

Problems in applying the precautionary principle to public health

Bernard D Goldstein

Commentary on the editorial by Martuzzi (see page 569)

In a short commentary it is hard to find room for the many positives about Martuzzi's editorial supporting the use of the precautionary principle to achieve public health goals.¹ The precautionary principle is part of the admirable re-evaluation by the European Union of the relation between individual, community, nation, region and globe in a modern world. We all need to pay respectful attention.

Achieving the desired positive impacts of applying the precautionary principle to public health requires that advocates confront the following issues:

1. EXPLAIN WHAT THE PRECAUTIONARY PRINCIPLE ADDS TO LONGSTANDING CORE PUBLIC HEALTH PRINCIPLES

The vagaries of defining the precautionary principle present obstacles to its application to public health. Martuzzi tries to help by distinguishing between prevention, which he relates to known causes, and precaution which "is more relevant for uncertain determinants, complex scenarios, suspected risk factors, unpredictable circumstances". This distinction does not accord with longstanding core public health definitions that distinguish between primary, secondary and tertiary prevention. Further, Martuzzi's distinction between precaution and prevention is not consistent with actions already taken by the EU on the basis of the precautionary principle, such as establishing a particularly stringent standard for aflatoxin—a known cause of liver cancer. It may be more helpful to distinguish between precautionary approaches based on risk analysis and those based on primary prevention.² Advocates need to explain why the precautionary principle furthers public health, rather than adding a poorly-defined term to an already crowded field.

2. RECOGNISE IT IS NOT SOLELY THE PRECAUTIONARY PRINCIPLE THAT PUTS SCIENCE IN ITS APPROPRIATE PLACE IN THE DECISION PROCESS

Martuzzi, along with other serious proponents of the precautionary principle that he cites, believe that better scientific evidence

is a significant pathway to wiser decisions. Martuzzi commendably recognises that we cannot now abandon the current scientific paradigm as there is no alternative. Unfortunately, like many other advocates of the precautionary principle who tend to view science, and particularly risk science, as being a major part of the problem, he also devotes much of his editorial to deconstructing the role of science in the decision process. Central to his argument is the assertion that the precautionary principle is needed to rectify science "determining *univocally* the preferable course of action" (my italics). But the assertion is false. Public health and environmental decisions have long been made on the basis of a broad range of factors operative in a democracy, of which science is just one—and the welcome movement towards further democracy, transparency and inclusiveness in the deliberative process has proceeded, at least in the US, without need of the precautionary principle (note as just one example the risk framework developed by a US Presidential/Congressional Commission³). Nor has sufficient scientific evidence to reach the level of scientific "proof" ever been necessary for action by public health authorities.

3. CONFRONT THE IMPLICATIONS OF THE RECORD OF MISUSE OF THE PRECAUTIONARY PRINCIPLE BY POWERFUL INTEREST GROUPS

Using the precautionary principle does not necessarily lead to wiser decisions—nor avoid manipulation by special interests. In fact, to many the precautionary principle is simply a ploy by the EU to wrap self-serving agricultural barriers in a green flag.^{4,5} The mistrust of the EU generated by its propensity to use the precautionary principle to circumvent trade agreements was one reason for the recent lamentable failure of the Doha round of talks aimed at eliminating agricultural subsidies and trade barriers, a failure that adversely impacts sustainable development of the world's poorer countries. The aflatoxin example cited above excludes \$700 million yearly of trade from sub-Saharan Africa to the benefit of EU agricultural interests.^{6,7} This "precautionary" standard, rejected as being

without significant health benefit by the FAO/WHO Codex Alimentarius Commission's Joint Expert Committee on Food Additives,⁸ is also claimed to contribute to the destruction of rain forests and to adversely affect indigenous peoples.^{9,10} If its value to public health is to be achieved, advocates of the precautionary principle need to confront its misuse.

In summary, it is a tautology to argue that core public health approaches that are central to the precautionary principle are pertinent to public health. Perhaps this reflects a circular trail in which the excitement generated through application of the precautionary principle to environmental issues has now led to it being applied back to public health. This is good.¹¹ There is little doubt that with a firmer appreciation of public health principles and processes, a better understanding of the role of science in public health decision-making, and grounding in how public health historically has confronted misuse by powerful interests, advocates of the precautionary principle will contribute to better public health decisions.

Occup Environ Med 2007;**64**:571.

doi: 10.1136/oem.2006.031880

Correspondence to: Professor B D Goldstein, Graduate School of Public Health, University of Pittsburgh, 130 DeSoto Street, Pittsburgh, PA 15213, USA; bdgold@pitt.edu

Competing interests: None.

REFERENCES

- 1 Martuzzi M. The precautionary principle: in action for public health. *Occup Environ Med* 2007;**64**:569–70.
- 2 Goldstein BD, Carruth RS. Implications of the precautionary principle to environmental regulation in the United States: Examples from the control of hazardous air pollutants in the 1990 Clean Air Act Amendments. *Law Contemp Probl* 2003;**66**:247–61.
- 3 Omenn, GS. Report on the Accomplishments of the Commission on Risk Assessment and Risk Management. Presidential/Congressional Commission on Risk Assessment and Risk Management 1997. Available at <http://www.riskworld.com/Nreports/1997/risk-rpt/miscinfo/nr7mi002.htm> (accessed January 2007).
- 4 Miller HL, Conko G. Precaution without principle. *Nat Biotechnol* 2001;**19**:302–3.
- 5 Lupien JR. The precautionary principle and other non-tariff trade barriers to free and fair international food trade. *Crit Rev Food Sci Nutr* 2002;**42**:403–15.
- 6 Majone G. The precautionary principle and its policy implications. *J Common Mark Stud* 2002;**40**:89–110.
- 7 Otsuki T, Wilson JS, Sewadeh M. What price precaution? European harmonization of aflatoxin regulations and African groundnut exports. *European Review of Agriculture Economics* 2001;**28**:263–84.
- 8 FAO Corporate Document Repository. Worldwide regulations for mycotoxins in food and feed in 2003, Section 2.1. Hazard identification and hazard characterization 2003. Available at <http://www.fao.org/docrep/007/y5499e/y5499e06.htm> (accessed January 2007).
- 9 Newing H, Harrop S. European health regulations and brazil nuts: implications for biodiversity conservation and sustainable rural livelihoods in the Amazon. *Journal of International Wildlife Law and Policy* 2000;**3**:1–23.
- 10 CKC Birds. Brazil nuts and aflatoxin 2006. Available at http://www.ckcbirds.co.uk/Brazil_Nuts_and_Aflatoxin.htm (accessed January 2007).
- 11 Goldstein BD. The precautionary principle also applies to public health actions. *Am J Public Health* 2001;**91**:1358–61.