

**THE PRECAUTIONARY PRINCIPLE:
IMPLICATIONS FOR RESEARCH
AND POLICY MAKING**

**IL PRINCIPIO DI PRECAUZIONE:
IMPLICAZIONI PER LA RICERCA E
LA PROMULGAZIONE DI LEGGI**

The Collegium Ramazzini endorses the use of the Precautionary Principle for protecting human health and sustainability of the environment. The Precautionary Principle brings foresight and transparency to situations with high stakes, uncertain scientific evidence, and disputed values, but where decisions on policy are needed before additional knowledge can be generated. The Precautionary Principle re-invigorates the public health tradition requiring that we do no harm.

Past successes of precaution include the introduction of safe drinking water to major cities in Western Europe and North America decades before elucidation of the germ theory of disease. These actions saved millions of lives. Failures to take precautionary action, despite early warnings, have resulted in severe harm to human health and the environment. Examples include asbestos, ionizing radiation, lead, mercury, some pesticides, polychlorinated biphenyls, tobacco, and the chlorofluorocarbons that damage the ozone layer.

Public and occupational health practitioners have often applied preventive measures, but these are not necessarily precautionary. For example, stopping asbestos use and exposure in 2003 is preventive, but hardly precautionary, given that we have known for many decades about the impacts of asbestos on health. In contrast, restricting asbestos exposure in the early decades of the previous century would have been both preventive and precautionary. While precautionary actions can be reversible, failure to take precautionary action may cause irreversible harm.

Current regulatory practice permits the marketing of many products and technologies on the assumption that they cause no unacceptable harm, thus placing the burden of proving harm on public authorities. Under the Precautionary Principle, by contrast, products and technologies must be assessed to show that they are acceptably safe before they are introduced for use, as is currently the case for most pharmaceuticals and pesticides. If already in use, safety may need to be reassessed, taking into account worst-case scenarios, emerging scientific knowledge and all potential direct and indirect impacts. This approach places the burden of demonstrating safety on those responsible for introducing products and technologies.

The Precautionary Principle uses the best available science as an input to public policy-making. However, sound policy depends not only on good science, but also on other values such as the

moral imperative to preserve health, life and the environment. The Precautionary Principle provides a framework for achieving transparent, democratic processes that take these dimensions into consideration in developing policies.

An impediment to precaution is that the scientific community typically requires strong evidence of an adverse finding before action is taken on an agent or an exposure. The frequent insistence that a link between exposure and disease be established with statistical confidence presumes the innocence of hazards until there is very strong evidence of harm, and it creates a culture of scientific caution that is more highly focused on avoiding “false positives” than “false negatives”. With this approach, science preserves its authority and enhances the impact of the alarms that it raises. However, the absence of evidence about harmful impacts is not evidence of their absence. This scientific approach needs to be more explicit and reconciled with public policy on health and environment.

At a recent conference, the Collegium Ramazzini, in collaboration with the World Health Organization (WHO), the United States’ National Institute for Environmental Health Sciences (NIEHS), and the European Environment Agency (EEA) explored the different methods and goals of science and policy-making and the implications of the Precautionary Principle for better research, training and prevention. An urgent need was demonstrated for striking a better balance between good science and the protection of public health.

Therefore, the Collegium Ramazzini calls for:

- Revision and expansion of the agendas of health and environment agencies at all levels to increase emphasis on precaution.
- Increased allocation of public resources to support research, training, education and policy analysis in precautionary approaches, with major investment in developing better instruments to assess the potential harms and benefits of products and technologies, both new and old, and to stimulate innovations in the development of alternatives.
- Dissemination of information about potential impacts of products and technologies, and development of better methods of two-way communication between scientists and decision-makers, including the public, who have the right to know about the potential hazards to which they may be exposed, about the uncertainties in science, and about how these uncertainties are managed.
- Increased incentives for the timely contribution, and penalties for the non-production, of adequate information about hazards and their prevention by those responsible for the products and technologies.
- Application of more sensitive health and environmental surveillance programmes aimed at the early detection of any unwanted consequences from products and technologies.

COUNCIL OF FELLOWS
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