

A Message from the Editor

In this special topic issue of *Public Health Reports*, we examine the precautionary principle. The principle itself is not difficult to appreciate. When we are faced with making a decision in the absence of a desired level of evidence, the precautionary principle prescribes that we make the decision giving a high degree of emphasis to the avoidance of possible harm to human health. How easy it is to be cautious when there is nothing but safety at stake. As you know, it is not so clear-cut in the real world of public health.

Our world is much more complicated and will always present an infinity of unknowns. Is it uncomfortable to make decisions when cost as well as safety is a consideration? When there is also a lack of data to support a decision? Most certainly. But that's the way it is. Too often we are faced with making an important decision without the benefit of the requisite information to make it a fully informed decision. No matter how much we loathe these all too frequent situations, we cannot abdicate for a very simple reason: non-action is every bit as much a decision as any other and it too carries the risk of unintended ramifications. So it comes down to this: what will the public health advocate's bias be in making decisions about actions to be taken or not taken?

The opposite of the precautionary principle would be to consider things, such as chemical substances, harmless until proven hazardous. It can also be extended to things other than chemical exposure, such as new processes or policies. Analogous to the legal principle of innocent until proven guilty, the precautionary principle appeals to our sense of fairness. However, the former was devised specifically to prevent convicting people falsely accused of a crime. This legal tenet is a concept inextricably associated with the notion of basic human rights in a legitimate civilized society.

It is, therefore, understandable that certain organizations frequently extend the concept of innocent until proven guilty to their inanimate positions or product lines. It might even be their fiduciary duty to the economic health of their organization, but this is not the charge of public health practitioners. Public health practitioners have a covenant to protect and preserve human health. Personally, I don't have a problem with the difference of opinion and approach that often arise between the advocates for business and those for public health; I wouldn't have it any other way. The

tension and debate that derives from these conflicting purposes is good for the discovery of new approaches to problems. What I find problematic is the intentional fettering of the collection of new evidence, thus insuring that the parties continue to fight in ignorance and rely on policy because the truth isn't known.

In the absence of convincing evidence, I believe the precautionary principle is the more rational approach a society can take if that society legitimately values its population. Is it an expensive position to take? In some instances, expense is undeniable. Yet in other instances, it can be the more economical decision. If, for example, early 20th-century lawmakers would have heeded the advice—albeit based on imperfect evidence—of public health practitioners that it might not be such a good idea to introduce lead in wholesale amounts into the environment, we would not now be looking at the monumental expense of cleaning up our vast urban areas. And who knows the true costs incurred from the lead poisoning of a substantial number of our citizens, who suffer physical, cognitive, and developmental deficits? In this case, the cost of not adhering to the precautionary principle is so expensive that most discussions of lead abatement come to an abrupt halt the moment you get to the part of how to pay for it.

The same could be said about the economics of not choosing precaution over apparent but temporary gain in the case of asbestos use. Besides the human tragedy, how many companies have gone bankrupt because of their management's failure to look both ways before crossing that street? I cannot even begin to speculate on the potential cost of global warming for failure to acknowledge mounting evidence—although inconclusive—that there might actually be such a phenomenon as the greenhouse effect. Mercifully, not all of our problems are as difficult as the greenhouse effect. In most cases it really is just a matter of separating humans from substances of unknown toxicity; we have a lot of experience and knowledge about how to accomplish this by utilizing established and relatively inexpensive engineering controls. Using our experience and acquired technical knowledge can be a whole lot less expensive than adjudicating a tort case or national abatement of a toxic substance.

I am confident I've persuaded everyone that the precautionary principle is the way to go in the absence of incontrovertible evidence. You might think that

deciding to exercise the precautionary principle was the hard part, and that now everything else is easy—just follow the policy. In actuality, it just gets harder. Consider, for example, the decision to vaccinate. One might conclude, by reviewing the available data, that there is insufficient evidence to confirm absolutely that vaccination does or does not lead to a materially increased risk of autism. Vaccine preventable diseases are for the most part extremely serious, sometimes even calamitous. Few would argue this point, but many parents would counter that autism is also. If the vast majority of people in a community are vaccinated sufficiently to provide herd immunity, what is the correct position to take with regard to a few parental objections to vaccination out of fear of autism? Good luck defending your decision. And don't forget to leave the office key to your replacement.

It is never easy to compare known risks to those that are speculative. So we should always strive to limit speculation by the continual collection of good data using good investigative techniques. There is a difference between: (a) making decisions in the absence of evidence; (b) making decisions while ignoring existing evidence; and (c) making the decision to not collect evidence because of the risk that it might not support

preconceived and convenient notions. The precautionary principle refers only to condition (a). Perhaps it is the stupidity principle, or maybe, the greed and pride principles, that drive conditions (b) and (c). Though a thorough discussion of these principles are beyond the scope of this column, it seems to me that they are in wide use these days, and, inevitably, their application encroaches on and confuses the debate about the precautionary principle. Ideally, the chosen approach should be to seek more knowledge about the true risks associated with things not fully understood. Yet until the day arrives when we understand everything, interim decisions will have to be made.

The attraction to opt for blissful ignorance is strong. Don't fall for it. When a company claims their product is harmless, ask for the supporting evidence. Until good evidence is produced, err on the side of caution. People are depending on you. Of course, you might be costing society money, but then again you might be saving the people in the society *and* their money. Ask your mother if she agrees with me. You know, the person who made you carry change for a phone call and wear an extra layer of clothes—just in case.

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