

8. The really big money

There are some truly outrageous claims regularly made about the value of breast milk or, more accurately, the absence of value. One of the most infuriating that I see repeatedly is that breast milk is somehow free. Ironically, breastfeeding advocates sometimes unwittingly get caught up in this foolishness, even to the point of adopting that especially ugly advertising tautology “free gift” – as opposed to the kind we pay for? While we occasionally speak about the money breastfeeding saves, we mostly ignore what breastfeeding costs. Breast milk is most assuredly not free. In fact, I would start by describing it as priceless, even as breastfeeding itself has at least three price tags directly attached: a mother’s time (which far too many people erroneously consider to be on the house), the energy cost of producing milk (up to 500 kcal a day that need to come from somewhere) and the opportunity cost. You’ll have no difficulty recognizing the first two tags, which are an altogether spectacular bargain when you consider the payback in terms of positive lifelong consequences for children, mothers and thus the entire society. But the third one may not be so familiar. I’m borrowing from economic theory where “opportunity cost” refers to the cost of something in terms of an opportunity forgone – for example mothers who must choose between staying at home with their children and returning to paid employment outside the home to meet their families’ financial needs. As we all know from personal experience, there really is no such thing as a free lunch.

Societies that are structured in lock-step fashion to favor normalized artificial feeding will remain largely unchallenged and unchanged as long as the true economic impact of more or less breastfeeding fails to register on national radar screens. There’s not much point in playing on politicians’ heartstrings in attempting to gather support for breastfeeding. My view is that we need to hit them in the pocketbook instead.

Since at least the 1970s there have been numerous attempts to assess the economic value of breast milk and breastfeeding, and various aspects of the financial burden from not breastfeeding. These range from the relatively unsophisticated, including literal formula-can-counting exercises; to estimates of the total volume and value of breast milk produced in a given setting and efforts to incorporate these figures in national food accounts; to complex cost/benefit calculations based on detailed morbidity and mortality data. Here are some of the most frequently cited examples (all figures are in US\$).

- In 1979 Almroth, Greiner and Latham attempted to estimate the economic value of breastfeeding in Côte d’Ivoire and Ghana. Calculated on the basis of a two-year period, the cost of artificial feeding amounted to \$310 to which another \$210 should be added for the cost of the time spent in breastfeeding. The sum would be almost three times higher than that for breastfeeding in the same countries.¹
- In 1993, Bailey and Deck calculated that ear infections in the USA cost more than \$1 billion annually in visits to physicians. Breastfed children have a 60% decrease in risk for ear infections compared with formula-fed infants.²
- In 1994, Oshaug and Botten estimated the value of milk traded in milk banks in Norway (population then 4.3 million) to have a market value of around \$2.2 billion.³ (Overall human-milk production in Norway in 2004 alone – with a population just under 4.6 million – was estimated to be 10.3 million liters (nearly 10.9 million quarts).⁴)

- In 1994, the UK Baby-friendly Initiative reported that each 1% increase in the number of babies breastfed to three months would save the National Health Service nearly \$1 million a year.⁵
- In 1995, one of the largest health care providers in the USA disclosed that infants who were breastfed for a minimum of six months generated \$1,435 less in health care claims in the first year of life alone than their formula-fed counterparts.⁶
- In 1997, Riordan reported a total of \$1.3 billion potential savings in health care costs in the USA using just four medical diagnoses – diarrhea, respiratory infection, diabetes mellitus, and middle-ear infection.⁷
- In 1997, Drane estimated that a minimum of \$8.5 million could be saved each year in Australia (population then just under 18 million) if the prevalence of exclusive breastfeeding at three months increased from 60% to 80%.⁸
- In 1999, Ball and Wright cited additional health care costs in Arizona of between \$331 and \$475 over the first year of life for each never-breastfed infant.⁹
- In 2001, Weimer estimated that a minimum of \$3.6 billion would be saved annually if breastfeeding were increased from the then-current US levels [64% in hospital, 29% at six months] to those recommended by the Surgeon General [75% and 50%, respectively].¹⁰ (Meanwhile, WIC provides free formula to almost two million nutritionally at-risk infants in low-income households, or over half of all infant formula sold in the USA;¹¹ and the US Government Accountability Office reports that breastfeeding is less common among mothers who get federal help from WIC and that some strategies to market formula may be discouraging breastfeeding.¹²)
- In 2005, Smith reported that Australian mothers produce annually 34 million liters of breast milk [about 36 million quarts]. On this basis, the net economic value of breastfeeding in Australia – population today 20 million – is \$1.55 billion a year.¹³

These are indeed impressive figures, even if it is not you and I who need to be convinced that acting responsibly, consistent with who and what we are as a species, could produce any other outcome. Unfortunately, this information has yet to capture adequately the attention of national and international policy-makers concerned with cost-effective decision-making. We need to ask ourselves why; but as we ponder prospects for change let's be sure not to confuse ignorance and bad management with destiny.

Perhaps the message hasn't penetrated sufficiently because it's not been adequately packaged, including by pointing out the full cost of artificial feeding, throughout the life course, for the entire society and not just the savings generated through breastfeeding. Or maybe the most compelling information has still to be assembled, analyzed, assessed and announced in convincing ways.

Just how much longer are we going to have to wait for this to happen? Not long, I believe, *provided* that recent advances in our collective science-based understanding of the health – and therefore the economic – implications of more or less breastfeeding are honestly and thoroughly assessed, convincingly presented, and taken fully into account. (In the context I'm reminded of the oft-cited aphorism attributed to former Harvard University president Derek Bok: If you think education is expensive, try ignorance.)

I'm of course referring to the continuing avalanche of truly stunning information about artificial feeding's permanent impact in terms of, for example, impaired postpartum brain development and visual acuity; increased risk of premature child mortality; increased risk for children of multiple diseases including allergies, celiac disease, diabetes, diarrheal disease, ear

infection, leukemia, necrotizing enterocolitis, obesity, respiratory ailments, sepsis and urinary tract disease; increased risk in later life of cardiovascular disease; and, for mothers, increased risk of anemia and hemorrhaging, breast, ovarian and endometrial cancer, osteoporosis and rheumatoid arthritis. When these facts and figures, thoroughly evaluated and correctly correlated, finally hit the newsstands, earlier calculations are going to seem trifling indeed.

As an illustration, join me in focusing on the really big money for society as a whole in a futuristic dream sequence involving the Nobel Foundation. It's 2016 and the annual round of Nobel Prize laureates is being announced. Since Marie Curie became the first female laureate in 1903, more than 30 women have been honored in every category but one – economics, which was first awarded in 1969. Thus, history is being made today with not one but three women, who have worked closely as a team for the last decade, achieving this distinction for the first time: Professor Guadalupe Sanchez Flores, a Mexican health economist, Phyllis Brown PhD, an American medical anthropologist, and Dr. N'sheemaehn Nanogak,¹⁴ a Canadian First Nation nutritional epidemiologist.

The Nobel Foundation's announcement on this occasion reads as follows:

The 2016 Nobel Prize in Economics is being presented jointly to Guadalupe Sanchez Flores, Phyllis Brown and N'sheemaehn Nanogak:

- *for their pioneering empirically founded contribution to our collective understanding of the multiple, complex and lifelong economic implications of observing or disregarding the hominid blueprint for nourishing the young of our species;*
- *for their unifying theory, integrating the short- and longer-term economic implications of the impact of more or less breastfeeding on the health and cognitive development of babies, on the health of children and adults, and on the health of mothers, families and thus entire societies;*
- *for their penetrating analysis of the interdependence of early feeding patterns, and health maintenance and health expenditure throughout the life course for entire populations.*

With Dr. Nanogak providing the science base gleaned from multiple randomized trials and observational studies in both industrialized and developing countries; Dr. Brown drawing on a wide range of social, cultural, biological and linguistic theories and methods to better understand the factors which influence health and well-being and prevent sickness; and Professor Sanchez Flores running the numbers to tease out breastfeeding's true and complete lifelong cost/benefit implications, their groundbreaking interdisciplinary collaboration has also succeeded in integrating insights from psychological research into economic science. This concerns education in the broadest sense of the term, human judgment, and decision-making about child feeding in the presence or absence of supportive environments; risk and protective dimensions of human behavior, cultural norms and social institutions; and the opportunity costs a mother faces when forced to choose between breastfeeding her child and her role as family breadwinner.

In addition to being mothers themselves, Professor Sanchez Flores, Dr. Brown and Dr. Nanogak have for many years promoted breastfeeding in and through mother-support groups. Professor Sanchez Flores and Dr. Brown, who are long-time accredited La Leche League leaders, and Dr. Nanogak, who is an International Board Certified Lactation Consultant, regularly serve the mothers and children of their respective communities.

Who profits from breastfeeding? Not infant formula manufacturers obviously, or anyone else in the production, marketing and related services chain, including pharmaceutical companies (which of course also produce a lot of formula). And if you're sufficiently cynical, you might think that even some pediatricians and some children's hospitals don't either, at least not in the short term.

Reflect for a moment on just how much business, and what kind, would be lost – throughout society and the entire life course – if most of the world's children really *were* breastfed as recommended – exclusively for the first six months of life and thereafter, together with nutritionally adequate and safe complementary foods, for up to two years of age or beyond.¹⁵

Unfortunately, the true cumulative costs of artificial feeding and the savings that accrue from a greater prevalence and duration of breastfeeding remain hidden from the majority of observers. Meanwhile, many persist in the delusion that breast milk is somehow free and that large-scale normalized artificial feeding is without significant economic consequences.

Do I genuinely believe in the substance of the dream sequence I have imagined here? Leaving specifics aside for the moment – but only for a moment – as a matter of fact I do. Perhaps you've heard that popular slogan: A mind is a terrible thing to waste.¹⁶ Let me ask you this then: What would you say are the implications of more or less breastfeeding for the world's 136 million or so new minds *every single year*?¹⁷

¹ Almroth S, Greiner T, Latham M. Economic importance of breastfeeding. *Food and Nutrition* 1979; 5(2):4-10.

² Bailey D, Deck L. *The potential health care cost of not breastfeeding*. Best Start-Kentucky, Lexington-Fayette County Health Department, 1993.

³ Oshaug A, Botten G. Human milk in food supply statistics. *Food Policy* 1994; 19(5):479-482.

⁴ Directorate for Health and Social Affairs, Department of Nutrition. *Utviklingen I Norsk Kosthold*. Matforsyningsstatistikk og Forbruksundersøkelser, Sosial- og helsedirektoratet, 2004, IS-1218.

⁵ Cited by: Breastfeeding Committee for Canada. *Cost Savings from Breastfeeding*. An annotated bibliography 1999 <http://www.breastfeedingcanada.ca/html/webdoc24.html>.

⁶ Kaiser Permanente: internal research to determine benefits of sponsoring an official lactation program <http://www.visi.com/%7Eartmama/kaiser.htm>.

⁷ Riordan J. The cost of not breastfeeding: A commentary. *Journal of Human Lactation* 1997; 13(2):93-97.

⁸ Drane D. Breastfeeding and formula feeding: preliminary economic analysis. *Breastfeeding Review* 1997; 5:7-15.

⁹ Ball TM, Wright AL. Health care costs of formula-feeding in the first year of life. *Pediatrics* 1999; (103)(4 Pt 2):870-876.

¹⁰ Weimer JP. *The economic benefits of breastfeeding: a review and analysis*. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture Food Assistance and Nutrition Report No. 13, March 2001.

¹¹ Oliveira V, Press M. *Sharing the economic burden: Who pays for WIC's infant formula?* Amber Waves, U.S. Department of Agriculture, Economic Research Services, September 2004
<http://www.ers.usda.gov/AmberWaves/scripts/print.asp?page=/September04/Features/infantformula.htm>.

¹² United States Government Accountability Office. *Breastfeeding: Some strategies used to market infant formula may discourage breastfeeding; state contracts should better protect against misuse of WIC name*. GAO-06-282, February 2006.

¹³ Smith JP, Ingham LH. Mothers' milk and measures of economic output. *Feminist Economics* 2005; **11**(1), March 2005, 41-46.

¹⁴ As befits a dream sequence, all three patronyms are objectively fictional. Nevertheless, anyone familiar with Mexican and American culture will easily identify with the first and second, while the last is a First Nation Canadian composite. The chickadee, called N'sheemaehn for its distinctive cries by the Anishinaubae peoples (Ojibway, Ottawa, Pottawatomi and Algonquin), is a symbol of the duty, care and responsibility that parents, guardians and the community are expected to exercise toward their children. N'sheemaehn also serves to remind humankind that accidents occur during the briefest moments of inattention; and that one will always be reminded of one's guilt should one's neglect cause harm to a child (see: <http://www.uts.utoronto.ca/~childcare/name.html>). Nanogak is my way of paying tribute to Inuit storyteller and illustrator Agnes Nanogak (1925-2002).

¹⁵ Global Strategy for Infant and Young Child Feeding, op. cit., paragraph 10.

¹⁶ "A mind is a terrible thing to waste" is the slogan of the United Negro College Fund, Fairfax, Virginia, USA
<http://www.uncf.org/>.

¹⁷ World Health Organization, *World Health Report 2005*, Chapter 4, Attending to 136 million births, every year. Geneva, 2005.