

Is Cancer News A Health Hazard?

Media Coverage vs. Scientific Opinion on Environmental Cancer

Major findings:

■ **An Apple a Day...** Scientists rate diet and sunlight as greater cancer threats than chemicals, pollution, food additives, pesticides, or radiation. *Page 3*

■ **...Brings an Alar Scare** Chemicals and food additives each got more media coverage than diet and sunlight combined. *Page 2*

■ **Experts Take Exception** News accounts and scientists disagree on a cancer epidemic, animal testing, and the dangers of low doses. *Page 3*

■ **Trust but Verify** Only 22% of scientists trust the *New York Times* for cancer news. Only 6% trust network TV cancer news. *Page 5*

■ **Risky Reporting** Most scientists say the media overstate the cancer risks of pollution, nuclear plants, and food additives. *Page 4*

How do the media cover the causes of cancer in the environment? This month, *Media Monitor* analyzes environmental cancer news over the past two decades. In a special feature, this issue also compares the media portrayal of cancer risks with results from a survey of scientific opinion.

Cancer is big news. This year the network evening newscasts have aired more stories about cancer than any other health problem, including AIDS. But fears of cancer-causing agents in the environment have been making news ever since the federal government announced a "war on cancer" two decades ago. The newsworthy controversies over environmental cancer since then have ranged from Three Mile Island to Times Beach, and from Agent Orange to Alar. But how reliable has this news coverage been? To find out how well the public is being informed about cancer risks, a team of researchers (see box p. 5) compared the opinions of scientific experts with the information appearing in major media outlets.

To find out how the major media have covered environmental cancer, we examined all stories that appeared from 1972 through 1992 on the ABC, CBS, and NBC evening newscasts, and in *Time*, *Newsweek*, and *U.S. News and World Report*. We also included all prominent articles (those appearing on

(continued on page 2)

the front page of any section) from the *New York Times*, *Washington Post*, and *Wall Street Journal*. The entire sample consisted of 1,147 news items, including 794 television stories, 54 news magazine pieces, and 299 newspaper articles.

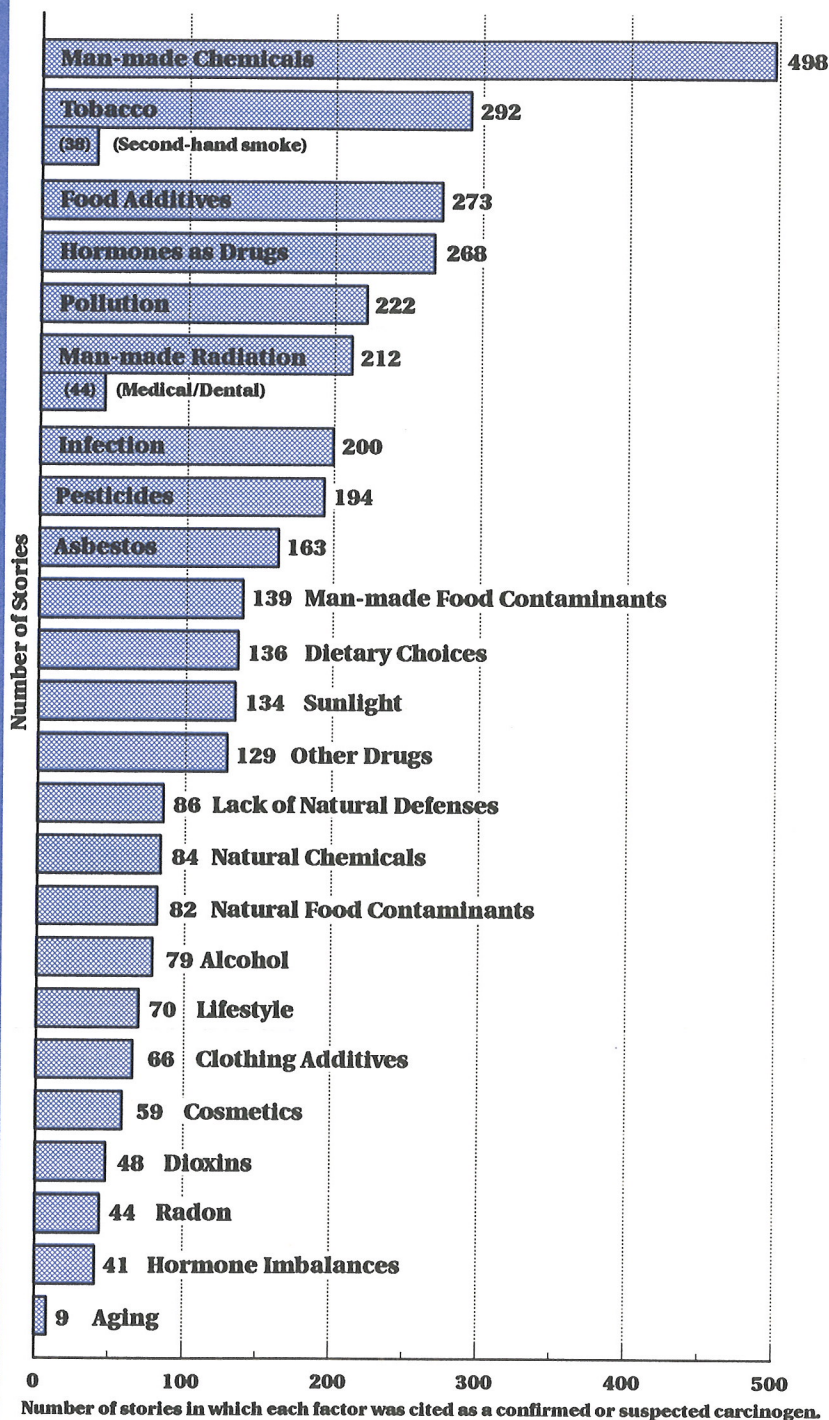
We noted every statement by a reporter or news source identifying a confirmed or suspected cause of cancer. Then we tallied the number of times each factor was mentioned. The result: The media paid far more attention to man-made chemicals than to any other cancer agent, including tobacco. Even after excluding all references to large categories of chemical substances such as pesticides and food additives (which were tallied separately), artificial chemicals were cited nearly 500 times, over half again as often as all forms of tobacco combined (498 vs. 292).

Appearing nearly as frequently as tobacco were food additives such as dyes, preservatives, and sweeteners (273); and reproductive hormones used as drugs, such as birth control pills (268). The ten most visible suspected cancer agents also included air and water pollution (222), man-made radiation (212), viral infections including AIDS (200), herbicides and pesticides (194), asbestos (163), and other artificial food contaminants, such as growth hormones fed to animals.

Scientist Survey

How well does this media portrait convey the best scientific knowledge about the environmental causes of cancer? To determine expert opinion, we surveyed over 400 leading cancer researchers, who were selected randomly from the American Association for Cancer Research (see box p. 3). Of those interviewed,

What the Media Say Causes Cancer 1972-1992
















92 percent said that they were currently involved in research on the causes or prevention of cancer. A majority had published 50 or more articles on these topics in peer-reviewed journals. In addition, 90 percent described their principle professional position as that of faculty member or researcher.

The factors stressed by these cancer experts differed sharply from the dangers reported most frequently by the national media. They were asked to rate environmental factors on a scale from zero to ten, according to how many human cancers each caused. Ninety-six percent rated tobacco smoke as a "major" cause of cancer, defined as a rating of seven or higher. Sunlight was named as a major factor by 54 percent and dietary choices by 52 percent. But only 26 percent of the scientists expressed that level of concern about either air and water pollution or herbicides and pesticides. And only seven percent considered either nuclear power or chemicals in the home to be major cancer risks.

Conversely, the factors that most experts regarded as only "minor" cancer agents (with ratings from zero to three) included food additives and preservatives (57%), household chemicals (62%) and nuclear power (73%). In ratings of specific substances, these experts described such notorious chemicals as EDB, Alar, and DDT as less important causes of cancer than aflatoxin, a fungus found in peanut butter. Just as notable were the factors emphasized by the scientists that received less emphasis in the media. Apart from tobacco, only sunlight and dietary choices were cited as major causes of cancer by a majority of experts. Neither made the media's top ten list, and both sunlight and diet combined received less coverage than food additives.

What Scientists Say Causes Cancer*

		Major Cause
Smoking Tobacco		96%
Sunlight		54%
Diet		52%
Second-hand Smoke		42%
Chemicals in Workplace		37%
Sexually Transmitted Disease		28%
Pesticides and Herbicides		26%
Air and Water Pollution		26%
Infectious Diseases		14%
Drugs (Medical)		13%
Food Additives, Preservatives		10%
Medical Radiation		10%
Chemicals in The Home		7%
Nuclear Power		7%

*Percentage rating each factor as seven or higher on a scale from zero to ten, in terms of its contribution to human cancer rates.

Sampling Procedures

The sample of cancer experts was drawn from the current membership list of the American Association for Cancer Research. The Roper Center for Public Opinion Research interviewed 401 scientists, selected randomly from all active AACR members who listed either carcinogenesis or epidemiology as their field of specialization. Interviews were conducted by telephone during January and February, 1993. Sampling error in the survey is +/- five percent.

Thus, the experts generally assigned lower priorities than the media did to artificial substances and the products of industrial activities, while paying more attention to life-style choices such as smoking, diet, and sunbathing.

News vs. Science

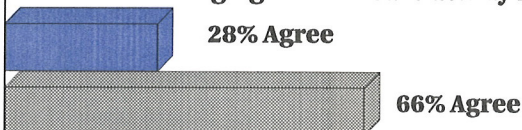
Media coverage of several scientific controversies also came down on the opposite side from the experts whom we surveyed. For example, six out of seven sources quoted in the media agreed that the U.S. faces a "cancer epidemic," an opinion shared by fewer than one in three scientists in the survey. Similarly, two out of

Cancer Controversies: Scientists vs. Media

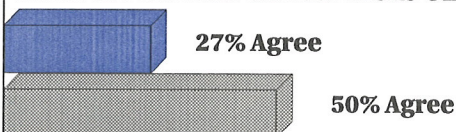
U.S. Faces a Cancer Epidemic



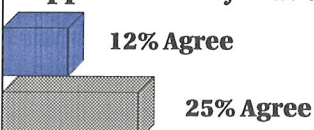
Cancer-causing Agents Unsafe at Any Dose



Can Base Human Cancer Risks On Animal Tests



Support Delaney Clause



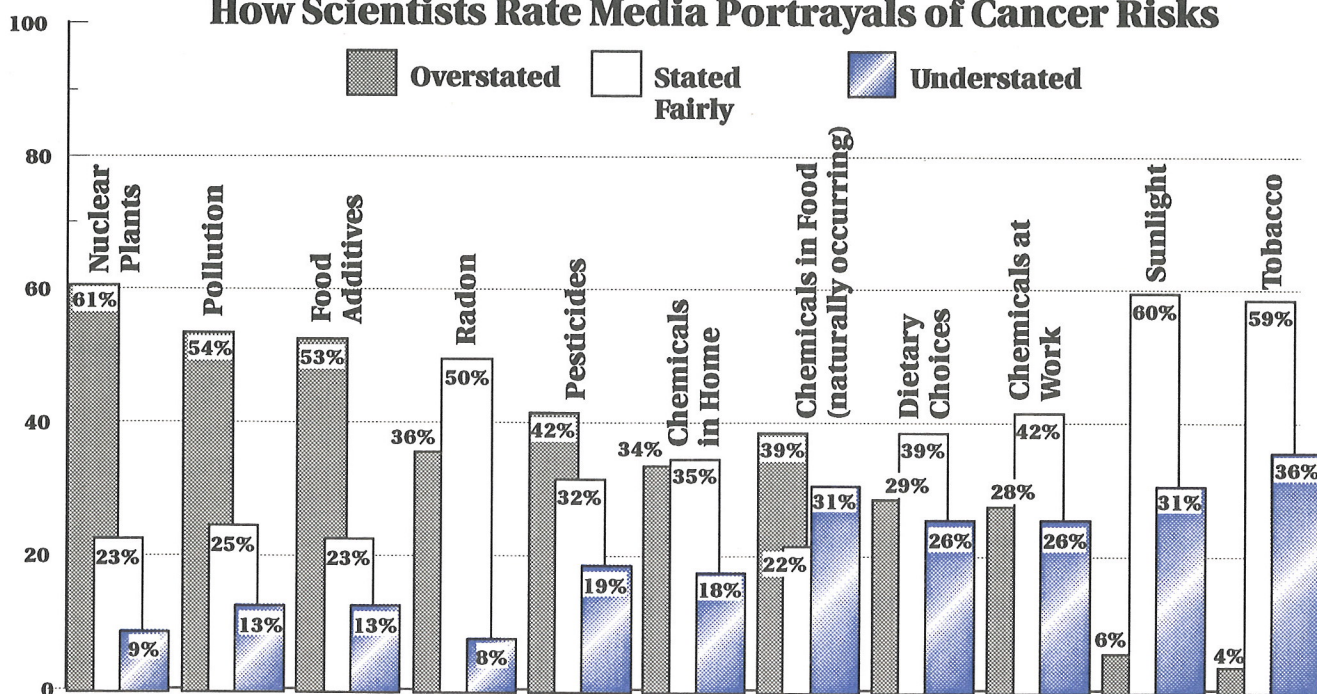
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Scientist data based on survey of 401 members of AACR; media data based on opinions expressed in nine national media outlets.

three news sources stated that cancer-causing agents are unsafe at any dose, while nearly two out of three scientists rejected this view. A similar proportion of scientists rejected the validity of animal testing to assess human cancer risks, while media sources were evenly divided. However, both the scientists and the news sources agreed in rejecting the premise of the so-called Delaney Clause, i.e., that substances should be banned if they are ever shown to cause cancer in any species.

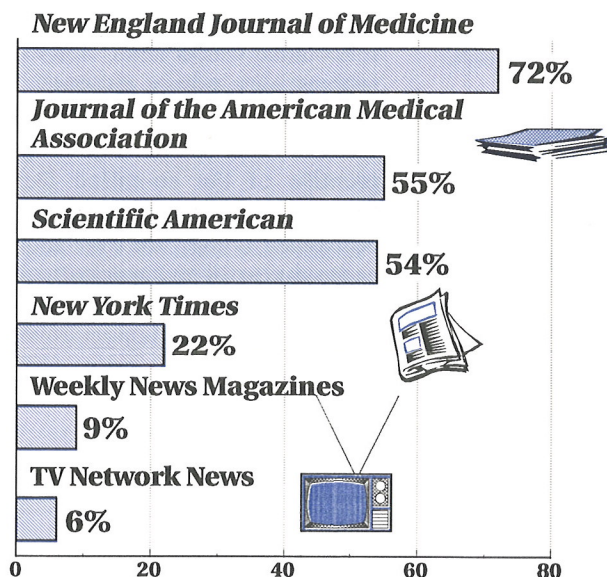
Rating Media Coverage

The different priorities that journalists and scientists assigned to various cancer agents was reflected in the scientists' own opinions of the news coverage. They regard the media as overstating many of the risk factors associated with environmentally-induced cancer. Majorities held that the media overstate the cancer

How Scientists Rate Media Portrayals of Cancer Risks



Scientists Who Trust Cancer Information From:



Note: Percentage rating each outlet as seven or higher on a zero to ten scale of reliability.

risks associated with nuclear plants (61%), pollution (54%), and food additives (53%). Pluralities also held that the risks of pesticides (42%) and chemicals in foods (39%) were overstated. Majorities found the media portrayal of risk to be accurate in the case of sunlight (60%), tobacco (59%), and radon (50%). Pluralities agreed with regard to dietary choices (39%) and household chemicals (35%), although nearly as many (34%) found the risk of these chemicals to be overstated.

Rating Cancer News

Consistent with their criticisms of news about environmental cancer risks, many scientists expressed doubt about the reliability of national media accounts. Only 22 percent of the scientists rated the *New*

York Times as a highly reliable source of information on environmental cancer (seven or higher on a ten point scale). By contrast, 30 percent rated America's newspaper of record as unreliable (three or lower on the scale). On the same measure, only nine percent trusted the news magazines, and only six percent would rely on information from the network news programs. By comparison, 54 percent rated *Scientific American* as highly reliable.

This project was conducted jointly with several other research institutions, including the Center for Science, Technology, and Media in Washington, D.C.; the Roper Center for Public Opinion Research at the University of Connecticut; and the Center for the Study of Social Change at Smith College, which sponsored and coordinated the project.

Journalists Respond:

Often we're just doing our duty in following the activism of environmentalists... then it gets taken up in Congress and we have to cover it.

-Nicholas Wade
Science Editor
New York Times

We report what other people do in studies. If you're a doctor, you don't get funding to report that asbestos causes cancer.

-Curt Suplee
Science Editor
Washington Post

There's a widespread feeling that the media have made too much of things like Alar and dioxin, which is debatable, but I don't think we've ignored these other things.

-Charles Alexander
Science Editor
Time

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