The Harvard School of (Unscientific) Public Health (Activism)

By ACSH Staff — January 27, 2010

The Harvard School of Public Health (HSPH) has now firmly established itself not as an institution for higher learning, devoted to educating students about the science of preventing premature disease and death, but instead as a hotbed of pseudoscience and political agitation.

I received two degrees from the Harvard School of Public Health in the late 1960s and early 1970s and am chagrined that it has transmogrified itself from a top-notch teaching facility to a cult of environmental activists. (It's not just a change in the broader culture: The Yale School of Public Health, from which I also received an advanced degree, seems to have completely avoided such a fate -- sticking to sound science and avoiding hyperbole about environmental risk.)

Take, for example, the article "How Dangerous Are Plastics?" (as the print version of this piece [1] was called) in the winter issue of the Harvard Public Health Review. The piece is a disgrace to the science of public health because it places at center stage purely hypothetical health risks -- from plastics-related chemicals called BPA (bisphenol-A) and phthalates. I regret the author and editors did not heed the advice of another Harvard professor, Dr. John Graham, former head if the Harvard Center For Risk Analysis, who wrote in 1994: "phantom risks and real risks compete not only for our resources but also for our attention. It's a shame when a mother is worried about toxic chemicals and yet her kids are running around unvaccinated and without bicycle helmets."

Even before this scientifically misguided article, HSPH un-distinguished itself in 2005, giving its highest award for public health achievement (the Julius B. Richmond Award, named after a former U.S. Surgeon General) to paralegal Erin Brockovich, whose claim to fame was that she was instrumental in a successful lawsuit against a California utility company. She claimed the utility was causing exposure to chromium-6 through the local tap water, resulting in myriad illnesses, including cancer, in the community. Her claims were never scientifically verified. Indeed, there was no evidence of excess illness in the community -- but her lawsuit against the utility was successful, and Brockovich was rewarded for her legal efforts to the tune of $2 million. These successful litigation efforts, rooted in junk science, caused HSPH to dub Brockovich someone who had "promoted and achieved high standards for public health."

It is no mere handful of outside cranks pushing the school in this direction. The review article attacking BPA and phthalates was written by associate editor Larry Hand, and distinguished Harvard professors are quoted about the alleged danger of plastics. Yet, despite the presence of quotes from academics, the article is a scientific travesty and an embarrassment to mainstream public health.

• It begins with the premise that plastic poses a risk to public health (that much was clear from the
title) even without presenting good evidence for the claim.

• It is alarmist in tone and uses standard fear-inducing rhetoric such as a talk of an impending "nightmare scenario."

• It only presents the views of scientists who believe that plastic products are posing health hazards, particularly to unborn babies and young children.

• It enthusiastically embraces animal tests as reliable predictors of human risk.

• It does not consider the significant health benefits of BPA or phthalates use -- and is silent on the subject of what a safe and effective alternative, if any, might be.

• It unquestioningly accepts the "precautionary principle," the green philosophy best summarized as "When in doubt, throw it out." That is, if there is even a suspicion of a problem, get rid of it (difficult in a world where every chemical at some points falls under activists' suspicious glares, evidence notwithstanding).

• It calls attention to a phantom health risk while scientifically documented, real health risks abound and demand the attention of concerned -- and busy -- health experts.

**BPA**

BPA, the article's first target, is an industrial chemical (used for more than fifty years) that serves as a raw material in the manufacture of polycarbonate plastics, many used in consumer products that come in contact with food such as beverage containers, infant feeding bottles, plastic dinnerware, and plastic storage containers.

BPA is also used in the lining of cans to prevent food spoilage that can lead to bacterial infection, putting people at risk of botulism.

Multiple studies have confirmed that whatever BPA does migrate from these products is at an extremely low level and, as Dr. Michael Kamrin of the Institute of Environmental Toxicology at Michigan State University writes on Medscape (2004), "it is very unlikely [2] that humans, including infants and young children, are at risk from the presence of BPA in consumer products."

The Harvard article (a) raises anxiety about BPA by stating that it can be found in human tissue (blood, urine) but does not inform us that the mere ability to detect a substance does not translate into it being a hazard; (b) speculates that our exposure to BPA could lead to a "nightmare" scenario whereby we suffer a variety of different diseases and discover "it is too late to reverse the effects"; (c) points to animal tests that conclude BPA causes brain, breast, and prostate abnormalities -- not to mention infertility and "feminization" of male organs -- but does not explain that animal tests, while essential to biomedical research, are conducted with very high doses that are very dissimilar to human levels of exposure -- and are not reliable in predicting human risk; (d) cites various locations, including Canada, in which BPA has been restricted, without ever raising the real possibility that such bans were based on political science, not medical science; and (e) neglects to tell us that the safety of BPA has been affirmed by a diverse group of agencies and regulatory bodies including the U.S. National Toxicology Program, the U.S. Food and Drug Administration, the U.S. Centers for Disease Control, the European Food Safety Authority, Japan's
National Institute of Advanced Industrial Science and Technology, Germany's Federal Environmental Agency, the European Food Safety Authority, and the European Commission's Scientific Committee on Toxicity, Ecotoxicity, and the Environment (among others).

Even a long-awaited statement from the current Food and Drug Administration (released on January 15, 2010, after the publication of the Harvard article) reaffirmed the safety of BPA by not banning it or requiring labels, and noting "Studies employing standard toxicity tests have thus far supported the safety of current low levels of human exposure to BPA." Earlier FDA statements had also confirmed the safety of BPA. The January 2010 statement went on to say, "However, on the basis of results from recent studies using novel [emphasis added] approaches to test for subtle effects...[the FDA] has some concern about the potential effects of BPA." Read the adjective "novel" as meaning outside the mainstream scientific methodology for testing safety. The expression of "some concern" based on "novel" research approaches led many in the media to serve up stories stating that the FDA had done an about face on the safety of BPA, which simply was not true.

**Phthalates**

The Harvard article then turns its attention to another allegedly dangerous plastic component, phthalates. Phthalates are chemicals that are used to make plastic flexible and also have been widely used for more than fifty years [3] in everything from shower curtains to rubber duckies, personal care products, and, crucially, medical devices [4].

Although there is no reliable evidence that phthalates in consumer or medical products have ever hurt anyone, the Harvard piece suggests they are insidious -- particularly when babies and children are exposed. But the effects of phthalates have been extensively studied by several U.S. government agencies, including the Consumer Product Safety Commission and the National Toxicology Program. In 1999, the American Council on Science and Health assembled a Blue Ribbon Panel of physicians and scientists, chaired by former Surgeon General Dr. C. Everett Koop. The panel, after a thorough review of the literature, gave the family of chemicals known as phthalates a clean bill of health.

The Harvard article has a puzzling commentary on phthalates in medical tubing -- when used with babies and children. The author cites a Harvard professor of obstetrics and gynecology as saying that phthalates "leach from the medical devices and enter the infant's body -- with potential effects that may not show up for years." But he also adds that phthalate-containing tubing is "lifesaving and important." Which of course it is. Phthalates have played a key role in health care -- replacing rigid tubes -- since the 1950s. There is no evidence whatsoever that babies or adults exposed to such tubing have suffered ill effects related to phthalates -- so why is a Harvard professor causing anxiety about them even while acknowledging that they are vital in medicine? What would he suggest that we use instead of phthalates -- and what is the safety profile of that proposed alternative, if any?

The discussion of both BPA and phthalates -- and their alleged dangers -- refers to them as "endocrine disruptors," capable of causing havoc with our hormone systems and leading to cancer, infertility, and more by interfering with hormones the body itself produces. But the article
neglects to tell us that we are exposed through our diet to estrogenic substances (substances having an effect similar to that of the human hormone estrogen) found in many plants. Dietary exposure to these plant hormones (phytoestrogens) is far greater than any "hormone effect" of phthalates or BPA. No health effects have been associated with the overwhelming majority of these dietary exposures.

In addition to emphasizing the questionable concept of BPA and phthalates as "endocrine disrupters," Harvard cites truly questionable studies, often of unknown origin, for example "one study that linked BPA exposure to recurrent miscarriage among Japanese women" and another which "associated prenatal BPA exposure with more aggressive and hyperactive behavior in girls at age two." A single study for each such claim? This is embarrassing coming from a school that should be teaching that one study does not a conclusion make.

Author Larry Hand may have thought he was lending balance when he cited the views of the American Chemistry Council’s chief BPA scientist, Steven Hentges, who proclaimed that BPA is safe as used. But this attempt at "balance" only served to reinforce an unrealistic and misleading dichotomy in which there are only two sides to the question: Harvard scientists versus "industry." In reality, numerous American scientists would testify that BPA and phthalates are safe, but they are the silent majority of U.S. scientists, rarely featured in media stories as they quietly watch the decline in scientific standards from the sidelines -- fearful of the criticism they would receive if they dared to speak the truth.

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