

Think we need to separate science and politics?

Think again

Here's a little true story I've used with my students to show that non-science considerations are always necessary and appropriate in science-based regulation. It illustrates how shallow and misleading is the current discussion about the need for greater separation between science and politics, an argument currently advanced by many academics and public sector scientists.

Once upon a time about 20 years ago when I was still a food regulator, a considerable body of research began to show that neural tube defects (NTDs) in newborns, such as spina bifida and anencephaly, could be significantly reduced if women took folic acid supplements in the months before and just after conception. But this is before most women know they are pregnant, and in the U.S. more than half of pregnancies were unplanned. So regulators there decided to require the fortification of a common food and proposed to require the mandatory fortification of flour with folic acid.

Health Canada, concerned about the health hazard to the general population and citing the precautionary principle, wrote the U.S. Food and Drug Administration (FDA) urging it not to act until the science was clearer. Aware of the growing evidence of the effectiveness of folic acid, the FDA decided it could



not wait for all the science, applied the precautionary principle and made fortification of flour mandatory (proving, once again, that the precautionary principle is never helpful as an aid to decision-making but always useful to justify decisions arrived at for other reasons — but that's a topic for another day).

This is where the story gets interesting. Under Canadian law, once the American regulation came into effect, Canada would have to ban the importation of all products containing the fortified flour and we could no longer export flour products to the U.S. That's a lot of food. Under trade laws, Canada would have to have a science-based risk assessment to show that the fortification was unsafe. We had no such science. Scientists conduct science-based risk assessments, then elected politicians and their senior advisors take the science and weigh it with economic, political, environmental, legal and ethical factors (this is not politicization of science; this is evidence-based policy making.) Appropriately applying non-science considerations, Health Canada rushed through a regulation matching the U.S. law, coming into effect the month before the American change. This continues to be our law today: see B.13.001, *Food and Drug Regulations* (FDR).

Now, 17 years later, 76 countries have followed Canada and the U.S. and require mandatory folic acid fortification of at least one major cereal, with nearly all fortifying at least wheat flour. Studies show a significant reduction in NTDs in

those countries with fortification.

In Canada the reduction is estimated to be as much as 46 per cent.

But mandatory fortification is still a controversial public policy option. Citing safety concerns, no European Union country has mandated fortification. In New Zealand the issue is still hotly debated, with an interesting alliance between the Green Party and the Association of Bakers describing mandatory fortification as “mass medication” of the food supply, and insisting that the argument for fortification is not “science based.”

In the U.K., the Food Standards Agency has recommended fortification, but the debate continues: both sides insist that the position of the other is “not backed by science.” In Canada, the department that initially fought fortification now highlights that “the decline in rates of NTDs in Canada is a tremendous public health success story.” A major science journal recently described folic acid fortification as “one of the most successful public health initiatives in the past 50 to 75 years.”

What's the moral of our story? Policy considerations enter into every stage of the process of science risk assessment. You can't take policy out of science yet much of our public discourse is still dominated by the quaint Utopian view that science and policy can, and should, be strictly separated. We urgently need to engender a broad debate about the role of science and scientists in policy making. ●

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