

## Discussion

Figures 5 and 6 encapsulate some of the key results from these four projects. The Guam, Iowa, and Michigan studies suggest that prenatal breastfeeding education was associated with an increase in breastfeeding in the immediate postpartum period. All four projects indicate that early postpartum breastfeeding support may be effective in increasing the duration of breastfeeding for a low-income minority population.

The Iowa, Michigan, and North Carolina studies reinforce the results of some earlier studies that suggest that peer counselors, well trained and with ongoing supervision, can have a positive effect on breastfeeding practices among low-income women who intend to breastfeed. Home support appears to be an especially effective way to encourage breastfeeding, particularly for low-income women for whom breastfeeding concerns can be identified and resolved by a trained person. A recent study, for example, found that breastfeeding support from lay people increased the odds of breastfeeding 3.3 times (Giugliani and others, 1994). Two studies (Serafino-Cross and Donovan, 1992; Seidel and others, 1993) examined in-home support by lactation consultants and found that breastfeeding duration significantly improved compared with control groups.

Personal one-on-one support may be even more appropriate now that the current practice of short hospital stays after giving birth results in less institutional support for the breastfeeding mother, whose milk supply may not be fully established before hospital discharge. In the initial planning and development of the three ES/WIC projects that used paraprofessional aides in the home, there was concern that low-income women in WIC would not be receptive to other people coming into their homes to talk about breastfeeding. The subject area may have been too intimate or too invasive, and women on public assistance were already inundated with home visitors. Apparently, this was not the case.

All four ES/WIC breastfeeding projects cited community coalitions as being essential for successful breastfeeding programs among low-income women and for sustainability beyond the 3-year funding of the Initiative. And the North Carolina project, specifically, cited the need to convince local government officials that breastfeeding promotion and support are cost effective.

## Economics Involved

In addition to individual health benefits, breastfeeding may provide significant economic benefits to the Nation, including reduced health care costs and reduced employee absenteeism for care attributable to child illness. The significantly lower incidence of illness in the breastfed infant may allow the parents more time for attention to siblings and other family duties and reduce parental absence from work and lost income. The direct economic benefits to the family may also be significant. It has been estimated, for example, that the cost of purchasing infant formula for the first year after birth is about \$1,000 (Tuttle and Dewey, 1996).

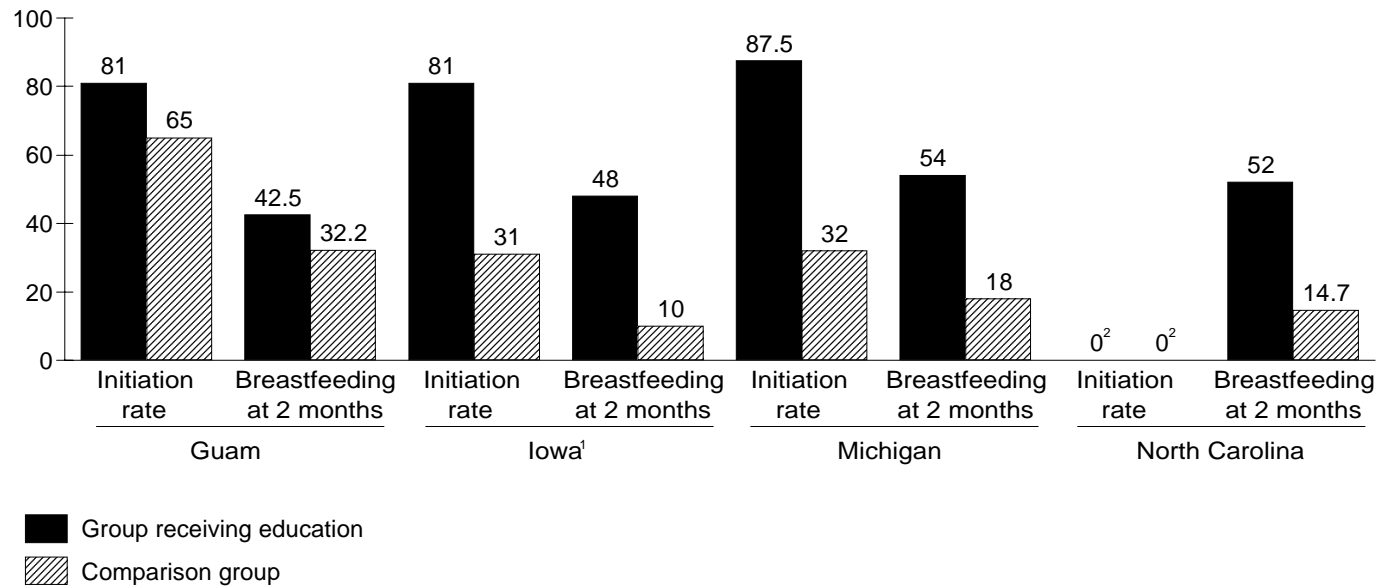
Costs of medical care continue upward. The Nation's total spending for health care in 1995 was nearly \$1 trillion (\$988.5 billion), an increase of 5.5 percent from the previous year, reflecting an estimated average of \$3,621 per person. This figure represents 13.6 percent of the gross domestic product, a percentage approximately double that of any other developed nation (U.S. Department of Health and Human Services, 1997a). Although breastfeeding has been shown to provide immunologic protection against a variety of illnesses, it has not been included in the U.S. Department of Health and Human Services' Agency for Health Care Policy and Research (AHCPR) or other Federal cost-control deliberations. The aforementioned Health Objectives for Year 2000 are nonbinding. Also, employers have been reported to provide little support to working women who breastfeed (Fredrickson, 1993).

More evidence is needed showing that promotion and support of breastfeeding initiation and early intervention to help women (particularly low-income) extend breastfeeding duration are economically advantageous as well as nutritionally sound. Without health and cost-benefit studies, the Nation's employers, health and life insurance companies, and Federal health policymakers are unlikely to provide financial incentives to employees and insurance subscribers to breastfeed or to health providers to support and competently care for breastfeeding mothers. Many physicians and nurses, for example, are poorly trained in breastfeeding techniques and may not be motivated to care for breastfeeding mothers, perhaps because of the lack of financial reimbursement for such care by health insurance providers (Fredrickson, 1993; Michelman and others, 1990).

Figure 5

**Selected results from the ES/WIC Initiative: Share of initiators still breastfeeding at 2 months**

Percent



<sup>1</sup>Records on duration kept until only 12 weeks after infant's birth.

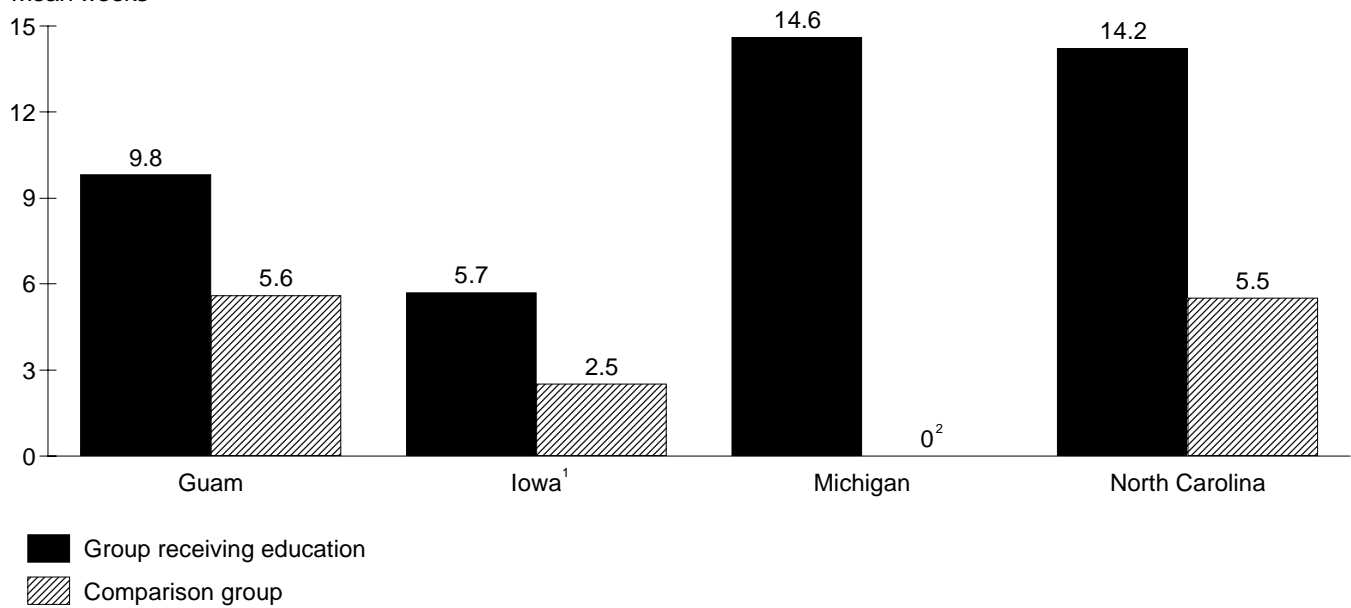
<sup>2</sup>Information not provided.

Source: Economic Research Service, USDA.

Figure 6

**Selected results from the ES/WIC Initiative: Duration of breastfeeding**

Mean weeks



<sup>1</sup>Records on duration kept until only 12 weeks after infant's birth.

<sup>2</sup>Information not provided.

Source: Economic Research Service, USDA.

There have been relatively few cost-benefit studies to determine financial, psychosocial, and health savings afforded by breastfeeding. The few studies reported in the literature are those that have looked at the economic effect of breastfeeding in the context of comparing breastfeeding with formula feeding within WIC. Tuttle and Dewey (1996), for example, attempted to determine the potential cost savings for four social service programs (Medicaid, Aid for Families with Dependent Children, WIC, and Food Stamps) if breastfeeding rates increased among Hmong (Laotian) women enrolled in WIC in California. Similarly, Montgomery and Splett (1997) investigated whether breastfeeding of infants enrolled in WIC was associated with reduced Medicaid expenditures. Both studies estimated that a savings of over \$400 per child can be expected the first year if a child is breastfed. In these two studies, savings from breastfeeding were related not only to the cost of formula, but also to the potential effect of breastfeeding on infant morbidity and, in the case of the Tuttle and Dewey study, maternal fertility.

Accurately estimating costs and benefits of a particular method of infant feeding poses methodologic challenges, which no doubt contributes to the scarcity of cost-benefit and cost-effectiveness studies on breastfeeding. Thus, the two studies just cited may have underestimated the savings by focusing only on the savings from specific public assistance programs and not on the savings from, for example, reduced costs for employers when working mothers are absent less often because their infants are ill less often. A comprehensive assessment of the economic benefits of reduced illness due to breastfeeding would be helpful because the information would be critical, for example, in performing cost-benefit analyses of breastfeeding promotion efforts. Getting accurate cost information is also a problem, particularly if it is from a second party. In the studies by Tuttle and Dewey and Montgomery and Splett, for example, incomplete Medicaid expenditures or inconsistent or uneven billing procedures among offices could lead to invalid conclusions.

On the other hand, cost-benefit analyses of breastfeeding promotion efforts, such as illustrated by the four ES/WIC State projects, requires documenting and quantifying relevant program costs, both direct (for example, personnel, educational materials) and indirect (for example, time and inconvenience for program participant). Although the four ES/WIC Initiative State projects contained an accounting of expenditures (both

federally allocated and State-matched funds) over the 3-year life of the studies, they did not require the specificity needed for cost-benefit analyses. Expenditures were classified into broad expenditure categories, and a certain amount of costs were devoted to "front-end" expenditures for the developmental phases of these innovative projects. Note that the main goal of this Initiative was to change the behavior of and promote the nutritional well-being of the neediest WIC participants. The Initiative also involved projects that did not focus on promoting breastfeeding. The Initiative was not intended to be amenable to a cost-benefit or cost-effectiveness analytical framework.

Breastfeeding involves mostly primary, and to a lesser extent, secondary prevention. Primary prevention is any activity that prevents a disease from ever starting. Secondary prevention is any activity that cures or reduces the severity of a disease. As described earlier in this report, breastfeeding has been demonstrated to provide primary and some secondary protection against viral, bacterial, and allergic diseases. In addition, preventive health care services appear to be moving into managed care systems, such as health maintenance organizations and home health care services. In order for breastfeeding promotion efforts to be marketed as a cost-effective way to encourage mothers to breastfeed, additional research is needed to provide an assessment of the economic benefits of breastfeeding and the allocation of resources needed to conduct and evaluate the effectiveness of breastfeeding promotions.

## References

- Abbott Laboratories, Ross Products Division. 1996. "Ross Mother Survey: Updated Breastfeeding Trend Through 1996." Report sent to author.
- Abramson, R. 1992. "Cultural Sensitivity in the Promotion of Breastfeeding," *Clinical Issues*, Vol. 3, pp. 717-722.
- Alho, O., M. Koiva, M. Sorri, and P. Rantakallio. 1990. "Risk Factors for Recurrent Acute Otitis Media and Respiratory Infection in Infancy," *International Journal of Pediatrics*, Vol. 19, pp. 151-161.
- American Academy of Pediatrics, Work Group on Breastfeeding. 1997. "Breastfeeding and the Use of Human Milk," *Journal of Pediatrics*, Vol. 100, pp. 1035-1039.