

## ***Estimating the Economic Benefits of Extension's Parenting Newsletters***

We have not conducted a true economic cost-benefit analysis of UW-Extension's parenting newsletter project. On the other hand, this project is one of the very few Extension programs that has been tested with a treatment - comparison group research design.

This allows us to say, with more confidence than is usual, that this program **causes** positive changes in parenting. In particular, the evidence supports the claim that "*Parenting the First Year*" causes parents to adopt beliefs that are significantly less like those of child abusing parents, and those receiving the newsletters actually report striking ("spanking or slapping") their babies significantly fewer times in the previous week ("to get him/her to mind.") You can see the report of the findings in our Impact Report on the FLE website.

Rough estimates of economic benefits can be made from our evaluation findings. Below we provide some estimates of cost savings in four areas: (1) by reducing child maltreatment, (2) increasing immunization rates, (3) increasing the frequency of breast-feeding, and (4) increasing the school readiness of young children.

### ***1. Estimated economic benefits of reduced maltreatment***

Extension's newsletters were written with the explicit goal of preventing child maltreatment, and the evidence from our treatment-comparison group study suggests we are succeeding. In Wisconsin, the total costs of child maltreatment are substantial, estimated to be \$673.3 million a year, or 1.84 million a day (Children's Trust Fund, 2005). Direct costs, which include hospitalization, chronic health problems, mental health care system, child welfare services, law enforcement and the judicial system are estimated at \$483.4 million each year, while indirect costs, such as special education, mental health and health care, juvenile delinquency, lost productivity to society and adult criminality run about \$189.9 million. Roughly 40,000 children are identified as maltreated in Wisconsin every year, so the per child costs are about \$16,800 in total costs. If only 1 in every 1,000 families receiving Extension's program were prevented from maltreating their child, the total savings to the state would be about \$672,000 per year.

### ***2. Estimated economic benefits of increased vaccination rates***

The cost benefits of providing 7 routine childhood vaccinations to children have been estimated by a study published in the *Archives of Pediatric and Adolescent Medicine* (Zhou, et al., 2005). Net cost savings are computed by subtracting the cost of the vaccine program from the estimated sum of the benefits. Direct benefits include the cost of medical treatment, while societal benefits include the prevention of indirect costs such as lost productivity, permanent disability, cost of missed work for family caregivers,

etc. The estimated total lifetime savings for each child immunized is \$13,950. If just 1 in every 1,000 families receiving Extension's program were prompted to complete their immunizations, this would add up to 40 children per year, or \$558,000 saved for each year of the project.

### ***3. Estimated economic benefits of increased frequency of breastfeeding***

A substantial body of research shows the benefits of breastfeeding for both mothers and infants (AAP Section on Breastfeeding, 2005; DHHS, 2007). For infants, breastfeeding reduces the risk of ear infections, gastrointestinal infections, respiratory tract infections, necrotizing enterocolitis (in preterm infants), urinary tract infections, bacterial meningitis, and bacteremia, and some evidence also suggests a reduction in Sudden Infant Death Syndrome (SIDS), in both type 1 and type 2 diabetes, obesity, and in childhood leukemia.

Given these findings, promoting breastfeeding may be economically advantageous, and indeed, evidence indicates that breastfeeding may reduce health care costs and costs for specific social programs (Ball & Bennett, 2001; Bonuck, et al., 2002). One study that examined the cost savings of breastfeeding for three common infant illnesses - ear, respiratory and gastrointestinal infections – showed that medical services (office visits, hospitalizations, medications, chest radiography) cost \$331 to \$475 more for each formula fed infant during the first year, compared to each exclusively breastfed infant (Ball & Wright, 1999). Over the first six months of life, infants in the Women, Infants and Children's Supplemental Food Program (WIC) who were exclusively breastfed (at least 3 months) saved the WIC and Medicaid programs \$478, or \$161 after the formula manufacturer's rebate (Montgomery & Splett, 1997). In a study of Hmong women in California, the combined cost savings for four public programs (WIC, Medi-Cal, AFDC and Food Stamps) over a 7 ½-year period was estimated at \$459 to \$659, per year for each infant exclusively breastfed 6 months or more (Tuttle & Dewey, 1996). Taken together, these studies suggest a savings of roughly \$450 for each child who is breastfed for the first year. If just 1 in every 1,000 families receiving the Extension program followed through by continuing breastfeeding for the first year, this would create a cost savings of about \$18,000 per year.

### ***4. Estimated economic benefits of increased learning***

The parenting newsletters also encourage parenting behaviors that help children be ready to succeed in school. For instance, parents who read the newsletters report that they talk more with their infants and young children, and provide them with other stimulating experiences that promote language development and school readiness skills. We know that children who start school behind tend to stay behind, with some being held back in school. Repeating a year of school costs more than \$11,000 per student (State of Wisconsin Blue Book, 2005). If our newsletters helped just one family in every 1,000 to stimulate their children's intellectual development in ways that prevented the need for a repeated year of school, this would amount to a savings of \$440,000 per year to Wisconsin taxpayers.

***Estimated savings overall***

Project Cost. The Extension newsletter series costs roughly \$250,000 to deliver to 40,000 families per year. For the last two decades, these funds have been contributed primarily by Kiwanis Clubs of our state, with some help from city and county health departments and maternity hospitals.

Project Benefits. Making the very conservative assumption that only 1 in every 1,000 families were caused to change in the desired ways by the Extension program, the economic benefits are estimated as follows:

Reduced child maltreatment	672,000 / year
Increased immunization rates	558,000 / year
Increased breastfeeding	18,000 / year
Increased school-readiness	440,000 / year
Overall savings	\$1,688,000 / year

Benefits after costs.

Benefits	1,688,000
Costs	250,000
Total Savings	\$1,438,000 / year

Total net benefits per family reached: \$35.95

Cost Benefit Ratio = 6.75 In other words, for every dollar spent on this program, nearly seven dollars in benefits may be realized.

-----  
 Carol Ostergren, Ph.D. and Dave Riley, Ph.D  
 University of Wisconsin-Madison / Extension  
 2007

## REFERENCES

- AAP (American Academy of Pediatrics) Section on Breastfeeding. (2005). Breastfeeding and the use of human milk. *Pediatrics*, *115*(2), 496-506.
- Ball, T. M., & Bennett, D. M. (2001). The economic impact of breastfeeding. *Pediatric Clinics of North America*, *48*(1), 253-262.
- Ball, T. M., & Wright, A. L. (1999). Health care costs of formula-feeding in the first year of life. *Pediatrics*, *103*(4), 870-876.
- Bonuck, K., Arno, P. S., Memmott, M. M., Freeman, K., Gold, M., & Mckee, D. (2002). Breast-feeding promotion interventions: Good public health and economic sense. *Journal of Perinatology*, *22*, 78-81.
- Children's Trust Fund. Dollars and sense. (March, 2005). Retrieved August 8, 2007 from <http://wctf.state.wi.us/home/Cost%20Analysis.htm#cost%20analysis>.
- DHHS (U.S. Department of Health and Human Services). (2007). *Breastfeeding and maternal and infant health outcomes in developed countries*. (AHRQ Publication No. 07-E007). Rockville, MD: Tufts-New England Medical Center Evidence-based Practice Center.
- Montgomery, D. L., & Splett, P. L. (1997). Economic benefit of breast-feeding infants enrolled in WIC. *Journal of the American Dietetic Association*, *97*(4), 379-385.
- State of Wisconsin Blue Book (2005-2006). Education. Retrieved August 8, 2007 from <http://www.legis.state.wi.us/lrb/bb/05bb/statistics.htm>
- Tuttle, C. R., & Dewey, K. G. (1996). Potential cost savings for Medi-Cal, AFDC, Food Stamps, and WIC programs associated with increasing breast-feeding among low-income Hmong women in California. *Journal of the American Dietetic Association*, *96*(9), 885-890.
- Zhou, F., Santoli, J., Messonnier, M. L., Yusuf, H. R., Shefer, A., Chu, S. y., Rodewald, L., & Harpaz, R. (2005). Economic evaluation of the 7-vaccine routine childhood immunization schedule in the United States, 2001. *Archives of Pediatric and Adolescent Medicine*, *159*, 1136-1144.