A country left behind: folic acid food fortification policy in New Zealand

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Under a Joint Food Standards Agreement, folic acid fortification of bread in New Zealand and bread-making flour in Australia was made mandatory in September 2009—but as the deadline drew near, political and manufacturer opposition of bread fortification in New Zealand gave rise to concerns about costs to the industry, unsubstantiated harmful health effects and whether the neural tube defect (NTD) prevalence in New Zealand warranted mandatory measures.

Only Australia succeeded in implementing mandatory folic acid fortification as planned. Advocates in both countries were disheartened as the bread fortification mandate in New Zealand was deferred and eventually revoked in August 2012.

The mandatory fortification standard was replaced with the New Zealand (Permitted Fortification of Bread with Folic Acid) Food Standard 2012. Under this new policy, bakers who fortify with folic acid are subject to an annual audit to verify that they are not exceeding the maximum concentration level. In addition, the Ministry of Primary Industries pledged to continue working with the bakers in the hope of achieving a 50% bread fortification target.

As highlighted by Borman and Poynter in this issue of Journal, the recently released industry audit report indicates that only 14% of breads were fortified with folic acid by the end of 2013. The question to consider is not “Will voluntary fortification of breads reach this 50% target” but rather “Will this targeted approach be effective?”

Even if the target goal is attained, voluntary fortification requires women to know about—and choose—fortified breads, or that commonly and regularly eaten breads are fortified and readily affordable. In other words, most women must consume fortified breads whether or not they are aware of their folic acid content.

Dietary modelling of folic acid intakes of reproductive age women based on availability of voluntarily fortified breads and actual bread consumption patterns demonstrates that this targeted programme has only modest effects on folic acid intakes.

It should also been noted that 15 years have elapsed since the collection of food consumption data upon which New Zealand’s mandatory fortification proposal was based. More recent evidence indicates that bread consumption has decreased markedly in the target group of reproductive age women. Indeed, in some instances, the proposed policy will have minimal impact on certain subgroups, such as Asian women who consume little or no bread.

In addition, a recent survey of postpartum New Zealand women published in 2012 showed that while half of all women surveyed were aware that folic acid was added to some bread, less than 2% of women inspected labels in order to buy folic acid-
fortified bread in the periconceptional period. Moreover, only 14% of women deliberately consumed food in the periconceptional period due to its folate content.

While voluntary fortification of bread alone is clearly not enough, sufficient amounts of folic acid could be obtained from our food supply if fortification practices were more widely distributed.

Bread was chosen as the vehicle for mandatory fortification because at that time most women of reproductive age ate bread regularly and it was not traded internationally; however, voluntary fortification of other food products have been permitted in New Zealand since 1996 including breakfast cereals, pasta, fruit and vegetable juices and drinks, and soya and rice milk.

Consumption patterns of reproductive age women indicate that voluntarily fortified bread is the main contributor of folic acid intake to the diet followed by ready-to-eat breakfast cereals. Breakfast cereals are consumed by 70% of the population and thus, permission to increase the maximum allowable level may increase folate intakes. For example, legislation in the United States allows up to 400 mg folic acid per serving of breakfast cereal compared with current New Zealand regulations, which permits only 100 mg folic acid per serving.

In addition, other suitable food staples and condiments not currently listed should be considered. Rice is not included in the list of permitted foods for fortification, however, it may present an appropriate food vehicle given the country’s increasing Asian population.

Despite the promise of increased targeted voluntary fortification, the lack of legal framework needed to optimise the implementation of this type of strategy is a major challenge. For example, analytical testing of fortified breads in 2011 revealed significant variability in the folic acid content of the highest selling breads, with the actual amounts measuring well below the set objective. Where mandatory fortification provides clear governance of the type of foods to be fortified and the amount that can added, a non-binding agreement with the food industry to increase the range of voluntarily fortified foods is likely to be unreliable.

From a health inequalities perspective, mandatory fortification, unlike voluntary measures, benefits segments of the population less likely to use supplements. Health education initiatives designed to address folic acid supplement use in at risk subgroups have been met with little success.

Although most New Zealand women had heard of the need for folic acid supplements, only one-third of women consume folic acid supplements prior to conception. Indeed, even when pregnancy is planned, periconceptional supplement use is less common among Māori, Pacific and Asian women, younger women and women with lower education and income.

Likewise, neural tube defects show a similar socioeconomic gradient and a higher risk among Māori women than those of non-Māori non-Pacific ethnicity (RR 2.65, 95%CI 1.64–4.29).

In support of mandatory bread fortification, recent data have shown that bread consumption is higher among those with low income and the least education. As a result, the previously proposed bread fortification mandate would have remedied
many of these identified sociodemographic inequities in folic acid supplemental use.3,10

In contrast, as of May 2014, breads voluntarily fortified with folic acid are typically wholegrain, which are generally more expensive and less likely consumed by those women of lower socioeconomic status.11,12

Nearly 20 years have passed since voluntary fortification of food with folic acid was legislated in New Zealand for the purpose of preventing neural tube defects. Even in the early years, it was deemed unsatisfactory on the basis of poor uptake by manufacturers. Although not new, influencing health through regulatory channels has become an increasingly vital tool in modern public health practice with folic acid fortification listed as one of the Ten Great Public Health Achievements in the United States.13

In response to the success of the North American programme, flour fortification has been widely accepted and put into practice in over 70 countries. In Australia, while the impact of mandatory fortification on the incidence of neural tube defects has yet to be evaluated, survey work indicates improvements in the blood folate status of the population, and a significant decline in the prevalence of folate deficiency between April 2009 to April 2010.14

It is estimated that approximately 80 cases of fatal or seriously disabling neural tube defects occur each year in New Zealand.15 Mandatory fortification as proposed was anticipated to prevent up to 24 cases per year. Today, this 5-year loss of impact from fortification possibilities equates to a minimum of 100 cases occurring that would have been avoided.16

To progress, there are many lessons to be gained from reflecting on New Zealand’s folic acid food fortification experience and roadblocks. Doing so will enable others to better anticipate potential challenges so that no country will be left behind.

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