

Submission no. 367

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SUPPLEMENTARY TO SUBS 237 & 347

Dear Secretary (of the Committee on Parliamentary Inquiry into Breastfeeding),

The news has just broken today (28th March 2007) that acting Health Minister Christopher Pyne has announced that the Federal Government intends to approve a \$124 million addition to the national immunisation program to fund Rotavirus vaccinations in infants over the next 5 years.

Dr. Patria McVeagh states in an editorial in *The Medical Journal of Australia* of 2002 [177 (3): 128-129](emphasis added):

*In Australia, there are almost 20 000 hospital admissions a year for acute gastroenteritis in children under five years old. Rotavirus accounts for about half of these episodes and is also one of the most important nosocomial infections in paediatrics. A Belarussian study (involving 17 000 healthy mother–infant pairs intending to breastfeed) showed that, in centres randomly assigned to deliver support for breastfeeding (as outlined by the Baby Friendly Hospital Initiative), there were increases in exclusive and continued breastfeeding and reductions in episodes of gastrointestinal infection. (Kramer MS, Chalmers B, Hodnett ED, et al, for the PROBIT Study Group. Promotion of breastfeeding intervention trial (PROBIT): a randomized trial in the Republic of Belarus. JAMA 2001; 285: 413-420) **In an Italian study of infants aged 1–18 months admitted to an infant ward, fewer breastfed infants contracted rotavirus infection (10.6% v 32.4%), and none of these became symptomatic.** (Gianino P, Mastretta P, Longo A, et al. Incidence of nosocomial rotavirus infections, symptomatic and asymptomatic, in breast-fed and non breast-fed infants. J Hosp Infect 2002; 50: 13-17) **It has been shown that human milk lactadherin prevents symptoms in breastfed infants infected with rotavirus by binding to the virus and inhibiting its replication.** (Newburg DS, Peterson JA, Ruiz-Palacios GM, et al. Role of human-milk lactadherin in protection against symptomatic rotavirus infection. Lancet 1998; 351: 1160-1164.)*

Why is \$124 million being spent on this immunisation program? Spending the same amount instead on the promotion of breastfeeding will not only reduce the incidence of rotavirus and hospitalisations from the same, but reduce many other health problems and their resultant hospitalisations as well. I won't outline the many health advantages that would result from the promotion of breastfeeding here as these have already been well documented and presented to the Parliamentary Inquiry into Breastfeeding.

Instead of promoting breastfeeding which will improve the health of the community as a whole, as well as resulting in a reduction of hospitalisations for rotavirus, the \$124 million will be paid to GlaxoSmith Kline and CSL Limited for their Rotavirus vaccinations. No wonder GlaxoSmithKline has already made a press release, and posted the same on their web-site, that "GlaxoSmithKline (GSK) welcomes the Federal Government's timely announcement today to fund rotavirus vaccines on the free national immunisation program for all Australian children." No doubt CSL Limited will soon make a similar announcement in their investor news. Estimates were made to the press on 21 February 2007 by Dr Rachel David, the public affairs director for CSL Biotherapies that it would cost the Government \$25 million a year to fund the vaccination, and amount that the Federal Government has now decided to fund. She also estimated that this spending would save the health-care up to \$30 million a year in the cost of treating the virus. Blatant lobbying by the manufacturer for Federal Government funds. Both organisations now stand to benefit directly from today's decision of the Federal Government.

An investment in the community of \$124million for a maximum return of \$150million? Surely this is a worthwhile return when the health of Australian children is at stake. Indeed, but wouldn't the money be much better spent on the promotion of breastfeeding? This would not only greatly reduce the incidence of Rotavirus, but also decrease the incidence of Obesity, the commonest chronic health problem in Australian children, and decrease the incidence of asthma, the second most common chronic health problem in Australian children is asthma, to name just three childhood conditions identified by Dr. Patricia McVeagh for which small changes in prevalence or disease severity would have a major impact on the health of the nation.

Dr Patricia McVeagh is a consulting paediatrician at Sydney Children's Hospital, the Children's Hospital at Westmead and Tresillian Family Care Centres. I draw your attention to the full text of Dr. Patria McVeagh's editorial from which I have quoted above:

With our high standards of sanitation and healthcare, how important is breastfeeding?

Any breastfeeding advocate can rattle off a list of the advantages of breastfeeding to infants, their mothers and society. The list of benefits ranges from better emotional attachment to a lower risk of childhood leukaemia or dental malocclusion. However, claims of benefit have been contentious, with many studies failing to demonstrate a clear advantage and some even showing

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increased risk of a negative health outcome with breastfeeding.

The constituents of human milk suggest that it has evolved to promote infant health and human growth, particularly to protect children from infections and to support the rapid growth of the human brain. Despite advances in science and manufacturing, infant formula will always be a poor copy of human milk. It is improbable that a substitute will ever reproduce the full spectrum of human milk proteins, milk sugars (numbering over 100), live white cells and antibodies programmed by infections in the infant's environment, together with constant variations in milk content to meet the needs of the growing infant. But does this matter in a developed country such as Australia? Is there justification in the argument that women are being pushed too hard to breastfeed, or is there more to infant nutrition than the provision of clean water and biologically safe artificial feeds?

Many studies reporting the effects of breastfeeding, both positive and negative, have major methodological flaws. Indeed, robust studies are difficult to carry out. Random allocation of study participants to either a "breastfeeding" or an "artificial feeding" group is unethical, especially if we accept the belief that "the epidemiologic evidence is now overwhelming that, even in developed countries, breastfeeding protects against gastrointestinal and (to a lesser extent) respiratory infection, and that the protective effect is enhanced with greater duration and exclusivity of breastfeeding".¹ So evidence for the effects of breastfeeding must rely largely on observational cohort and case-control studies. Blinding to the intervention group is difficult, except at the analysis level. Moreover, mothers who elect to breastfeed differ from those who don't — the former group are generally better-educated women of higher socioeconomic status, who are more likely to have partners and less likely to smoke. All of these factors are likely to be independently associated with positive health outcomes, so failure to adequately adjust for these confounders generally favours positive breastfeeding outcomes. On the other hand, apparently poorer outcomes may result if mothers preferentially breastfeed more vulnerable infants. Difficulties with defining terms such as "breastfeeding" and "exclusively breastfed", and with defining endpoints such as "atopic disease", also make comparisons between studies difficult.

So, have the roughly 2000 papers on breastfeeding and human milk listed in Medline since the year 2000 helped answer the question of whether or not it matters if a term infant born in a country like Australia is breastfed? I will confine my comments to the three most common health problems in Australian children: infection, obesity, and asthma.

In Australia, there are almost 20 000 hospital admissions a year for acute gastroenteritis in children under five years old. Rotavirus accounts for about half of these episodes and is also one of the most important nosocomial infections in paediatrics. A Belarussian study² (involving 17 000 healthy mother-infant pairs intending to breastfeed) showed that, in centres randomly assigned to deliver support for breastfeeding (as outlined by the Baby Friendly Hospital Initiative³), there were increases in exclusive and continued breastfeeding and reductions in episodes of gastrointestinal infection. In an Italian study⁴ of infants aged 1–18 months admitted to an infant ward, fewer breastfed infants contracted rotavirus infection (10.6% v 32.4%), and none of these became symptomatic. It has been shown that human milk lactadherin prevents symptoms in breastfed infants infected with rotavirus by binding to the virus and inhibiting its replication.⁵

Obesity is the commonest chronic health problem in Australian children. This has health implications both in and beyond childhood, as about half of obese children become obese adults. The effect of breastfeeding on later overweight/obesity remains contentious. A 2001 review of 18 studies⁶ concluded that most studies examining the effects of breastfeeding on later obesity had found an insignificant effect, although two of the studies actually found a positive association between breastfeeding and later body fatness. Since that review, four large studies^{7–10} (involving between 2000 and 14 000 children) have shown a lower prevalence of overweight in previously breastfed children, with several showing decreasing risk with longer duration of breastfeeding. The three studies of older children (aged 5–14 years)^{8–10} also found a negative association between breastfeeding and obesity (with adjusted odds ratios [ORs] ranging from 0.66 to 0.8). Similar results in these three studies, despite differences in method, suggest that the finding may be robust.

The second most common chronic health problem in Australian children is asthma. A large Western Australian study showed a substantial reduction in risk of childhood asthma, as assessed at six years of age, if exclusive breastfeeding is continued for at least the first four months of life.¹¹ This was included in a systematic review with meta-analysis of 12 prospective studies,¹² which gave a summary OR of 0.70 (95% CI, 0.60–0.81) for asthma among children who had been breastfed, with a greater effect in children from families with a history of atopy (OR, 0.52; 95% CI, 0.35–0.79). The studies were mainly of younger children but included children up to 8.4 years. Another prospective study of more than 330 000 children followed to age 24 months supported these findings: breastfeeding of less than nine months' duration was associated with an increased risk of asthma or wheezing, and a dose-response effect was observed with breastfeeding duration.¹³ However, a recent report has suggested that atopic children with asthmatic mothers are more likely to develop asthma in later childhood if they have been exclusively breastfed.¹⁴ There may be interesting possibilities for intervening to further reduce atopy in at-risk families. Mothers of infants who develop atopic sensitisation have a higher intake of saturated fat,¹⁵ and their breast milk is much lower in some long-chain unsaturated fatty acids (which may have anti-allergenic properties¹⁶). Perhaps improving maternal diets and the use of probiotics¹⁷ may reduce the prevalence of atopic disease in their children.

I have selected three childhood conditions for which small changes in prevalence or disease severity would have a major impact on the health of the nation. The US Department of Agriculture, Food and Nutrition chose otitis media, gastroenteritis and necrotising enterocolitis, and estimated that the United States would save a minimum of US\$3.6 billion dollars a year if breastfeeding rates increased by 10% at initiation and by 20% at the age of six months.¹⁸

While we should be careful not to convey to mothers that breastfeeding will make their child a trim, non-atopic, infection-free genius, the balance of the evidence is that breastfeeding is of benefit in many ways. Every healthcare professional in contact with young children and parents should be familiar with their responsibilities under the World Health Organization Code¹⁹ to encourage and promote breastfeeding — for the health of the nation.

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Yours faithfully,
Anne Davis