“At the COAG Health Ministers meeting in September 2016, it was agreed that an enduring Australian National Breastfeeding Strategy (the Strategy) be developed, incorporating two components:

- development of a high level enduring strategy to support breastfeeding in Australia, with no end date; and
- national agreement on how data is collected nationally to measure progress on increasing the number of babies who are breastfed exclusively up to six months”

AN UPFRONT ASIDE ABOUT DATA COLLECTION

National agreement on data collection is an admirable goal. So too is around 6 months exclusive breastfeeding, with continued breastfeeding into the second year of life or beyond, as WHO has proposed. Definitions of complete, exclusive, and continued breastfeeding will be critical to monitoring progress and facilitating quality research.

Given what we now know about the importance of pioneer microbes in colonising the gut, and breastfeeding’s role in programming longterm health, the most difficult part of this data collection process may well be monitoring and recording feeding detail in the hospitals where most Australian infants are born. Experience and enquiry suggests that it is still relatively common for otherwise fully/solely/completely breastfed infants to be given small quantities or a few feeds of infant formula, or for bovine milk based products to be used to ‘fortify’/adulterate breastmilk, with known and persistent negative effects on gut colonisation. And it is not uncommon for such exposures to be thought insignificant and sometimes not even be recorded. No child still completely/solely/fully breastfed at any time stage after birth can be classified as exclusively breastfed at that stage if he or she has been exposed to any infant formula in the early days of life. Yet many studies define the presently-fully-breastfed as exclusively breastfed, and take no notice of colostrum given to presently-fully-formula-fed infants.

This Australian database will be cited by researchers. Many studies are biassed towards a null effect outcome by a lack of detail in early infant feeding records. In some studies, infants given some colostrum and early breastfeeds are weaned by a few weeks and classified as formula fed from birth, while infants fully breastfed after discharge but given formula in hospital are considered exclusively breastfed. These groups are neither exclusively formula fed nor exclusively breastfed. Researchers such as Professors Megan Azad and WA Walker are talking more than ever about the importance of truly exclusive breastfeeding in the early days of life.

Changing hospital practices will require a substantial national effort and a broad re-education process. But without that effort any data collected will not be of the truly exclusively breastfed.

And too few people read carefully to see how “exclusively breastfed” is defined before evaluating and citing research.
SO WHAT COULD A NATIONAL BREASTFEEDING STRATEGY BE AND DO?

In fact, Australia needs an enduring - but funded and periodically revisited - National Infant and Young Child Feeding Strategy that will remedy the abysmal ignorance of the community about the realities of infant formula and related industrially-produced toddler and young child drinks. (And by ‘the community’ I mean not only parents, but legislators, regulators and health professionals, probably including some of those involved in developing this National Strategy, and certainly too many lactation consultants, midwives and paediatricians.)

Above all, this national strategy needs to replace the language and mythology of industry about its products (often uncritically used by health professionals) with a truthful language that arises from seeing

- human lactation and breastfeeding as the normal, powerful and highly evolved survival mechanism that assists infants to adapt optimally to their world

- substitute or artificial feeding as culturally necessary for historical and structural (and occasionally biological) reasons, but inherently risky and harmful, based on inappropriate food, and needing to be re-framed as a last resort, rather than as the normal default method of feeding.

And any National Infant and Young Child Feeding Strategy needs to be as courageous as any other public health strategy in recognising, naming and combating vested interests, whether emotional or financial. I know of no other public health policy where the truth is so often silenced by lame responses such as “We can’t say that, it will upset people.”

Any attempt to improve health and save lives risks upsetting narcissists and vested interests, now uniting in efforts to bully breastfeeding advocates into silence. For a senior FDA scientist to say, as one did to me, “We have to reassure parents that formula is safe, because American society depends on bottle feeding” indicates just how widespread and powerful are such vested interests, and how big the task of societal change.

BACKGROUND AND JUSTIFICATION

Since 1981 I have been making submissions to Australian government agencies and departments about the need

- to recognise the short- and long-term harms being done by early exposure to infant formula,
- to stem the allergy epidemic already obvious by the 1970s and compounding ever since, and
- to protect promote and support early and exclusive breastfeeding from birth to around six months, as the necessary basis for a healthy start to life.

1 I can’t imagine a policy of not telling parents how to protect their babies from preventable diseases by vaccination, or from brain damage from being shaken, because parents whose babies had suffered such harms might feel guilty. Yet this is often the reason given for not telling the truth about infant feeding.

2 My book, Food for Thought: a parent’s guide to food intolerance (Alma Publications 1982) was the first Australian book to discuss the rise of food intolerances from the 1970s onwards.
And my writing has included discussion of the societal and structural obstacles to a society that enables, not merely urges, breastfeeding. Others will no doubt focus on those structural issues in submissions about the National Breastfeeding Strategy. In this submission I will confine myself to matters relating to artificial feeding.

Why? Because I believe that no breastfeeding strategy can ever succeed if it ignores the many issues of artificial feeding with industrially-produced products. *Infant formula is the major problem for breastfeeding, not the solution.* Parents believe in the complete safety and adequacy of current infant formulas, just as they always have since the late 19th century, and despite the changes always being made to the product. That delusion about the complete safety and suitability of infant formula undermines all breastfeeding promotion efforts; the unnecessary use of infant formula as a quick solution undermines clinical efforts to maximise lactation. It underpins the growth of the infant formula market which is breastfeeding’s now-brazen competitor. (Since 1980, the global infant formula industry has grown from US$2billion to well over $50billion, and formula feeding has become an accepted part of almost every Australian family’s life.)

That belief in formula safety and adequacy is the myth that must be destroyed for politicians and regulators to be willing to make the structural and societal changes that will be needed – like appropriate paid maternity leave and job protection policies - before breastfeeding can become once again the human norm for infant feeding.

Of course infant formula is adequate to grow children who at a glance do not seem any different from their breastfed peers. Human omnivore capacity has allowed infants to survive and grow on very differently defective diets over the centuries. But at some cost. In the decades since 1980, scientific tools have developed which can measure the separate detrimental biological impacts of both the *absence* of breastfeeding or breastmilk, and the *presence* of artificial feeding/infant formula in early child life. Many of those effects are heritable and thus intergenerational, and it is my contention that a Milk Hypothesis of compounding intergenerational immune damage and developmental disorder better explains typically western patterns of inflammatory disease than do more generally accepted hygiene or biodiversity or antibiotic hypotheses – all of which can be subsumed into and support the milk hypothesis.56

The biological mechanisms for those separate detrimental impacts due to both *absence* and *presence* are being elucidated. Anyone reading this submission should be aware by now of the intractable differences between breastfed and not breastfed infants in microbiomes, in hormone levels, in immune factors, in any and all of the governing mechanisms of infant development and lifelong health. All not-breastfed infants are significantly or subtly different from what they would have been if breastfed.

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3 Well summarised in *Breastfeeding Uncovered* by Dr Amy Brown (Pinter& Martin 2016)

4 Who hasn’t heard “They wouldn’t sell it if it wasn’t almost as good as breastmilk.” “It’s breastmilk in a bottle.” “This is the brand I was fed and I’m fine” says a diabetic or asthmatic.

5 Research into clinical outcomes needs to take into account the intergenerational impacts of the almost universal exposure of Australian infants or their parents and grandparents, to infant formula provided free to health care facilities Australia wide as industry’s most effective marketing strategy. (Brand loyalty being over 90%)

6 See *Milk Matters: infant feeding and immune disorder* (Bookpod 2015)
Differences in nutritional inputs between breastfed and formula fed children are inevitable. Within the formulas fed, differences in nutrient inputs vary by brand, by product, by batch and over time, with the only constant factor being the brand name. The name continuity creates a carefully-nurtured illusion of unchanging suitability and proven safety, even as industry attempts to correct known and emerging deficiencies and excesses. Health professionals wrongly assume formulas to be all the same, when experts like Professor Alan Lucas insist that they are not, and that even small differences may have hugely significant effects on cognition and development. And some differences are not small: protein levels in formulas on sale for Australian infants under twelve months range from 12-25g/L or even more widely, as labels declare what might be present by the end of shelf life, not what is actually in the can. Yet no independent studies are done to see which brands result in the least worst outcomes. (This would require substantial government funding, when most funding of formula research comes from vested interests.)

As well, research by the infant formula industry itself has demonstrated, inter alia, the need to further lower protein levels that have clearly programmed infants for lifelong obesity; the need to reduce damaging metabolites formed by heat, worst in end-sterilised and complex products for the most vulnerable infants; the inevitability of microbial contamination of formula/drink powders.

When buying any important product, parents need to be able to make informed choices. Formula guidelines are so wide as to allow significant differences in amounts of multiple interactive ingredients: calculating the mathematical possibilities for variation is simply not possible. Yet parents not only can’t find any comparative outcome studies by brand to guide their choice of infant formula; most remain blissfully unaware of these basic truths about the product they assume to be safe enough to feed their beloved children. And most health professionals frankly know too little about the types of formula, much less the brands and the differences between them, to offer parents any useful information.

Yet how safe is infant formula? Leaving aside the inevitable and largely untraceable - certainly untraced - contaminants, to date we have on record such deviations from normal physiological infant development as

- altered reproductive tissue development evident by ultrasound as early as 4 months of age, with less testicular tissue and more ovarian cysts in the bovine/soy formula fed;
- different patterns of brain white matter development seen by MRI in the first year of life;
- differences in brain electrical function under 12 months of age;
- differences in cognition and speech;
- altered organ size and structure (e.g., thymus, kidney, heart);

7 The only way in which they are ‘all the same’ is that their recipes fit within the wide standards written around existing formulas and needing constant revision.
9 all discussed and fully referenced in Milk Matters.
alterations in the genome and more chromosomal breaks;
• differences in adipose tissue deposition, bone development....the research is just beginning.

Who tells parents any of that? And there is a long list of diseases and conditions that are more common or more severe in infants not breastfed, from diarrhoeal disease to diabetes. The list of harms for some women who do not breastfeed is equally confronting. In fact, in all of the current epidemics of NCDs, so-called non-communicable diseases, there is evidence which suggests that these are being vertically communicated, and there is evidence for the involvement of early artificial feeding.

WHAT ACTIONS MIGHT REDUCE FORMULA USE?

Australia could implement in full the many international initiatives it has largely neglected, such as the Innocenti Declaration, BFHI, International Code of Marketing of Breastmilk Substitutes, and so on, all of which emphasize many relevant aspects that remain largely unsupported in this country at any national level. Even using the language of Infant and Young child Feeding would be to connect to important global developments often overlooked.

Three key areas for action are education, truth in advertising, and practical modelling of the importance of breastfeeding or breastmilk feeding and the fallibility of current infant formulas.

1. Education
Australia needs widespread multi-level availability of independent educational e-resources about infant formula
• a short e-course about infant formula feeding (perhaps negotiate access to the NHS-sponsored module available in the UK e-Learning for Health series) with completion made compulsory for all healthworkers – including paediatricians and childcare staff
• a similar short course on breastfeeding ditto: the companion e-Learning for Health module created by the University of York would be a good model to develop for Australia
• adaptation for Australia and publication online of the First Steps Nutrition Trust documents about formula types and brands
• updating of the NHMRC Guidelines for Healthworkers to ensure language and perspective is consistent with the reality that infant formula was and remains nutrition’s largest uncontrolled in vivo experiment. (An experiment which now lacks an appropriate control series, because virtually all participants have been influenced by infant formula in previous generations.)
• online materials for parents should be scrupulously vetted for their equation of breastmilk and infant formula, breastfeeding and bottle feeding. Any such inferences or unthinking equation should be replaced by truthful language. The Raising Children website materials are inadequate and need detailed revision: eg, they seem unaware of microbes in formula other than those added by parents.

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10 See Milk Matters (op cit) p. 171-4
11 http://www.firststepsnutrition.org/newpages/Infant_Milks/infant_milks.html
present they read as if written by industry dietitians.\textsuperscript{12} I would be happy to
discuss this point further with relevant personnel.

2. Truthful labelling and marketing of infant formula

In general, false and misleading advertising in this important field should be subject to
the heavy penalties for false and misleading advertising in any other area, and
prosecutions should be undertaken in the usual way. In my view, the voluntary self-
regulation experiment I helped create in 1992 has clearly failed since the mid-to-late
1990s. The current MAIF system acts to shield companies from normal legal
constraints, while some companies ignore it altogether without penalty. Commitment to
observance of the International Code as interpreted through World Health Assembly
resolutions and clarifications could and should become a minimum requirement for
marketing and distribution of infant formula within and export from Australia.

Labels:

- Clear distinctions between the labels of actual infant formula products (ie,
  meeting the Australian Infant Formula Standard as complete foods) and other
  incomplete milk-based drinks for children such as Follow Ons; no numerical
cross-branding.

- Warnings on can labels such as were used on US puppy formulas:\textsuperscript{13} with the
  ‘important statement’ reworded to discourage formula use, not discourage
  breastfeeding as at present.

- A statement that infant formula powder cannot be sterile should be mandatory,
together with clearer advice about the care needed to store cans before and after
opening.

- A statement that label contents represent an average aimed at rather than a
  precise analysis of what is in the can should be mandatory, when overages are
  common in order to allow the regulated minimum to be present till the end of
  shelf life

- Insistence on truthful labelling with severe penalties for false and misleading
  claims directly or by inference.

- No reference to immunity, eye or brain development should be permitted.

- The source of all vegetable oils possibly used should be stated not obfuscated
  (palm, coconut, soy, peanut, canola, high oleic safflower, fungal: add GM strain
  used, algal: add GM strain used)

- Where animal fats are used they should be clearly labelled (cows milk fat,
destearinated beef/pig lard, (“oleo”), hen egg phospholipids)

\textsuperscript{12} eg, “Most infant formula is made from cow's milk that has been modified to be as much like breastmilk
as possible, so that it suits your baby’s nutritional needs. But it’s not the same as cow’s milk.” The last
statement is true. But why not say that “It’s not the same as breastmilk, nor is that ever possible.” And all
formula today is NOT “as close as possible” to breastmilk – some is closer, some is further away.
Inappropriate reassurance supporting formula here and this ius the sort of language that communicates to
parents that formula is just as good.

\textsuperscript{13} In 1981, Borden's Esbilac labels urged dog owners not to wean pups prematurely: 'Feeding newborn
mammals a milk formula always entails some risk ...From birth through the second week all puppies
should receive their mother’s milk ...The human equivalent of two weeks for dogs is three to four months
for babies: pups start to initiate semi-solid feeding at twenty-one days, although dog milk alone supports
growth until at least twenty-eight days. (from Milk Matters, p. 176)
• The country of origin of ingredients and of manufacture should be mandatory
• “Suitable from birth” should be revised to wording that does not convey official endorsement as suitable, when no formula is suitable for all infants. “For use age 0-12 months” conveys no government endorsement.

3. Modelling the importance of breastfeeding and exclusive breastmilk feeding, and the fallibility of infant formulas

• requiring informed consent, accurate documentation including amounts and brand, and incident reports for all infant exposure to formula or other related bovine products in neonatal units and maternity wards;
• requiring detailed annual audits of infant feeding for all cases of infant sepsis, meningitis, necrotising enterocolitis and other problems linked to formula exposure;
• requiring neonatal units to use only human-milk-based products as additives to mothers’ own milk;
• requiring hospitals to maintain detailed records of breastfeeding initiation and exclusivity for all infants, and to provide such records on request to parents;
• where hospitals offer home care, maintaining within the hospital records, details of infant feeding at discharge from that care, with periodic comparative review of success/failure rates and reasons;
• collecting detailed infant feeding data and where used, formula/drink samples, for all infant hospital admissions and emergency department visits of children under two years of age, with routine compositional and microbiological analysis to be undertaken;
• establishing and maintaining human milkbanks and encouraging donations and use of human milk, as with human blood;
• empowering community-based nurses to record and send for analysis samples of industrial products being consumed by infants and young children about whom they are concerned;
• providing commonsense guidelines for induced lactation, relactation, surrogate breastfeeding (aka wetnursing) and including such options in all literature relating to breastfeeding;
• emphasizing the benefits of continued breastfeeding to the WHO template: exclusive to around 6 months when infants are developmentally ready, continued into the second year and beyond as suits both parties;
• supporting low-income breastfeeding women financially, and/or extending paid maternity leave period for breastfeeding mothers to a minimum of six months;
• reducing PBS subsidies on specialised infant formula to high-income families to the amount over and above the cost of regular infant formula paid by low-income families, and providing all prescribing doctors with online education about the importance of maintaining lactation and assisting with maternal diet change in food-sensitive families.
• requiring all taxpayer-funded research into ongoing disease to include as far as possible enquiries into the infant feeding and allergy history of patients and a matched control group.
• requiring regular independent compositional and microbiological inspection and analysis of all infant formulas and young child drinks on the Australian market and being exported overseas.
maintaining an independent website where parents can report possible problems with infant formulas purchased in Australia, or Australian made formulas purchased overseas.

These are simply some of many suggestions that could make a difference to community perceptions of women’s milk and infant formulas, and so create political will to drive structural changes that would enable women to breastfeed.

Urging women to breastfeed in an environment where they will fail has contributed to our current declining rates and increasing antipathy to breastfeeding. Clearly there is also a need for the whole healthcare system to provide the clinical support that is taken for granted when any other bodily organ malfunctions, or is proving inadequate to its normal biological task. Prosthetics and replacement parts are generally seen as an expensive last resort, clearly inferior to a normally functioning body part.

**So too should infant formula be seen: as a last resort, and clearly inferior to the real thing, women’s milk.** Anyone on the Taskforce who does not agree with that sentence needs to read *Infant Formula and Modern Epidemics*, or the whole of *Milk Matters: infant formula and immune disorder*.

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Founding member and office bearer of ILCA and ALCA and adviser to IBLCE and WHO Geneva; UNICEF NY appointed BFHI Lead Assessor for Nigeria and originator of BFHI in Australia; educator of thousands of health professionals in Australia and overseas; pro bono consultant to hundreds of families with feeding issues since 1976.