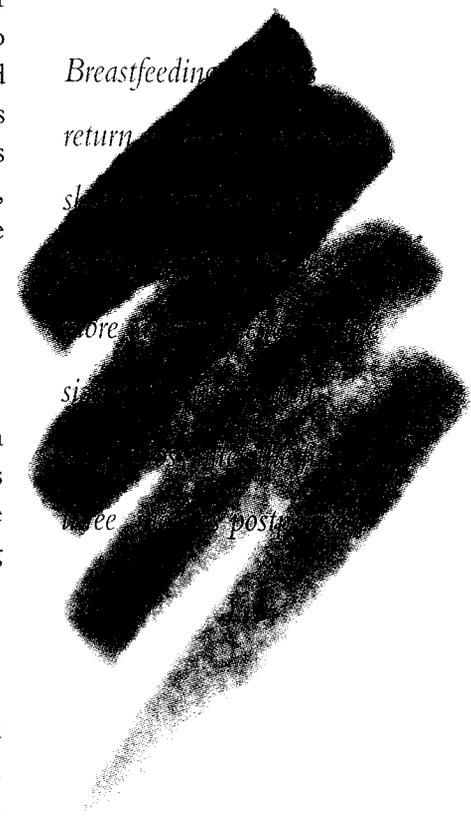
BENEFITS TO THE MOTHER

Breastfeeding promotes rapid recovery after childbirth

Breastfeeding immediately after delivery promotes maternal recovery from childbirth. Infant suckling triggers the release of a hormone which stimulates uterine contractions and accelerates the passage of the placenta and shrinkage of the uterus, thus minimizing maternal blood loss. Continued breastfeeding hastens the return of the uterus to its prepregnant state [16, 89].

Breastfeeding mothers return to their prepregnant weight more rapidly than bottle-feeding mothers

Often, new mothers are concerned about losing the weight they gained during their pregnancy. Not all studies have shown a relationship between feeding mode and weight loss. However, few studies have included women who breastfeed beyond the first few weeks, and most failed to exclude women who were dieting to lose weight. In studies which meet these criteria, researchers have reported that breastfeeding women have more rapid weight loss after 3 months postpartum than bottle-feeding mothers [90-91]. In a study comparing women who breastfed versus those who bottle-fed their infants throughout the first year of life, breastfeeding mothers returned to their prepregnancy weight by 12 months, whereas the bottle-feeding mothers were still 4 to 5 pounds above their prepregnancy weight at 24 months postpartum [91].



Breastfeeding
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Breastfeeding can be an important factor in child spacing

Breastfeeding women have a more prolonged period of postpartum anovulation than those who artificially feed their infants. Among nonlactating women, ovulation returns on average by 6 to 7 weeks postpartum and menstruation returns by 8 to 9 weeks postpartum. Among breastfeeding women, menstruation does not typically begin until 34 to 65 weeks postpartum, with the first ovulation usually occurring between 30 and 40 weeks postpartum [92]. Exclusive breastfeeding in the absence of menstruation within the first 6 months postpartum can be considered to be 98 percent protective against pregnancy and is used as an important method of birth control in some countries [93]. However, when the child is six months old, the mother must use other forms of contraception to prevent pregnancy. A birth control method also must be used to avoid pregnancy (1) if menstruation begins earlier, (2) when frequency or duration of breastfeeding is reduced, or (3) when bottle feeding or other supplementation is introduced [94].

Breastfeeding may protect women from chronic diseases

As women who have breastfed grow older, other long-term benefits of breastfeeding may become evident. In several studies, breastfeeding history has been associated with increased bone mass among postmenopausal women [95-98]. While there is some short-term loss of bone mass during lactation, compensatory remineralization occurs after weaning [99]. In two case-control studies of women with osteoporosis versus age-matched women without the disease, fewer of the osteoporotic women had breastfed their children [100-101].

Breastfeeding reduces the risk of breast and ovarian cancers

More than 67,400 cases of invasive breast cancer were diagnosed among women in California during the four-year period from 1988-1991. During the same period, nearly 17,000 California women died of breast cancer, accounting for 16 percent of all cancer deaths among women [102]. In several studies, breastfeeding has been reported to reduce the risk of breast cancer, particularly among premenopausal women [103-105]. Typically, appreciable reduction in cancer risk is seen only when breastfeeding is prolonged. The cumulative lifetime duration of breastfeeding required for reduction in cancer risk ranged from 4 months to 8 years among studies reviewed by Newcomb et al. [105]. For premenopausal women with a cumulative total of more than 24 months of lactation, the risk of breast cancer was 28 percent lower than that for women who had never breastfed.

Ovarian cancer is one of the ten leading causes of cancer mortality in California. From 1988 to 1991, approximately 9,400 cases were diagnosed and more than 5,000 women died from this disease [102]. In a meta-analysis



of 12 case-control studies conducted in the United States, breastfeeding for six months or longer was associated with a reduced risk of ovarian cancer among white [106] and black [107] women. In a multinational study [108], a 20-25 percent decrease in risk of ovarian cancer was observed in women who lactated for at least 2 months per pregnancy. Other researchers [109, 110] have reported a decreased risk of epithelial ovarian cancer with increasing length of lactation.

Breastfeeding improves lipid and glucose metabolism during the postpartum period

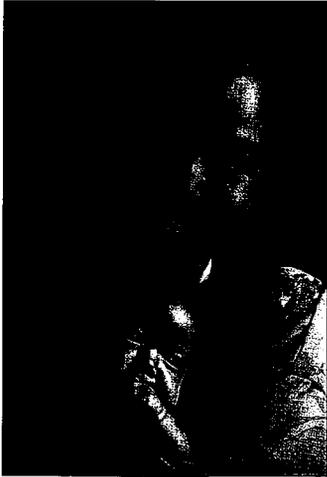
Lactating mothers secrete large amounts of cholesterol into their milk, averaging 15 to 20 milligrams cholesterol per 100 milliliters of milk [111]. This results in an output which roughly equals the amount of cholesterol lost by the use of cholesterol-lowering medications [112]. In a study of cholesterol metabolism in women who exclusively breastfed their infants for up to 12 months [112], total cholesterol, low-density lipoprotein cholesterol (LDL), and triglycerides declined significantly during lactation and returned to their normal levels after the end of lactation. High-density lipoprotein (HDL) cholesterol levels remain high during lactation [112-114]. In a study of women with recent gestational diabetes, researchers reported improved lipid and carbohydrate metabolism in lactating women versus nonlactating women [115-116]. Differences in lipid and glucose metabolism between lactating and nonlactating mothers may have implications for subsequent development of heart disease and diabetes.

Breastfeeding promotes maternal confidence

Little information is available regarding the psychological impact of breastfeeding on the new mother. Much of the research in this area relates to physical contact between mother and infant and is not directly related to feeding practices. However, evidence suggests that breastfeeding may instill confidence and reduce anxiety in new mothers [117-118]. In a study of first-time mothers in California, women who breastfed their infants were found to have less anxiety and more mother-infant harmony at one month postpartum than those who bottle fed. Breastfeeding mothers were also found to pattern their touch and talking to their infants' activity more than did the bottle feeding mothers. During feeding, breastfeeding mothers were more engrossed in the interaction than the bottle feeding mothers [118]. Among women with negative birth experiences, successful breastfeeding boosts confidence and facilitates the acquisition of the maternal role [119].



First-time mothers who
breastfed their infants
experienced less anxiety



BENEFITS OF CONTINUING TO BREASTFEED FOR AT LEAST 12 MONTHS

Although breastfeeding for even a brief period has advantages over no breastfeeding at all, a duration of 4 to 12 months is necessary for many of the longer-term advantages to be realized for mother and child. The World Health Organization recommends that children should continue to be breastfed for up to 2 years of age or beyond, while receiving nutritionally adequate and safe complementary foods.⁷ Breastfeeding beyond the first year of life may continue to be protective for children even in affluent populations. Many of these longer-term advantages have been previously mentioned in this report. For example, infants continue to receive immunological components and nutritional benefits of breastmilk as long as they continue to breastfeed. Evidence suggests that infants who have been breastfed for 4 to 12 months will have a reduction in risk for chronic illness, such as lymphoma. Women who breastfeed their babies beyond 3 months have greater weight loss than women who artificially feed their babies. Throughout the period of lactation, breastfeeding mothers have lower LDL cholesterol and higher HDL cholesterol than nonlactating women. Researchers have shown that risk of breast cancer is lowest among women who breastfeed beyond the first few months.

BENEFITS TO SOCIETY

Breastfeeding is economical

Important for many women are the clear economic benefits of breastfeeding. For the average consumer, the cost of artificial baby milk increased more than 150 percent during the 1980s. The estimated cost of artificial feeding (including artificial baby milk and the related equipment) is \$855 in the first year. If no California infants were breastfed, the cost of artificial baby milk alone would exceed \$400 million per year. Equipment and heating costs bring the price of artificial feeding even higher.

The cost of breastfeeding is minimal. Some breastfeeding women may need to eat more food in order to compensate for the extra energy needed for milk production. However, in the first 62 days postpartum, the maximum theoretical cost of extra foods needed by mothers to exclusively breastfeed an infant was calculated to be about half the cost of powdered artificial baby milk needed over the same time period [120].

Breastfeeding promotion and support in the workplace directly benefits businesses

Within a few pioneering companies, lactation support has been included among benefits offered to employees. These employers are finding that lactation programs result in reduced absenteeism and health care claims [121]. Mothers

of breastfed infants require less time off to care for sick children and have fewer visits to the pediatrician. It has been estimated that 2 to 4 billion health care dollars could be saved annually in the U.S. if all women breastfed their infants for as little as 12 weeks [122].

Breastfeeding is beneficial for the environment

At no time in history have the environmental benefits of breastfeeding been more important. Breastfeeding produces no solid waste (e.g., packaging materials), reducing the load on overburdened landfills. Breastfeeding also reduces pollutants produced as by-products during the manufacture of plastics and artificial baby milk. Unlike artificial baby milk, breastfeeding requires no fossil fuels to manufacture or prepare [122].



SUMMARY: BREASTFEEDING BENEFITS ALL OF US

Long overlooked as an important factor in reducing health care costs, breastfeeding promotion has now become a national priority. Human breast milk provides all the nutrients that young infants need as well as factors that promote infant maturation and inhibit disease. Breastfeeding is also associated with direct benefits for mothers. These benefits begin with the first feeding and may continue for decades. There are clear benefits to breastfeeding for at least 12 months. Breastfeeding is economical and reduces the toll on our fragile environment. As more women are empowered and supported to breastfeed their infants beyond the first few weeks, the benefits of breastfeeding will be felt by society as a whole.

Notes:

6. "Artificially fed" refers to children fed with any milk or milk substitute other than human milk.
7. Source: The World Health Organization's Infant Feeding Recommendation. Saadeh, R. et al. Breastfeeding: the technical basis and recommendations for action. Geneva, World Health Organization (document WHO/NUT/MCH/93.1).

Breastfeed... no
fossil...



BREASTFEEDING TRENDS AND DATA SOURCES

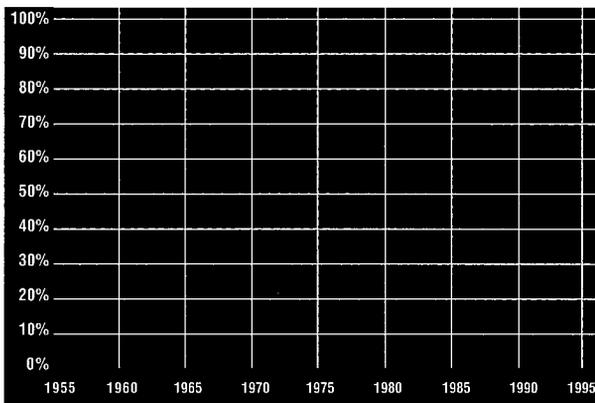
NATIONAL BREASTFEEDING PRACTICES

Prior to the turn of the century, nearly all infants were nourished with human milk. It is only in recent history that substitutes for breast milk have been in widespread use. Artificial baby milk gained popularity in the 1930s, coinciding with the rise of hospital maternity services. Many health care providers at the time saw artificial baby milk as the “modern” and “scientific” way to nourish infants. The incidence of breastfeeding declined steadily over the subsequent 40 years.

By 1971, breastfeeding reached an all time low; only about one-fourth of American mothers initiated breastfeeding, and a mere 5 percent of mothers nursed their infants for at least six months (Figure 1). After two generations predominated by artificial infant feeding, the learned art of breastfeeding began to disappear. For the few mothers who did try to breastfeed despite the lack of community support, finding guidance within the medical community was also difficult. With so few women breastfeeding, medical students, interns, and residents rarely had the opportunity to gain experience and training in the assessment, assistance, and support of breastfeeding.

FIGURE 1
U.S. BREASTFEEDING RATES, 1955-1994

Includes Exclusive and Supplemented



By 1982, 62 percent of American mothers initiated breastfeeding; a 148 percent increase over an 11-year period. This rate of growth was not sustained, and the incidence declined about a percentage point each year through 1990 [123]. However, recently published data suggest a reversal in the downward trend: according to the latest Ross Laboratories Mothers Survey (RLMS),¹ U.S. initiation rates have shown a small, but steady increase over the last four consecutive years. The data show that 57.4 percent of women initiated breastfeeding in 1994, an increase of 11 percent since 1990 [124, 125].

At this time, the “back to nature” movement gained popularity. There was an increase in the number of women wanting a low intervention, natural approach to childbirth and infant feeding. This resulted in a sharp 10-year increase in breastfeeding rates as mothers and physicians rediscovered the many benefits of breastfeeding.



Breastfeeding promotion within the WIC program coincides with more low-income women breastfeeding

The biggest increases in breastfeeding rates between 1990 and 1994 were observed among demographic groups who historically had the lowest rates of breastfeeding: low income, less educated, and African American women. Interestingly, this period of increased breastfeeding rates coincided with Congress earmarking \$8 million per year in WIC funds to promote breastfeeding during the fiscal years 1990 through 1994 [126].

These results suggest that promotion efforts by the nation's WIC programs are effective. For example, growth in the initiation of breastfeeding was 5.5 times greater among African Americans than whites between 1990 and 1993 (34 percent vs. 6 percent increase). The incidence increased by 18.7 percent among those with no more than a grade school education, by 23 percent among those who earned less than \$10,000, and by 22 percent among mothers younger than 20 years old between 1990 and 1993 [124]. As a result, the discrepancy in rates among various income, education, and ethnic groups has narrowed.

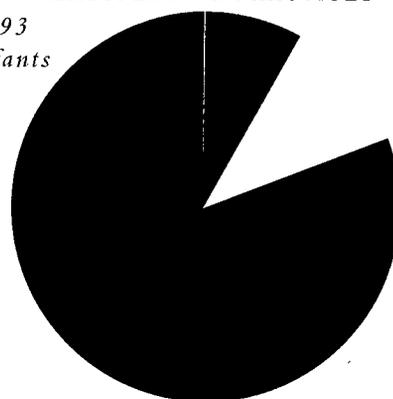
Breastfeeding duration is far below the Year 2000 Health Objectives

Despite recent gains in breastfeeding initiation, the number of U.S. women continuing to nurse their infants at six months of age is still far below the Year 2000 National Health Objective of at least 50 percent. (Figure 2) According to 1993 data, only 20 percent of U.S. infants are breastfed at 5 to 6 months of age, and only 56 percent of these infants were not also receiving other milk or artificial baby milk [124]. Of those mothers who exclusively breastfed their infants in the hospital, only 22 percent continued to do so at 6 months postpartum. Thus, three out of four U.S. mothers who initiate breastfeeding began supplementation with artificial baby milk before the infant was 6 months old. This early supplementation with artificial baby milk diminishes maternal milk production, which in turn threatens breastfeeding success.

FIGURE 2
DISTRIBUTION OF BREASTFEEDING PRACTICES

At 6 months, 1993
data for U.S. infants

- None 81.0%
- Exclusive 11.0%
- Supplemented 8.0%



CALIFORNIA SPECIFIC DATA SOURCES

Baseline data summarizing current infant feeding practices in California are necessary to adequately evaluate the effectiveness of a statewide promotion effort. An ideal data source would be representative of the population of interest, would include information on initiation and duration, would differentiate between exclusive and supplemented breastfeeding, and would include key demographic information such as maternal age, education level, income, parity, and place of residence. Unfortunately, no one data source meeting all these criteria is currently available for the State of California.

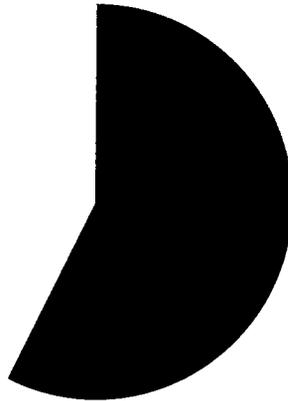
Specific infant feeding data for California has been collected by the WIC program, the Pregnancy Risk Assessment Monitoring Program (PRAMS), and the Department of Health Service's California Newborn Screening Program (NSP).

*In-hospital breastfeeding rates:
data from California's Newborn Screening Program*

**FIGURE 3
DISTRIBUTION OF BREASTFEEDING PRACTICES**

*In-hospital, 1993
California Data*

- Exclusive 43.0%
- Supplemented 31.0%
- None 26.0%



or breastfeeding combined with artificial baby milk, at the time of hospital discharge. This rate is similar to that reported for the Pacific region in the 1993 RLMS (72 percent), and is close to the Year 2000 Objective of at least 75 percent. However, for many California infants, breastfeeding is already being supplemented in the hospital. The in-hospital supplementation rate is over twice the rate reported for all U.S. infants in the 1993 RLMS: 42 percent of California breastfed infants compared to 19 percent of U.S. breastfed infants. Some of this difference may be due to the differing data collection methods of the two data sources. It may also be that maternity ward routines that encourage supplementation (i.e., distribution of free artificial baby milk, routine feeding of artificial baby milk, and separation of mother and baby) are more prevalent in California hospitals.

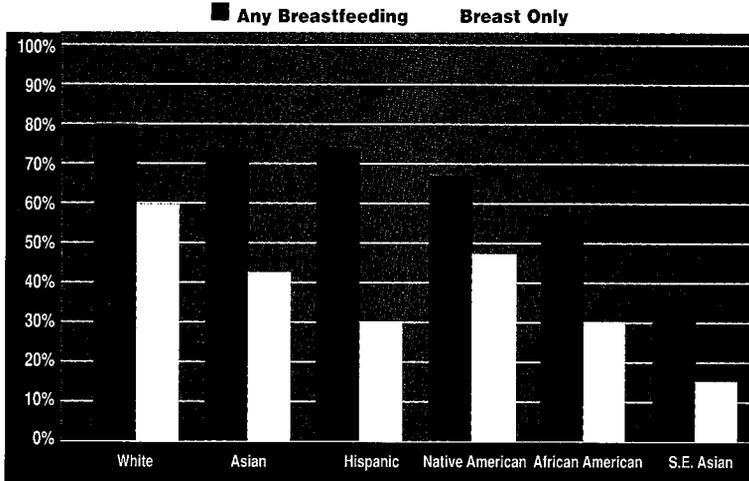
Until this year, the only accessible source of infant feeding data specific to the State of California was the mandatory statewide Newborn Screening Program.² Based on the most recent data, 74 percent of California mothers choose either breastfeeding,



Initiation rates among California's ethnic groups

Among certain demographic groups, the breastfeeding initiation rate is far below the Year 2000 Objective. (Figure 4) The lowest incidence of breastfeeding is among Southeast Asian women. Only 36 percent of California mothers of Southeast Asian ethnicity breastfed at all

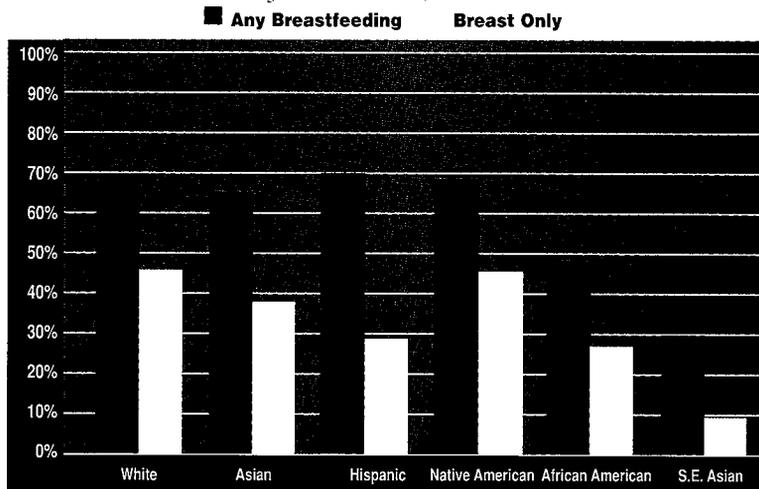
FIGURE 4
IN-HOSPITAL BREASTFEEDING RATES
California, by Ethnicity, 1993-94



in the hospital, and most of those who do so also supplement with artificial baby milk.³ African American mothers have one of the lowest breastfeeding rates, second only to Southeast Asian women. However, African Americans in California have a higher rate of breastfeeding than African Americans in the U.S. in general. While the breastfeeding initiation rates for white and Hispanic women in California are 32 and 34 percent higher than the rates for the same ethnic groups in the U.S. overall, the rate for African American women in California is 81 percent higher than that for all African Americans (124).

Hispanic women have one of the highest breastfeeding initiation rates, but they also have one of the highest rates of supplementation (56 percent of breastfeeders). In contrast, Native Americans have one of the highest rates of exclusive breastfeeding. Sixty-five percent of California women of Native American ethnicity breastfed their newborns, and 71 percent of these mothers did so exclusively (i.e., without the use of artificial baby milk).

FIGURE 5
IN-HOSPITAL BREASTFEEDING RATES
California Teens, 1993-94



Teens are less likely to breastfeed

In general, adolescent mothers have a lower rate of breastfeeding and a higher rate of supplementation than older mothers. (Figure 5) However, the difference in breastfeeding rates between younger and older mothers varies by ethnicity. The breastfeeding rates for non-Hispanic white and Asian teens are considerably lower than those for older women of the same ethnic group. In contrast, adolescents of Hispanic and Native American ethnicity have breastfeeding patterns very similar to older mothers of the same ethnicity.

There are regional differences in breastfeeding rates throughout California

Within the state, initiation rates vary widely by region. The in-hospital rates for each California county are listed in appendix C. The percent of newborns being solely breastfed ranges from 15 percent in Colusa County to 88 percent in San Luis Obispo County.

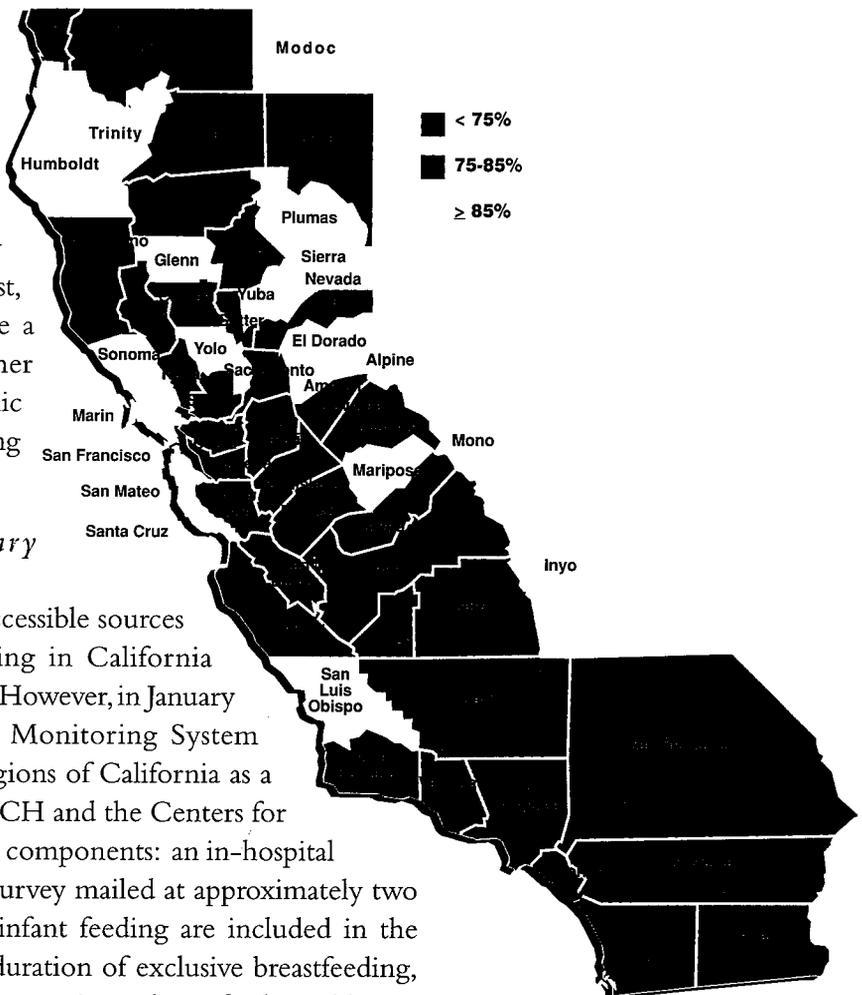
Figure 6 shows the counties with low, medium, and high initiation rates. It can be readily observed that the lowest breastfeeding rates occur in the counties of the Central Valley, Los Angeles, and southeastern California. The counties with high initiation rates tend to be in the coastal and mountain regions of California, regions with a low population density, and a predominantly white non-Hispanic population. In contrast, the regions with low rates tend to have a higher proportion of women from other ethnic groups. However, even within ethnic groups, this regional pattern of breastfeeding is evident.

Breastfeeding duration: preliminary data from PRAMS

Until recently, there have been no accessible sources of data on the duration of breastfeeding in California specifically, except a few localized studies. However, in January 1994, the Pregnancy Risk Assessment Monitoring System (PRAMS) was implemented in three regions of California as a cooperative effort between California MCH and the Centers for Disease Control. PRAMS consists of two components: an in-hospital face-to-face interview and a follow-up survey mailed at approximately two months postpartum. Two questions on infant feeding are included in the PRAMS follow-up survey: one on the duration of exclusive breastfeeding, and a second on barriers encountered in attempting to breastfeed. In addition, the survey includes questions on other key factors related to breastfeeding success. Preliminary data have been analyzed.⁴ Unfortunately, the response rate for the breastfeeding component was only 46 percent of the initial sample; thus, the results must be interpreted with caution. An effort is being made to increase the response rate. Although PRAMS goes beyond just looking at

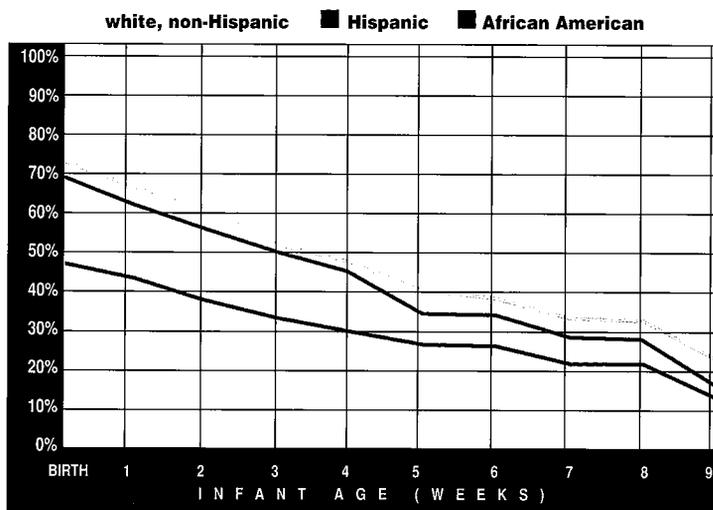
FIGURE 6
IN-HOSPITAL BREASTFEEDING RATES WITHIN EACH CALIFORNIA COUNTY (1993-1994)

includes exclusive and supplemented



breastfeeding initiation rates, it does not go far enough to assess progress made toward the National Health Objective for breastfeeding duration. Since the follow-up survey is conducted at 2 months postpartum, it cannot

FIGURE 7
PERCENT OF INFANTS EXCLUSIVELY BREASTFED
Birth to 9 weeks, California PRAMS data



adequately assess how many California women continue to breastfeed for at least six months. Nonetheless, future PRAMS data will be an important element in monitoring the success of a breastfeeding promotion effort in California.

Few California women breastfeed beyond the first few weeks

PRAMS data suggest that many women begin formula supplementation or abandon breastfeeding completely soon after their baby is born (Figure 7). Though 66 percent of the mothers who responded to the breastfeeding question in the PRAMS sample initiated breastfeeding, the majority (73 percent of those who initiated breastfeeding) were no longer breastfeeding by nine weeks postpartum. These

data suggest that many women in California have intentions of breastfeeding, but only a small percentage continue to nurse beyond a couple of months. As a result, only a few of California's infants are receiving the many benefits of breast milk throughout their first year of life, despite this being the recommended ideal.

Infant feeding data from the WIC program

The WIC program provides supplemental food, nutrition, and breastfeeding education, and referrals to other health and social services to low-income women during the perinatal period, and their infants and children (up to age 5). Concern over the large amount of funding going toward infant artificial baby milk for the WIC program prompted Congress to set aside \$8 million per year in WIC funds to promote breastfeeding during the fiscal years 1990 through 1994 [125]. As previously stated, this period coincided with an increase in breastfeeding among low-income women in the United States.

California's WIC program is in the process of setting up its Integrated Statewide Information System (ISIS), a system of automated enrollment, recertification, and voucher distribution. The ISIS data base includes infant feeding information such as duration of exclusive breastfeeding and timing of introduction of artificial baby milk supplements. In addition, it will be

possible to link infant feeding data with maternal data, such as age, ethnicity, number of WIC nutrition education classes attended, etc. As of December 1995, 49 agencies use ISIS to certify about 692,000 clients, which is approximately 62 percent of WIC's statewide caseload. All local agencies are projected to be "on line" with certifications by June 1996. With the ISIS system in place, local WIC agencies can monitor the success of breastfeeding promotion programs specific to their region and agency.

In the interim, infant feeding data are limited to what can be derived from the numbers of each kind of voucher distributed. Included in this report are data on the percentage of infants (0 to 12 months of age) enrolled as exclusively breastfed (i.e., not receiving any WIC infant artificial baby milk vouchers), based on the number of women receiving the "exclusively breastfeeding" voucher. The percentage of enrolled infants being exclusively breastfed during the 1995 fiscal year is listed for each agency in appendix D. Breastfeeding patterns among WIC participants in the state reflect the regional differences observed among California women overall: WIC agencies in the northern, mountain, and coastal regions have the highest exclusive breastfeeding rates, and those in Los Angeles County, the central valley region, and the southeastern portion of California have the lowest. Statewide, 8 percent of all infants enrolled in the WIC program are solely breastfed (i.e., receive no artificial baby milk vouchers).

SUMMARY

Available data sources

The Newborn Screening Program is an ideal data source for monitoring breastfeeding initiation rates and in-hospital supplementation use. It can provide additional information on regional breastfeeding patterns and changes in breastfeeding rates among California's ethnic populations.

Currently, there is no data monitoring system in place to evaluate breastfeeding duration up to six months postpartum. Thus, it is not possible to monitor progress toward the National Health Objective that at least 50 percent of infants be breastfed for six months. Data from the California PRAMS will allow breastfeeding duration to be monitored for the first eight weeks, and eventually the WIC programs in the state will provide needed information on breastfeeding duration among low-income mothers.

Current breastfeeding patterns in California

Data from the Newborn Screening Program suggests that breastfeeding initiation rates in California are higher than in the nation as a whole. However, among certain ethnic groups and in particular regions, initiation rates lag far behind national objectives. There is also a very high rate of supplementation,

With the ISIS system in place

of

program

re

which often leads to early termination of breastfeeding. In fact, preliminary data from California PRAMS indicate that many California women who do breastfeed only do so for a few weeks. The pattern of infant feeding observed in California — many women initiating breastfeeding, but few continuing beyond a few weeks — suggests that while most California women recognize that “breast is best,” they are not receiving adequate support to continue breastfeeding. The vision of the Breastfeeding Promotion Committee is that breastfeeding be the norm in California for at least the first year of life, and preferably longer. Many challenges lie ahead before this vision can be realized. The recommendations in this report include direct and specific actions that can be taken to improve breastfeeding rates, and thus, the health of our future generations.

The pattern of infant feeding observed in California — many women initiating breastfeeding, but few continuing beyond a few weeks — suggests that most California women are not receiving adequate support in order to continue breastfeeding.

Notes:

1. The Ross Laboratories Mothers Surveys (RLMS) has documented trends in breastfeeding over the last three decades. The RLMS is a large, mail based survey, with the sample being derived from a list that includes 70-82 percent of all new mothers in the United States. A major drawback of the RLMS is the low return rate for the questionnaire (54 percent), which likely results in a biased sample (those who return the questionnaire could be different in their infant feeding practices from those who do not). An attempt is made to account for this by weighting the data by subclass means to account for differing responses and coverage rates.
2. This program has been collecting data since 1983 on every infant born in the state of California (excluding the non-civilian population). Newborns are typically screened prior to hospital discharge, usually 1-5 days after birth. At that time, the mother is asked how her infant is currently being fed, with the choices being breastfed only, breast and formula fed, formula only, or "other." Demographic data recorded includes maternal age, ethnicity, and place of delivery. This report includes an analysis of the infant feeding data for the most recent 12 months available (May 1993-April 1994).
3. Research examining the low incidence of breastfeeding among Southeast Asian mothers has recently been published: Tuttle C. and Dewey KG. Determinants of Infant Feeding Choices Among Southeast Asian Immigrants in Northern California. *Journal of the American Dietetic Association* 1994;94:282-6, Tuttle C. and Dewey KG. Impact of a Breastfeeding Promotion Program for Hmong Women at Selected WIC sites in Northern California. *Journal of Nutrition Education* 1995;27:69-74 and also Fishman C, Evans R, and Jenks E. Warm Bodies, Cool Milk: Conflicts in Post Partum Food Choice for Indochinese Women in California. *Social Science and Medicine* 1988;26:1125-32.
4. These data are based on July 1-December 31, 1993 PRAMS data. The data are from the Part 2 questionnaire (mail/phone follow-up phase) of PRAMS. The response rate for Part 2 was 60 percent of the sample. The response rate for the breastfeeding questions was 75 percent of those who completed part 2 (46 percent of the total sample). The data represent three California regions (33 counties in sample hospital catchment areas): Northeastern California Perinatal Program, Perinatal Network of Alameda and Contra Costa, and San Joaquin Valley Regional Perinatal Program.

RECOMMENDATIONS OF THE BREASTFEEDING PROMOTION COMMITTEE

The following 17 recommendations for the promotion of breastfeeding in California are grouped in six areas of focus: Professional Education, Health Care Systems, Public Education, Mother-to-Mother Support, Workplace and Educational Centers, and Research. The order of presentation of these groups is not of special significance. The recommendations were prioritized by the committee and presented in priority order in the executive summary. Suggested implementation strategies are listed beneath most of the recommendations. These strategies are not exhaustive and have not been prioritized; they were the result of brainstorming sessions by the committee.

The 17 recommendations are preceded by three others that were thought to be of such fundamental importance that they should be listed separately. The first, establishment of an “Office of Breastfeeding Promotion,” merits special placement because of the possible role of such an office in coordination of efforts to implement the other recommendations. The other two fundamental recommendations were selected because of their global application to the implementation of all the other recommendations. The second fundamental recommendation reflects the concern of the committee that all promotion efforts be culturally sensitive and appropriate, and the third cautions that funding for the recommendations should not come from manufacturers of artificial baby milk.

FUNDAMENTAL RECOMMENDATIONS

Coordination of Efforts

Breastfeeding promotion efforts are either inadequate or are largely fragmented, overlapping, and uncoordinated with resultant waste of resources and efforts. A strong need exists for a clear voice to provide leadership at high levels of government to ensure a sustained, coordinated, culturally competent, and cost-effective effort. An entity such as an “Office of Breastfeeding Promotion” should be established to set policy standards, coordinate programs in all branches and at all levels of government, develop legislation, support and coordinate local breastfeeding efforts, and provide editorial oversight for all breastfeeding-related materials developed or disseminated by government agencies in California. Breastfeeding is not simply a subset of women’s health or infant health, but is an overriding theme affecting family health and society in many areas, and thus deserves a prominent place of its own rather than being subsumed within an existing office or department.

Cultural Competency

It is essential that breastfeeding promotion activities at every level be culturally relevant to the diverse populations in California and that they be implemented by individuals who are culturally competent.¹ In this report, cultural relevancy is defined as the use of acceptable cultural practices that will avoid major taboos and offenses to the members of a defined culture, and will address issues of common concern in a way that will be viewed as respectful by members of that culture. Cultural competency is defined as a set of academic and interpersonal skills that allows individuals to increase their understanding and appreciation of cultural differences and similarities within and among groups. These skills include but are not limited to expanding awareness, acceptance,

valuing and utilization of, and an openness to learn from general and health-related beliefs, practices, traditions, languages, religions, histories, and current needs of individuals and the cultural groups to which they belong. To be culturally competent requires, but is not limited to, a willingness to accept the person and draw on community-based values, traditions, languages, and religions. Essential to cultural competency is the ability to listen to, learn from, and work with knowledgeable community members when developing targeted interventions.

Funding Concerns

This committee recommends that no money be accepted from the manufacturers of artificial baby milk for the implementation of the recommendations in this report. Health care providers interact at multiple levels and in complex ways with the manufacturers and suppliers of pharmaceuticals and medical products, including artificial baby milk and lactation products. The ultimate intent of the multiple gifts supplied by these manufacturers is the increased sale of their products, and the receipt of such gifts has been shown to modify the behavior of the recipients in favor of the donors. To avoid conflict of interest, the health care community would ideally cease to receive gifts from all commercial concerns with vested interests. While the makers of artificial baby milk should be specifically excluded from supporting the implementation of these recommendations, educational materials and gifts from manufacturers of other infant feeding and lactation products must be accepted only with great caution and should be progressively eliminated.

I. Professional Education

RATIONALE:

Health care professionals are generally supportive of breastfeeding in theory, but most are ill equipped to assist and support the breastfeeding mother and infant. Breastfeeding failure is often the result of inappropriate and insufficient support on the part of the health care provider. Accurate, research-based, culturally competent education regarding lactation and breastfeeding has been limited or non-existent in health care professional curricula. Continuing education efforts have not reached the majority of providers. Health care professionals are in a key position to affect breastfeeding success. Breastfeeding education is essential in professional schools and in continuing education programs for health care providers. Promotional efforts will be successful only if women who are encouraged to breastfeed encounter providers who are able to respond to their needs.

RECOMMENDATION (PRIORITY #3)

Facilitate integration of breastfeeding training into the curriculum at health-related professional schools throughout the state to ensure that health professionals are technically and culturally competent in delivering breastfeeding services.

STRATEGIES:

- A. Convene a statewide committee of teams from each health professional school (including those with breastfeeding expertise and those in positions to influence curricula) to discuss and develop a plan to strengthen breastfeeding content of their curricula.
Assure participation of the University of California and State University systems.
Include consumers and representatives of minority groups.
- B. Conduct an assessment of the breastfeeding content of curricula offered at medical, nursing, dental, and nutrition programs throughout the state.
- C. Collaborate with professional boards and licensing and certification bodies to ensure that minimum competencies in lactation support are established and adopted and that appropriate questions and skills assessments are included as part of the existing licensing, registration, and certification procedures.
- D. Establish curriculum review committees at each health professional school to review, establish, and guide the integration of lactation into the curriculum.
- E. Provide educational opportunities, materials, and incentives to faculty who are preparing to teach lactation-related subjects.
- F. Establish an awards process to recognize those schools which have successfully integrated lactation education into their curriculum.

RECOMMENDATION (PRIORITY #6)

Develop incentives and methods that make it simple, interesting, and profitable for health care providers to receive continuing education in breastfeeding related topics.

S T R A T E G I E S :

- A. Conduct a needs assessment to determine where continuing education programs are most needed and how these programs may be best designed in terms of faculty, targeted participants, number of days, and format.
- B. Develop standards and measures for competencies in each profession in breastfeeding counseling and support skills.²
- C. Develop funding strategies to subsidize continuing breastfeeding education for health professionals.
- D. Establish, recognize, and support strategically located centers for advanced education and training.
- E. Establish and support a network of educators that could travel to each institution and provide education and training appropriate to the needs of the various health care providers.
- F. Develop video/self study modules on breastfeeding for health professionals in conjunction with health professional associations.
- G. Increase the availability of taped lectures from current and past breastfeeding conferences.
- H. Promote breastfeeding awareness among health care professionals by publicizing committees, individuals, events, and educational opportunities of interest to health care providers.

II. Health Care Systems

RATIONALE:

Women look to health care providers for breastfeeding information and support; however, health care systems, institutions, policies, and personnel often unknowingly interfere with the initiation and continuation of breastfeeding. In addition, many women do not have access to appropriate breastfeeding resources.

RECOMMENDATION (PRIORITY #2)

Develop an overriding policy to be governed by the state of California that all health care institutions and health plans that provide maternal and child health services will facilitate breastfeeding for all women and infants, including those with special care needs. As a first priority, facilitate the implementation of the Baby Friendly Hospital Initiative.

S T R A T E G I E S :

- A. Ensure that programs that provide services to women and children which are funded or regulated by DHS include a breastfeeding component that is periodically reviewed and reinforced. Ensure that qualified persons review applications for state funding for programs that involve or may affect breastfeeding.
- B. Determine how breastfeeding support may be included in National Council Quality Assurance guidelines for outpatient treatment.
- C. Use Title 22 of the California Code of Regulations and/or the Department of Corporations to require supportive breastfeeding policies in hospitals and health plans. Consider whether hospitals in violation should be denied Medi-Cal reimbursement, licensure, and/or accreditation.
- D. Require basic breastfeeding competencies be obtained by all health care workers who work with pregnant women and children to the age of 3 years. Make demonstration of these competencies a requirement for licensure and/or hospital privileges.
- E. Support peer counseling programs and breastfeeding support efforts by community health care workers.
 - 1) Ensure that all appropriate sites are staffed by paid, trained peer counselors.
 - 2) Establish and support job training/partnership programs for peer counselors that include culturally competent trainers, job opportunities, and incentives for trainees to remain with their program.
 - 3) Preserve the existing levels of breastfeeding peer support and education in all appropriate programs despite possible funding cuts.
 - 4) Provide official recognition of peer counselors and community health workers.
- F. Require that all staff at appropriate DHS funded sites be trained at peer counselor level or above.³

- G. Develop and disseminate a guide for all appropriate health care facilities to promote the 10 steps to successful breastfeeding as outlined in the WHO/UNICEF Baby Friendly Hospital Initiative⁴ as the optimal model for infant care.
- H. Facilitate the implementation of a system of care that provides culturally appropriate and sensitive breastfeeding education and support during the antepartum, intrapartum, and postpartum periods.
- I. Create a consumer's guide which rates policies of hospitals and health plans regarding breastfeeding and their adherence to the 10 steps outlined in the Baby Friendly Hospital Initiative. To obtain the information necessary to create this guide, conduct a survey of California hospitals to determine:
 - 1) The number of infants in the NICU (neonatal intensive care unit) who are breastfeeding or are provided with breast milk.
 - 2) The amount of money budgeted for breastfeeding education and support and whether the amount is related to breastfeeding rates.
 - 3) What standard protocols (including environmental factors such as rooming in) are being used and how do these protocols relate to breastfeeding success rates?
 - 4) What services are available at discharge.
 - 5) To what extent peer counselors are used.
- J. Provide state support, such as contracts and funding, for hospitals' efforts to achieve the standard outlined in the Baby Friendly Hospital Initiative.
- K. Develop and disseminate a clinic/emergency room guide to treatment of common breastfeeding problems so that accurate information is available to health care providers in all settings.

RECOMMENDATION (PRIORITY #1)

Ensure that all mothers have access to culturally appropriate breastfeeding information and professional lactation services, especially in communities with high birth rates and low prevalence of breastfeeding.

- A. Assess current availability and quality of lactation services.
- B. Conduct a survey to determine which insurance companies provide coverage for breastfeeding services and which do not. Gather existing data regarding costs and benefits to insurance companies that cover breastfeeding services and communicate this information to health plans.
- C. Work with all health care reimbursement systems, such as Medi-Cal, managed care plans, and insurance companies, to develop model policies ensuring adequate reimbursements for breastfeeding services.
- D. Develop strategies to provide adequate numbers of lactation professionals and peer counselors who are able to provide care for infants and mothers.
- E. Provide financial support for lactation professionals in all appropriate Primary Care and Family Health programs.
- F. Ensure that all Medi-Cal Treatment Authorization Request (TAR) reviewers (case managers) are aware of covered benefits for breastfeeding.
- G. Provide information to providers regarding billing for breastfeeding related services.
- H. Develop and disseminate a consumer's guide containing key questions that should be asked of health care providers.
- I. Create a DHS-sponsored toll-free breastfeeding support referral and information line.

RECOMMENDATION (PRIORITY #4)

WIC should adopt model standards of breastfeeding promotion and support based on best practices and ensure that these standards are implemented uniformly throughout the state.

III. Public Education

RATIONALE:

In public or private, breastfeeding should be accepted as the cultural norm and encouraged as the best way to nourish and protect an infant. However, in California, positive breastfeeding images are rare. Although women are frequently aware of the benefits of breastfeeding, societal pressures often cause them to choose not to breastfeed or to do so for a short duration. Many women are embarrassed to breastfeed in public, to breastfeed for longer than a year, or to teach children about breastfeeding. Men and other family members have an important influence on women's choice to breastfeed, and it is imperative that they be educated regarding the benefits of breastfeeding for their families.

RECOMMENDATION (PRIORITY #11)

Incorporate breastfeeding education into the science and health curricula of schools at preschool, primary, secondary, continuation, technical, adult, job training, and professional education (e.g., teacher) levels.

S T R A T E G I E S :

- A. Review education materials which are currently available from government and private sources and make recommendations for inclusion of appropriate breastfeeding information.
- B. Survey curriculum planners, teachers, parents, and school officials regarding their attitudes towards breastfeeding education and develop future education strategies based on the results.
- C. Encourage the Department of Education and other education organizations to incorporate breastfeeding education into curricula and into school-based comprehensive health systems.⁵
- D. Develop breastfeeding education materials to meet the needs specific to California's diverse populations.
- E. Establish a speakers bureau for presentations in the classroom and to parent groups.
- F. Review, recommend, and provide positive breastfeeding images and eliminate bottle-feeding images in schools and child care settings on items such as posters, toys, visual aids, and textbooks.

RECOMMENDATION (PRIORITY #9)

Develop a partnership with the media to promote positive breastfeeding images targeted to specific communities. Seize opportunities to include breastfeeding promotion as part of other media events.

S T R A T E G I E S :

- A. Review promotional materials which are currently available from government and private sources.
- B. Coordinate media-watch efforts with existing programs or initiate a program, should none exist, to serve California.
- C. Encourage the entertainment industry to portray breastfeeding positively in television and movies.
- D. Sponsor an annual award for positive breastfeeding images within the media.
- E. Prepare appropriate press releases to support media events related to breastfeeding support, education, and promotion activities. Link up with relevant nonprofit groups who can help organize media appearances.
- F. Participate and encourage others to participate in appropriate media events such as World Breastfeeding Week, Public Health Week, National Nutrition Month, etc.

RECOMMENDATION (PRIORITY #5).

Develop and implement a social marketing campaign⁶ to promote breastfeeding in California's diverse populations with emphasis on increasing breastfeeding duration.

S T R A T E G I E S :

- A. Employ a professional marketing agency to design culturally appropriate, effective messages that target barriers to successful breastfeeding.
- B. Explore options for funding a media campaign. Options may include pro bono time from an ad agency, contributions from a foundation or corporation (e.g., Wellness Foundation, March of Dimes, etc.), hiring of fund raising staff, or soliciting special or general tax revenues.
- C. Conduct a survey to determine if the public has negative feelings about breastfeeding and what factors may influence those feelings. Use the results to develop appropriate breastfeeding messages.
- D. Identify media groups and existing national or international campaigns that may be used to promote breastfeeding in California.
- E. Analyze marketing strategies of the infant food industry and identify aspects that may be useful in efforts to promote breastfeeding.

- F. Utilize male and female athletes and public figures to be involved in media campaigns that promote breastfeeding.
- G. Develop messages that target barriers perceived by men.
- H. Produce culturally appropriate television/radio campaigns.
- I. Conduct wide-scale public education emphasizing the benefits of breastfeeding and promoting the message that breastfeeding is acceptable anywhere.
 - 1) Print promotional messages on bumper stickers, billboards, grocery bag ads, bus billboards, etc.
 - 2) Distribute free breastfeeding promotional posters to doctors' offices and clinics.
 - 3) Conduct a statewide television breastfeeding promotion campaign.
 - 4) Elicit the involvement of fast food restaurants and amusement parks in promotional campaigns.
 - 5) Develop and distribute a series of press releases/press kits for breastfeeding promotion (including human interest value).
 - 6) Provide breastfeeding information at the baby food sections of grocery stores or other appropriate locations.
 - 7) Seek a governors' proclamation for World Breastfeeding Week annually.
 - 8) Identify where people seek or need support for breastfeeding such as in housing projects and laundromats. Determine if these sites may be used for education materials/forums.

RECOMMENDATION (PRIORITY #16)

Encourage breastfeeding promotion through local breastfeeding coalitions including existing support groups and religious and community organizations in order to reach local communities in a culturally competent and accessible manner.

S T R A T E G I E S :

- A. Identify and recruit community organizations, leaders, and role models to participate in promotion and education activities.
- B. Assist local organizations to develop, adapt and implement strategies on a local level to increase rates and duration of breastfeeding.
- C. Facilitate collaboration among breastfeeding families, businesses, health care professionals, lactation consultants, community health workers, lay breastfeeding experts, educators, clergy, government, and other interested parties.
- D. Develop local speakers bureaus to inform community members about the benefits of breastfeeding, promotional efforts, and the availability of breastfeeding services.
- E. Assist communities with inadequate mother-to-mother and/or professional breastfeeding support by providing information on breastfeeding educational resources and funding opportunities.

IV. Mother-to-Mother Support

RATIONALE:

Most women in California wish to breastfeed their babies, but many do not achieve their goals with respect to breastfeeding duration. Although breastfeeding is a natural process, it is also a learned behavior. Many women in California have not had the opportunity to observe and interact with breastfeeding women. Such mother-to-mother⁷ support and role modeling has been shown to be one of the most critical factors for breastfeeding success.

RECOMMENDATION (PRIORITY #14)

Ensure that effective mother-to-mother support is accessible for all breastfeeding women in California.

STRATEGIES:

- A. Gather and analyze existing data concerning the effectiveness of different mother-to-mother support models and determine critical components and successful strategies among existing models.
- B. Fund programs (new and ongoing) that support mother-to-mother groups. These programs would include the following:
 - 1) An ongoing media campaign to promote mother-to-mother support and its role.
 - 2) Development of multicultural information packets for professionals, clients, and the media regarding the role of mother-to-mother support.
 - 3) Training and recruitment of mother-to-mother support providers.
 - 4) Recognition of outstanding mother-to-mother support providers.
 - 5) Outreach to the community regarding availability of mother-to-mother support.
 - 6) Maintenance and improvement of existing successful programs.
 - 7) Initiation of new programs where needed.
 - 8) Linkage with appropriate, culturally competent community health care workers.

V. Workplace and Educational Centers

RATIONALE:

Approximately 75 percent of women in California initiate breastfeeding, yet only 18 percent are still breastfeeding their infants at two months of age. One of the major barriers cited is work outside the home. Many families and women are unaware that breastfeeding can be compatible with work outside the home. In addition, most employers offer little, if any, support to breastfeeding women. Employers are often unaware that efforts to support breastfeeding can not only benefit their employees but also provide direct and indirect economic benefits to their businesses.

RECOMMENDATION (PRIORITY #7)

Work with small businesses, educational sites, corporate executives, employees, labor unions, and others to promote breastfeeding friendly workplaces and to negotiate health care plans with enhanced maternity and lactation benefits. The state of California, as a major employer, should take the lead in providing a breastfeeding friendly workplace⁸.

S T R A T E G I E S :

- A. Survey companies to determine current policies and attitudes of employers regarding programs that support breastfeeding, such as extended maternity leave, time and space allowed for breastfeeding and/or pumping, flexible hours, and on-site day care. Use this information to formulate strategies that support breastfeeding employees.
- B. Review, develop, and facilitate the implementation of model standards for workplace lactation programs. Develop a consortium including the business community and breastfeeding experts to enhance benefit options related to parental leave and worksite breastfeeding programs.
- C. Review and develop model standards in educational sites to facilitate breastfeeding by students as well as employees.
- D. Provide incentives to employers, especially those with state contracts, to form breastfeeding friendly/family friendly work sites.
 - 1) Provide information on the cost benefits of facilitating breastfeeding to employers.
 - 2) Help businesses establish work site breastfeeding support programs.
 - 3) Allow tax incentives for employers that implement breastfeeding friendly worksites.
 - 4) Make funds available to implement breastfeeding friendly policies at all worksites within the Department of Health Services.

RECOMMENDATION (PRIORITY #13)

Recommend legislation that supports breastfeeding by working mothers.

S T R A T E G I E S :

- A. Review and make recommendations for state regulations and policies regarding the workplace:
 - 1) Minimize liability as a barrier for breastfeeding women to bring babies to work.
 - 2) Recommend and support legislation to require on-site infant day care for all corporations with more than 200 employees, and encourage smaller businesses to also provide such programs.
 - 3) Provide tax incentives for businesses that provide on-site child care for infants.
 - 4) Require that lactation rooms be made available in appropriate public areas and businesses.
 - 5) Recommend and support legislation to extend and improve parental leave benefits.
 - 6) Offer fiscal incentives (e.g., tax breaks or direct payments) for families who breastfeed for a defined period of time.
 - 7) Review and make recommendations for anti-discrimination laws for pregnant and breastfeeding women. Improve enforcement of existing laws.
- B. As part of the licensure process, require that day care providers promote and support breastfeeding.
 - 1) Require that day care providers have adequate education and training to support breastfed infants and children in their care.
 - 2) Ensure equal access to child care services for breastfed infants/children.
 - 3) Ensure that all appropriate child care providers have facilities which are adequately equipped to support breastfeeding.

VI. Research

RATIONALE:

For many of the strategies that might be used to promote breastfeeding, information is lacking regarding the best way to target vulnerable groups and design the most cost-effective programs. Data documenting the cost savings resulting from increased breastfeeding are also needed to persuade policy makers of the importance of such programs.

RECOMMENDATION (PRIORITY #17)

Conduct needs assessment studies to assist in planning and targeting breastfeeding promotion programs.

S T R A T E G I E S :

- A. Identify where women of various ethnic groups go for help and the barriers they encounter when breastfeeding problems occur. Determine how women network to support themselves.
- B. Conduct a survey of a representative sample of working mothers with children under 3 years of age including demographics (e.g., work sites, age of children, education, flextime, telecommuting, part-time vs. full time, job sharing, etc.), feeding practices (e.g., number of women who continue to breastfeed or express their milk), and attitudes and preferences regarding employment and infant care. Analyze the data to evaluate the relationship of breastfeeding rates to alternative employment practices. Use the information to determine how best to promote breastfeeding among women in the workforce.

RECOMMENDATION (PRIORITY #8).

Evaluate the cost savings and other benefits to different sectors associated with increased breastfeeding rates, and use the information to help convince policy makers to implement programs to promote breastfeeding.

S T R A T E G I E S :

- A. Conduct a cost-benefit analysis of hospitals that have implemented the 10 steps of the Baby Friendly Hospital Initiative.
- B. Conduct a study of the costs and benefits to insurance companies for coverage of breastfeeding-related services. Include data on the health care utilization rates of breastfeeding and bottle-feeding mothers and children.
- C. Evaluate the cost of employer breastfeeding support programs and how costs may be related to changes in productivity, turnover rate, and absenteeism.
- D. Conduct a study to determine the dollar value of breast milk as part of California's state economy.

RECOMMENDATION (PRIORITY #12)

Support research on risk factors for early termination of breastfeeding.

S T R A T E G I E S :

- A. Study risk factors and physiological mechanisms for delayed lactogenesis and insufficient milk.
- B. Examine the impact of interventions during pregnancy, labor, and the immediate postpartum period (e.g., epidurals, newborn procedures) on the infant's ability to breastfeed.
- C. Design studies to evaluate how infant assessment tools (e.g., APGAR, etc.) and breastfeeding assessment tools are related to breastfeeding outcomes and how these tools can be used most effectively to facilitate breastfeeding.

RECOMMENDATION (PRIORITY #10)

Evaluate the cost-effectiveness of alternative strategies to promote breastfeeding. For example, determine the optimal use of professionals, paraprofessionals, and lay health workers for breastfeeding support. Use the information to choose the models that have the biggest impact per unit cost.

RECOMMENDATION (PRIORITY #15).

Develop and implement mechanisms for ongoing evaluation of breastfeeding incidence and duration in California.

Notes:

1. For more information, refer to the report entitled Recommendations for the Medi-Cal Managed Care Program by the California Cultural Competency Task Force, California Department of Health Services. February 8, 1994.
2. The exam given by the International Board of Lactation Consultant Examiners may be used as an example of such a standard.
3. Peer counselors level: Qualified peer counselors have the combination of personal and practical experience and formal training to ensure that they are able to do the following in a scientifically sound and culturally competent way: encourage expectant mothers to breastfeed; provide routine anticipatory guidance that prepares expectant mothers for the breastfeeding experience; provide emotional support and encouragement throughout the breastfeeding experience; provide routine guidance with breastfeeding initiation; explain prevention of common breastfeeding problems and respond to other common concerns; provide general, common routine (nonclinical) information regarding solutions to common breastfeeding problems; identify and refer mothers when needed to appropriate community resources and health care providers; interface with the mother's health care provider(s) to ensure that information and advice given is consistent, and compatible with medical advice/care given; determine when a problem is beyond their scope and calls for professional assessment and/or intervention. This is the level of expertise defined as "peer counselor level." The actual functions and responsibilities of peer counselors will vary depending on the health care setting in which they work, nature of their training, supervisory arrangements, and the terms of any insurance coverage. La Leche League provides a good example of a national peer counselor training program.
4. The WHO/UNICEF Baby Friendly Hospital Initiative is a global initiative designed to encourage the promotion, protection, and support of breastfeeding within health care facilities. National authorities coordinate and supervise assessment and credentialing procedures within their country based on the Ten Steps to Successful Breastfeeding as outlined in the joint WHO/UNICEF statement (attached). The BFHI has not yet been fully implemented in the U.S. Currently, the U.S. Committee for UNICEF is working with Wellstart International to establish a system for assessment and recognition of health care facilities.
5. School-Linked Comprehensive Health System is a local partnership which brings together parents, teachers, and students with key players in community agencies and organizations, businesses, school districts, and county offices of education to focus their energy, expertise, and resources on improving results for students and their families in the areas of education, health, mental health, and family functioning. As an example, the Healthy Start Support Services for Children Act (SB620, Presley, 1991) is a statewide initiative placing comprehensive support services for children and families at or near school sites. Healthy Start emphasizes a continuum from nonformal supports to intensive services to help each student succeed in school.
6. The social marketing approach combines commercial marketing techniques with traditional health education and support methods to promote health products or services.
7. Mother-to-Mother (e.g., La Leche League Leaders, Nursing Mothers Counselors): The main role of a person in this category is to provide role-modeling and support to breastfeeding dyads and their families. Mother-to-mother support by definition is offered by a mother with breastfeeding experience. Mother-to-mother support people do not function as health care professionals but rather as peers who have personal wisdom to share. Their own personal experience, enthusiasm, and knowledge of the community they serve are their most important assets. These women may offer support on a one-to-

one basis or in groups. They may offer their support over the phone, face-to-face in the home or in a health care or community facility. They may or may not be paid; pay is usually limited to expenses and honoraria or stipends, if any. They should not offer clinical care, but they may provide routine counseling and common solutions to problems. The amount of formal training varies, depending on the sponsoring organization, but should be at least at the peer counselor level. (See footnote 3, this section.) For example, La Leche League Leaders training is far more extensive than the peer counselor level as defined in footnote 3. The main role of mother-to-mother support is that of role modeling and moral support, encouragement, assurance, “someone to talk to and share with,” and as a source of referrals when additional assistance is needed.

8. A breastfeeding friendly worksite would include various options for women who are breastfeeding. Each family has unique circumstances for which different solutions are most appropriate. Some women will prefer to have their child on site and breastfeed during breaks, others would prefer flexible working hours that allow them to return home and feed their child, others need the space, time and equipment to express and store their breast milk. The same woman may take advantage of various options depending on her and her family’s needs at the time. The following options would need to be considered: (a) on-site day care with staff who are supportive of breastfeeding; (b) time, space and equipment for expression and storage of breast milk; (c) time and space for feeding the baby; (d) flexible hours (part-time/variable time, job-sharing, etc.); (e) lactation consultant services on site; (f) written information, classes, etc., on site; (g) support groups on site.

C O N C L U S I O N

The information presented in this report confirms that breastfeeding can make an important contribution to the health and well-being of our state's population. While many California women initiate breastfeeding, few do so without supplementation and very few continue beyond the first few weeks. Furthermore, there are large discrepancies in initiation rates among California's many ethnic groups and geographical regions.

The vision of the Breastfeeding Promotion Committee is that breastfeeding be the norm in California for at least the first year of life and preferably longer. Many challenges lie ahead before this vision can be realized. The seventeen recommendations of the committee address these challenges in a way that promotes and supports breastfeeding among the widely diverse populations of California.

As we step forward into the next century, we must recognize the value of breastfeeding to society as a whole. Today's investment in efforts to support and promote breastfeeding will deliver a brighter future for us all.

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A P P E N D I X B
WHO/UNICEF'S
TEN STEPS TO SUCCESSFUL BREASTFEEDING

Every facility providing maternity services and care for newborn infants should:

1. have a written breastfeeding policy that is routinely communicated to all health care staff;
2. train all health care staff in skills necessary to implement this policy;
3. inform all pregnant women about the benefits and management of breastfeeding;
4. help mothers initiate breastfeeding within a half-hour of birth;
5. show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants;
6. give newborn infants no food or drink other than breast milk unless *medically* indicated;
7. practice rooming in — allow mothers and infants to remain together — 24 hours a day;
8. encourage breastfeeding on demand;
9. give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants;
10. foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

A P P E N D I X C
IN-HOSPITAL BREASTFEEDING RATES
Federal Fiscal Year 1994
State of California, By County
(ranked by 'total breastfed' rate, with 1 being the lowest)

Rank	County	Region	Breast only	Breast & Formula	Total Breastfed	Total Births
1	Merced	Central Valley	25.8	35.8	61.6	3397
2	Fresno	Central Valley	39.1	24.4	63.5	15743
3	San Bernard.	South East	36.3	27.8	64.1	24539
4	Tulare	Central Valley	23.7	45.3	69.1	5745
5	San Joaquin	Central Valley	36.4	33.1	69.4	8230
6	Los Angeles	Los Angeles	32.2	37.8	70.0	171724
7	Stanislaus	Central Valley	46.3	23.8	70.2	7399
8	Kern	Central Valley	35.3	35.2	70.6	10950
9	Riverside	South East	40.5	30.1	70.6	21241
10	King	Central Valley	22.7	48.0	70.7	1952
11	Madera	Central Valley	46.4	25.1	71.5	891
12	Sutter	North Valley	32.1	39.9	72.0	1821
13	Sacramento	North Valley	61.8	11.0	72.9	18109
14	Imperial	South East	17.9	55.1	72.9	2457
15	Solano	East Bay	61.3	12.6	73.8	4173
16	Alameda	East Bay	57.8	16.6	74.5	20577
17	Lake	North Valley	53.4	22.0	75.4	264
18	San Benito	Bay Area	27.8	48.6	76.3	389
19	Orange	South West	32.4	44.4	76.8	47849
20	San Francisco	Bay Area	56.6	21.8	78.4	11208
21	San Diego	South West	54.3	24.4	78.7	40251
22	Lassen	North	41.3	37.5	78.8	269
23	Placer	Mountain	59.0	20.7	79.7	1751
24	Butte	North Valley	58.5	21.7	80.2	2778
25	Santa Clara	Bay Area	48.4	31.8	80.3	27707
26	Colusa	North Valley	15.1	65.6	80.6	186
27	Siskiyou	North	65.7	15.0	80.7	306
28	Contra Costa	East Bay	56.7	25.4	82.2	10006

Appendix C continued

Rank	County	Region	Breast only	Breast & Formula	Total Breastfed	Total Births
29	Tehama	North Valley	60.4	21.8	82.2	578
30	Ventura	Coast	43.2	39.5	82.7	10166
31	Mendocino	North	57.6	25.5	83.1	986
32	Santa Barbara	Coast	61.5	22.2	83.7	5932
33	Tuolumne	Mountain	69.1	14.7	83.8	457
34	Napa	North Valley	66.6	17.4	84.0	1120
35	Shasta	North	79.9	4.4	84.3	1968
36	Calaveras	Mountain	78.1	6.2	84.4	32
37	Monterey	Coast	51.2	33.4	84.6	6021
38	Del Norte	North	70.0	14.7	84.7	347
39	Humboldt	North	71.1	14.1	85.1	1480
40	Yolo	North Valley	76.5	10.1	86.6	1660
41	El Dorado	Mountain	63.8	23.0	86.7	1192
42	Amador	Mountain	75.4	11.8	87.3	228
43	San Mateo	Coast	81.1	6.3	87.3	5752
44	Sonoma	Coast	78.3	9.2	87.5	5133
45	Plumas	Mountain	83.0	4.5	87.5	176
46	Inyo	Mountain	74.1	14.1	88.1	320
47	Trinity	North	71.8	16.7	88.5	78
48	Nevada	Mountain	79.5	10.2	89.7	836
49	Marin	Coast	87.8	3.2	91.1	1728
50	Modoc	North	82.4	8.8	91.2	34
51	Santa Cruz	Coast	74.4	17.0	91.4	3342
52	San Luis Obispo	Coast	87.2	4.3	91.5	2093
53	Mariposa	Mountain	100	0.0	100	5

APPENDIX D

BREASTFEEDING DATA FOR CALIFORNIA WIC PROGRAMS

*Federal Fiscal Year 1994/1995**Percent of Enrolled Infants Exclusively Breastfed
(ranked by breastfeeding rate, 1 = highest)*

Rank	Agency	County	Percent Exclusively Breastfed	Total Enrolled Infants
1	Trinity County	Trinity	44	70
2	Alliance Medical Center	Sonoma	35	197
3	North County Health Services	San Diego	35	1451
4	United Indian Health Services	Humboldt Del Norte Trinity	30	167
5	Nevada County	Nevada	29	276
6	Humboldt County	Humboldt Del Norte	28	770
7	Plumas Rural Services	Plumas	27	104
8	San Luis Obispo County	San Luis Obispo	27	858
9	Siskiyou County	Siskiyou	27	259
10	Marin County	Marin	25	506
11	Northeastern Rural Health	Lassen Modoc East Plumas	24	232
12	Shasta County	Shasta	24	1114
13	Human Resources Council	Amador Calaveras	23	232
14	Mendocino County	Mendocino	23	582
15	Tuolumne County	Tuolumne	23	192
16	Butte County	Butte	22	1272
17	Inyo County	Inyo Mono	22	179
18	City of Berkeley	Alameda	21	378
19	Center for Education & Manpower	Lake	20	399
20	County of Sonoma	Sonoma	20	1456
21	Placer County	Placer	19	602
22	Santa Barbara County	Santa Barbara	19	3103
23	El Dorado County	El Dorado	18	483

Appendix D continued

Rank	Agency	County	Percent Exclusively Breastfed	Total Enrolled Infants
24	Food & Nutrition Services	Santa Cruz Monterey	17	1345
25	St. Elizabeth Community Hospital	Tehama	17	893
26	Napa County	Napa	16	560
27	Sierra County Human Services	Sierra	16	9
28	Yolo County	Yolo	16	844
29	Community Medical Centers	San Joaquin Yolo	14	647
30	Camino Health Centers**	Orange	14	44
31	La Clinica de la Raza	Alameda	14	616
32	Sutter County	Sutter	14	595
33	Mercy Hospital & Medical Center	San Diego	13	1809
34	Solano County	Solano	13	1919
35	Riverside County	Riverside Imperial	12	11292
36	County of San Diego	San Diego	12	6790
37	YWCA	Sacramento	12	2633
38	American Red Cross	San Diego	11	8059
39	Del Norte Clinics	Yuba Colusa	11	882
40	Merced County	Merced Mariposa	11	2606
41	Monterey County	Monterey	10	3822
42	Sacramento County	Sacramento	10	4328
43	San Mateo County	San Mateo	10	2014
44	Sonoma County Indian Health Project	Sonoma	10	114
45	Valley Community Health Center	Alameda	10	300
46	American Indian Clinic	Los Angeles	9	262
47	Tiburcio Vasquez Health Center	Alameda	9	974
48	United Health Centers of San Joaquin	San Joaquin	9	2903
49	Antelope Valley	Los Angeles	8	1701
50	California Family Planning*	Orange		
51	Clinica Sierra Vista	Kern	8	5600
52	Contra Costa County Health Services	Contra Costa	8	3651

Appendix D continued

Rank	Agency	County	Percent Exclusively Breastfed	Total Enrolled Infants
53	Indian Health Center	Santa Clara	8	583
54	Madera County	Madera	8	1111
55	San Benito Health Foundation	San Benito	8	361
56	San Bernardino County	San Bernardino	8	13128
57	Tulare County	Tulare Fresno	8	4498
58	Drew Health Foundation	San Mateo Santa Clara	7	775
59	Kings County	Kings	7	1196
60	Northeast Valley	Los Angeles	7	14316
61	Urban Indian Health Board	Alameda San Francisco	7	391
62	Ventura County	Ventura	7	4010
63	West Oakland Health Council	Alameda	7	385
64	Alameda County	Alameda	6	4303
65	Delta Health Care	San Joaquin	6	1596
66	Family Health Foundation of Alviso	Santa Clara	6	706
67	Fresno County	Fresno	6	6070
68	Harbor-UCLA REI	Los Angeles	6	19414
69	Public Health Foundation	Los Angeles	6	62342
70	Riverside-San Bernardino County Indian Health	Riverside San Bernardino	6	187
71	San Joaquin County	San Joaquin	6	2300
72	San Ysidro Health Center	San Diego	6	2800
73	Santa Clara County	Santa Clara	6	4212
74	Kern County	Kern	5	3272
75	City of Long Beach	Los Angeles	5	5529
76	Orange County	Orange	5	19249
77	Pasadena	Los Angeles	5	1587
78	Stanislaus County	Stanislaus	5	3344
79	Gardner Health	Santa Clara	4	846
80	San Francisco City & County	San Francisco	4	3968
81	Clinicas De Salud	Imperial	2	1565
82	Watts Health Foundation	Los Angeles	2	3084

* New Agency; data available only for September ** New Agency; data available only for August and September

A P P E N D I X E
LIST OF ACRONYMS

AAFP	American Academy of Family Practice
AAP	American Academy of Pediatrics
ACOG	American College of Obstetrics and Gynecology
BBS	Bulletin Board Service (of the Internet)
BBTD	Baby bottle tooth decay
BFHI	Baby Friendly Hospital Initiative
CHDP	Child Health and Disability Prevention Program
CMS	Children's Medical Services Branch, California Department of Health Services
CPSP	Comprehensive Perinatal Services Program
DHS	Department of Health Services
IBCLC	International Board Certified Lactation Consultant
MCH	Maternal and Child Health Branch, California Department of Health Services
NICU	Neonatal Intensive Care Unit
NSFG	National Survey of Family Growth
NSP	Newborn Screening Program of the State of California's Genetic Disease Branch
OB/GYN	Obstetrics/Gynecology
PNSS	Pediatric Nutrition Surveillance System
PRAMS	Pregnancy Risk Assessment Monitoring System
RLMS	Ross Laboratories Mothers Survey
WIC	Women, Infants and Children Supplemental Nutrition Program, California Department of Health Services