

Media Overstate Risks, Toxicologists Say

Based on the results of a recent survey, scientists specializing in toxicology overwhelmingly agree that the public does not get a fair and balanced picture of chemical risk. The majority of members of the Society of Toxicology (SOT), a professional association of the scientific discipline, believe that the media does a poor job covering basic scientific concepts and explaining risks. Most of the SOT members that participated in the survey also feel that environmental groups overstate chemical risks, but rate government agencies as accurately portraying chemical risks - except that only 40 percent of the toxicologists feel that the Environmental Protection Agency (EPA) presents risk accurately.

According to the survey conducted by George Mason University's Center for Health and Risk Communication, 9 out of 10 toxicologists fault the media for not seeking out diverse scientific views to balance stories. About 95 percent describe the media's performance as poor in distinguishing good from bad studies, correlation from causation, and absolute from relative risk, and in explaining the tradeoffs between costs and benefits, odds ratios, and that "the dose makes the poison" - a fundamental tenet of toxicology.

Public broadcasting rated highest among the mainstream media with only 2 out of 3 toxicologists describing PBS and NPR as overstating chemical risk. Over 80 percent see America's leading newspapers and news and health magazines as overstating risks; the percentage rises to over 90 for both broadcast and cable television networks. Three-quarters of those surveyed indicated that the media overplays individual studies relative to the overall body of evidence and gives too much attention to the views of individual scientists relative to those of the broader toxicological community. Two out of three say there is too much attention given to studies by scientists working with environmental groups.

In the most surprising finding, two "new media" outlets - WebMD and Wikipedia - are seen by the toxicologists as being more reliable than traditional news sources for information about chemical risks. For WebMD (<http://www.webmd.com>), 56 percent feel it accurately portrays chemical risks; 45 percent say Wikipedia (http://en.wikipedia.org/wiki/Main_Page) accurately portrays the risks.

A majority of the SOT members participating in the survey rate most government agencies as providing mainly accurate portrayals of chemical risk. Increasingly large majorities see accurate risk portrayals coming from such agencies as the Occupational Safety and Health Administration (OSHA), Food and Drug Administration (FDA), Centers for Disease Control (CDC), and National Science Foundation (NSF) whose presentation of chemical risk is rated as accurate by 85 percent of toxicologists. One glaring exception is EPA which was rated as overstating risk by 41 percent, accurately stating risk by 40 percent, and understating risk by 19 percent.

Fewer than 25 percent believe that regulation should be guided by the precautionary principle, which mandates that a substance suspected of harm should be banned in the absence of scientific consensus. When asked about specific chemical risks, only 3 percent of the nearly 1,000 toxicologists from academia and private industry see

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Teflon and genetically modified organisms as presenting a high degree of risk and only 12 percent see high fructose corn syrup, used in soft drinks, as high risk. In contrast, 26 percent rate sunlight as a high health risk as do 29 percent for aflatoxin, a naturally occurring fungus in peanut butter.

The survey results can be viewed at the SOT web site (<http://www.toxicology.org/pr/press.asp>).

NAS Releases Report on Lejeune Contamination

A report recently issued by an expert panel appointed by the National Academy of Sciences (NAS) concludes that scientific evidence is not available to link health problems among people who lived or worked at Marine Corps Base Camp Lejeune in North Carolina and exposure to perchloroethylene and trichloroethylene through contaminated drinking water. The report, conducted in response to a request from the U.S. Navy, examines what is known about contamination of the water supplies and whether the contamination can be linked to any adverse health outcomes.

In the mid 1980s, two water-supply systems on the base were shut down after they were found to be contaminated with the two solvents and other chemicals. Evidence exists that people living or working at Camp Lejeune dating back to the 1950s were exposed to the contaminants, which has generated considerable public controversy over potential health consequences.

The NAS panel finds that, even with today's scientific advances, the complex nature of the Camp Lejeune contamination and the limited data on the concentrations in water supplies allowed for only crude estimates of exposure. The panel also concludes that further research cannot provide definitive information.

While the NAS experts could not rule the possibility that health effects have been produced by the contaminant exposures, they conclude that "several lines of scientific reasoning suggest such effects are unlikely to have occurred," including –

- a substantial body of research on the toxicology of trichloroethylene and perchloroethylene that indicates that the exposures required to cause adverse effects in laboratory animals were much larger than the highest measurements available on the Camp Lejeune water supplies,
- evidence that humans have lower sensitivity to the solvents than rodents,
- epidemiologic data largely from occupational settings with higher, longer-term exposures to the two solvents that has not generated compelling evidence of adverse health effects; and
- the relatively short-term, intermittent nature of the exposures incurred at Camp Lejeune.

While the panel members differed in their view of whether adverse health effects could have occurred as a result of the contamination, there was agreement that scientific research is unable to provide more definitive answers to that question. The panel recommends, nevertheless, that ongoing government studies be completed. A summary of the report is available from NAS (http://dels.nas.edu/dels/rpt_briefs/camp_lejeune_final.pdf).



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