

Risk communication and environmental health priorities

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We recently suffered a national tragedy when 47 sailors were killed aboard the U.S.S. Iowa. The incident led to broad media coverage and involvement of the President, Congress, the military and scores of other officials. That same hour, and every hour since then, 47 Americans lost their lives by slow suicide from tobacco. The effects of second-hand smoke are more difficult to measure, as is tobacco's damage to quality of life.

Similar comparisons could be offered regarding preventable morbidity and mortality caused by accidents, alcohol, drugs, firearms or environmental toxics.

Risk communication has become increasingly important to government and industry in recent years, but both government and industry officials have been notoriously ineffective as practitioners of risk assessment and risk communication.

Major, expensive, poorly designed governmental programs continue to be developed without reference to risk assessment or the closely related science of epidemiology. In fact, some programs continue to develop without the responsible political and business leaders ever understanding the problem they think needs solving.

In the absence of risk assessment, risk communication and epidemiology, we spend huge sums on the wrong priorities, on ineffective programs and confusing methodologies.

In the field of public health, emotional response based on limited scientific understanding of problems by well-meaning groups becomes magnified by the news media, resulting in political leaders scrambling to get out front on minor issues while much more serious issues receive minimal attention.

In this same vein, Americans spend billions on sickness treatment measures affecting a comparative few, and many of these expensive health care measures are of questionable efficacy and low cost-benefit. Legislators spend a mere pittance on public health measures having high cost-benefit directed to the majority of our citizens for programs that we know would significantly enhance health status and lower rapidly escalating health-care costs.

Most political leaders think and act in terms of treatment for drug abuse, alcoholism, teenage pregnancy, developmental disabilities, cancer, heart disease, injuries and violence, rather than attacking the root causes, including joblessness, low educational levels and lack of targeted preventive services.

Risk assessment allows us to project what will happen as a result of certain actions or exposures. Risk assessment also helps us place risks in perspective and recommend priorities for spending in order to be cost-effective and to enhance the health status of Americans.

Risk assessment helps us realize that tobacco use is more dangerous than planes, and that we smoke billions of cigarettes that are killing us a rate of 390,000 people every year (almost 50 an hour).

Public health officials, meanwhile, are warning about an artificial sweetener because of a one-in-a-million chance it will cause cancer, or banning grapes because two grapes are found to contain low levels of cyanide, or attempting to ban apples containing low levels of a product that might cause cancer if an individual consumed a bushel a day for 70 years, or being alarmed about extremely infrequent exceedances of an unscientific federal carbon monoxide standard at levels that have not been demonstrated to cause any health problems.

Assessing risk also tells us that people are more concerned about risks being imposed on them than about those they impose on themselves - those lifestyle issues that have much more impact on our healthcare costs, quality of life and life expectancies.

People tend to overestimate rare but dramatic risks, to underestimate common events and to disdain changing preconceived notions about risks and

priorities. When evidence is presented that contradicts our preconceived notions, we are quick to dismiss the evidence as erroneous or biased.

The news media tend to feed this system and play a major role in ensuring the inappropriate use of limited public funds due to sensationalism of minor, isolated problems. Increasingly, I have learned to withhold judgment on problems and priorities until I have better knowledge of the true research defining the problem rather than accepting the frequently exaggerated version presented by the media.

Political leaders frequently desire to be out front, even if on the wrong issues, so as not to say, "There go my people and I am their leader."

Unfortunately, we do not live in a zero-risk society or environment, nor will our economy allow us to target every minuscule issue in a major fashion. Knowing this, public health professionals must place public and environmental health risks in perspective and be able to more clearly articulate and communicate such risks and priorities to the public and to our political and business leaders.

As EPA Administrator William K Reilly recently said, "The challenge to those of us who wish to see further progress on the environment is to steer a course between scaring the country to death on the one hand, and boring the country to death on the other."

To meet this challenge, we must more effectively understand, develop and utilize risk assessment and risk communication.