

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.

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