

RISK

The “science” behind the surgeon general’s latest report on secondhand smoke does not support officials’ claims.

Stoking the Rigged Terror of Secondhand Smoke

By **GIO BATTA GORI**

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While there is agreement that smoking cigarettes, like most pleasures, is risky, the zealous people who wish to abolish smoking could not have mounted the current antismoking crusade without playing up the risks of so-called “secondhand smoke”—or, what the scientific literature calls environmental tobacco smoke (ETS). Under the flag that the end justifies the means, the purported risks posed by ETS have been used to justify draconian regulations that criminalize and marginalize lawful citizens, pitting children against parents, spouses against spouses, and people against people to the point of raising homicidal animosities against smokers.

Last July, the U.S. surgeon general released its latest report on ETS, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*. As usual, it is not a primary study but a summary of selected previous studies. The report shows once again the antismoking crusaders’ successful seizure of the surgeon general’s authority, much as it happened for previous ETS reports issued by the U.S. National Academy of Sciences, the Environmental Protection Agency, the World Health Organization, the UK Royal College of Physicians, and other authorities.

At the press conference introducing the report, then-surgeon general Richard Carmona personally ventured the absurd assertions that “there is no risk-free level of secondhand smoke.”

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exposure,” that “breathing secondhand smoke for even a short time can damage cells and set the cancer process in motion,” and that, for children exposed to secondhand smoke, “eventually, they’ll develop cardiovascular disease and cancers over time.”

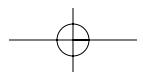
Of course, without the time to analyze the studies themselves, the surgeon general has to trust what words others put in his report. Yet, on careful reading, those horrific claims are not supported by the studies reviewed in the report, even on assuming that the studies might be trustworthy.

FATAL FLAWS

Claimed ETS risks are reported with a precision of two decimal points—1.21 for lung cancer, according to the latest surgeon general’s report. Such a precise assessments of risk, or of anything else for the matter, must fulfill some careful, analytical requirements. First, care must be taken to ensure that what is measured is, indeed, what is claimed to be measured. Second, measurements must be accurate within an explicit margin of error. Third, the results cannot be explained by alternatives. And finally, repeated studies should yield consistent, reproducible results. Such are not only the requirements of scientific observations, but of commonsense evidence as well.

In assessing ETS risk, studies would have to compare groups of nonsmokers that had been either exposed or not exposed to ETS. Yet, persons with no prior exposure to ETS are virtually impossible to find, and it is only possible to utilize nonsmokers who have been more or less exposed.

Simply having been exposed to ETS could not be the basis of risk estimates, however. Risk could only be deter-



mined in relation to the biologically effective doses that people internalize, as the surgeon general report confirms. Such doses cannot be derived from exposure data without knowing the simultaneous rates of individual inhalation and metabolic transformations.

Effectively, those rates cannot be measured and cannot be known because they vary continuously and independently from location to location, moment to moment, day to day, year to year. The changes are rapid and chaotic, and make it impossible to obtain cumulative measures over time. The recent surgeon general's report avoids any discussion of this issue, with the tacit admission that the absolutely crucial measurements of biologically effective doses are impossible — an admission that is alone sufficient to disqualify any representation of the small risks claimed.

Indifferent to this capital impediment, the surgeon general's report keeps insisting on exposure as a determinant of risk, despite describing in some detail the many insurmountable obstacles to its assessment. The report even admits that studies directed at validating exposure "showed a high degree of

repeatability for questions concerning whether a spouse had smoked, but a lower reliability for responses concerning the quantitative aspects of an exposure."

NON-EXISTENT MEASUREMENTS There is more. Besides issues of dose and exposure, over two dozen widespread lung cancer risks other than smoking have been reported. Thus, risk assessment studies must also determine whether the lung cancers observed are caused by those other risks, rather than ETS. How have epidemiologic studies of ETS and lung cancer coped with such fundamental problems?

Lung cancer develops slowly and generally manifests at advanced ages after cumulative lifetime experiences. Even if ETS exposure, alone, could measure risk — and it cannot — it should be measured as the sum-total of instant exposure episodes over the lifetime of individual nonsmokers. Yet, as we have noted, the myriad momentary changes of exposure over lifetimes would be impossible to track, and therefore cumulative assessments of individual exposures are materially impossible.

Still, this is what ETS studies disingenuously claim to have done. Yet how could they have generated continuous measures of exposures, starting from any person's birth through the 60–70 years needed for lung cancer to develop, as the studies claim? So impossible are those assessments that no epidemiologic study has ever measured the ETS exposures of the people observed.

Typically, instead, the studies asked 60–70 year-old self-declared nonsmokers to recall how many cigarettes, cigars, or pipes might have been smoked in their presence during lifetime since early childhood, how thick the smoke might have been in the rooms, were the windows open, and similar vagaries. The resulting answers — usually elicited in a few minutes as part of an interview, a phone survey, or by proxy recalls provided by relatives of deceased persons — are then recorded as precise numerical measures of lifetime exposures, as if the digits recorded were error- and bias-free.

In reality, it is well known how difficult it is to remember what one ate a week ago, never mind 20 years ago or during childhood. It is transparently impossible to summarize from a few momentary and vague recalls, and with an absurd expectation of precision, the total exposure to smoke over the 50–60 years of a prior lifetime. The plain truth is that no credible measure of ETS exposure has ever been possible. Therefore, epidemiologic studies of ETS have produced statistical estimates of risk based not only on improper exposure data, but also on exposure data that are illusory.



RISK

UNCONTROLLED VARIABLES Even assuming that ETS exposures could be measured and could be used to assess risk, the 20 percent lung cancer risk elevation claimed by the surgeon general and others is still not credible because the studies have not accounted for the likely interference of a whole series of known lung cancer risks, and for prejudices and biases that are inevitably present.

For instance, people with lung cancer are more prone to amplify their recall of ETS exposure than those who are disease-free. Other respondents will fib about being nonsmokers and thus will contaminate the results. More than two dozen independent risk factors for lung cancer are reported in the professional literature, and over 200 for cardiovascular diseases, yet the studies fail to control credibly for those risk factors in studies of ETS.

There is also reason to suspect publication bias. Studies reporting an elevation of risk from ETS likely are preferentially published, while studies reporting no risk or risk reduction are disregarded. Thus, the claimed small risks for lung cancer and other diseases are doubly illusory because of alternative explanations that were not, and could not be, calculated and corrected.

ABSURD METHODOLOGY It is no surprise, therefore, that different studies have produced contrasting results. Of the 75 published studies of ETS and lung cancer, some 70 percent did not report statistically significant differences of risk and are moot. Roughly 17 percent claim an increased risk, and 13 percent imply a reduction of risk. Thus, reported studies do not offer consistent results, and overall cannot be interpreted for or against risk.

The overwhelming majority of ETS studies do not claim risk on the basis of higher or lower frequency of lung cancer in relation to higher or lower exposures to ETS. Rather, groups of self-declared nonsmokers, all with lung cancer and exposed to ETS, have been compared to groups of self-declared nonsmokers without lung cancer, and also exposed to ETS. As a generic example, some studies may have found that nonsmokers without lung cancer recalled ETS exposure at a standardized rate of 100, while nonsmokers with lung cancer recalled exposure at a standardized rate of 120. Without discernible logic or rhyme, the studies and the surgeon general's report assume that a report of 20 percent more exposure represents a 20 percent increase in risk. The mirror implausible implication is that a 20 percent difference in exposure recall — which is impossible to verify or measure in the first place — is responsible for all the lung cancer of the nonsmokers with the disease, while nonsmokers who remember only slightly less exposure remain incredibly and totally immune from that cancer.

Several studies also reported the reverse, namely that nonsmokers with lung cancer recalled less ETS exposure than nonsmokers without the disease. Should such reports carry the equally absurd implication that ETS exposure protects from lung cancer?

SOME REFRESHING HONESTY

No epidemiologic study has ever measured actual lifetime doses of ETS, nor lifetime exposures to ETS. No study has determined

the recall bias of people with lung cancer. No study could guarantee that some self-declared nonsmokers were, or had been, smokers. No study could exclude that the lung cancers observed might have been caused by many known risks and thus not by ETS. Most studies did not report differences of risk, and some implied a reduction of risk. Thus, the statistical analyses and the claimed lung cancer risks of ETS are illusory.

The abiding mystery is why so many have acquiesced for so many years, when it must have been plainly obvious that the story of ETS risks is without any testable support. The barely whispered justification is that all is for the higher goal of abolishing cigarettes and tobacco.

The antismoking crusade has studiously avoided or squelched any confrontation that could have forced the truth of ETS to emerge. That is, until the spring of 2006, when the highly competent Oxford epidemiologist Sir Richard Peto — a leading intellect of the campaign against ETS — was called to testify before the UK House of Lords Select Committee on Economic Affairs, which was inquiring with a critical eye about government policy on the management of risk, including the claimed risks of ETS.

Asked to quantify the hazards of ETS, Sir Richard replied:

I am sorry, I know that is what you would like to be given, but the point is that these risks are small and difficult to measure directly.... I am sorry not to be more helpful; you want numbers and I could give you numbers..., but what does one make of them? ...These hazards cannot be directly measured.

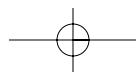
He declined any quantification of ETS risks, with the clear implication that quantification is impossible.

He then increased his distance by saying, "I do not want to be cast in the role of advocating banning smoking in public places or in private places." Pressed further, Sir Richard offered his personal belief that "I think there has got to be some risk," for which he admitted not having any testable evidence. Asked whether ETS regulation could be used to dissuade smokers from smoking, the telling answer was, "I do not want to argue for or against any rule, but there does seem to be a consensus that it would affect the number of people who choose to smoke."

Later, commenting on the UK government's irritation with the select committee's findings, the committee's chair, Lord Wakeham, had this to say:

Nothing in our report can be interpreted to mean that we do not think that smoking is harmful or that policies to restrict it are not a good thing. It simply means that a policy to eliminate smoking in public places cannot rely, as the Government tried to, on the argument that passive smoking poses a major health risk to the public.

In their response, the Government rejects our analysis of passive smoking and attempt to undermine our conclusions by challenging the evidence in different ways. "The scientific and medical evidence of the health risk presented by second hand smoke is now well established and clear," [claims the Government]. It highlights comments in our report that "the main harm, if there is one, concerns children who are exposed to passive smoking in the home, which is something the bill is not designed to address." It highlights, too, the fact that we received evidence



from Imperial Tobacco and the Tobacco Manufacturers' Association, presumably with the intention of suggesting that we may have received biased evidence. The Government's response also quotes Sir Richard Peto's evidence to us that "the definite statement is that some people are killed by breathing other people's smoke." They fail to mention, however, that he also told us that "these risks are small and difficult to measure directly."

I stress that our objective in raising the issue of passive smoking was not to defend any kind of smoking, whether active or passive, or to say that legislation is not needed to limit smoking in public places. Our primary purpose was to emphasize a more general point: risk assessment procedures and policy formulation should always be based on a clear statement of objectives, an unbiased assessment of available evidence, and a proper regard for the impact of legislation on personal freedom and choice. Our view was that the legislation relating to passive smoking failed to consider these matters properly and that the Government should learn the appropriate lessons from their mistakes to ensure that future policy responses are transparent, evidence-based and proportionate. Judging from the tone of the Government's response to our comments on passive smoking, this lesson has still to be learnt.

CONCLUSION

Should it be permissible — in an avowedly enlightened and rational society — to legislate draconian regulation solely because some high priesthood of epidemiology thinks there might be some ephemeral risk, without any testable clue to its quantification or probability? Indeed, who stands to gain from such a distortion? To paraphrase the French crime novel's cliché: *cherchez l'argent!* The money is good, and many in the science and advocacy of public health have been persuaded to follow the current, aware or not. It is the co-opted public money and the enormous amount of funds from nonprofits linked to industrial interest, keen to the medicinal opportunities opened by a reduced demand for cigarettes. Marketing with tax-exempt money under the guise of philanthropy — brilliant!

By any sensible account, the anachronism of the tobacco culture should be slated for extinction in an advancing civilization. Why must it happen under the tyranny of deception, when intelligent and transparent ways are available? The mild and pleasurable addictivity of nicotine and a lurking black market have continued to frustrate the abolitionist crusade, and abolition will not work in the long run.

Instead, a humane and enlightened policy would first seek to reduce the risk of smokers who cannot quit. A recipe for this policy was given almost 40 years ago by the Smoking and Health Program of the National Cancer Institute, but was quickly suppressed by abolitionist intransigence. Over four decades, this

relentless and uncaring obstruction has been responsible for untold millions of premature deaths that could have been spared worldwide. In fact, the original recipe of the National Cancer Institute was revived by a 2001 report by the National Academy of Sciences' Institute of Medicine, which also has been studiously smothered. Still, the recipe for less hazardous cigarettes is simple: in the words of the Institute of Medicine it means, "Retaining nicotine at pleasurable or addictive levels while reducing the more toxic components of tobacco." With current technology, this policy would make it feasible to reduce the risk of cigarettes by at least 50 percent in less than two years. The move would not cave in to the perpetuation of cigarettes, for it would also advertise and require a gradual reduction of the nicotine and smoke yields of cigarettes over many years, until smokers are weaned of a habit that most would like to abandon anyhow. It would be a policy of transparent advice and consent, with solid scientific and behavioral justification.

The world must protest the ongoing deceit and the squandering of public monies for rigged and incompetent ETS studies. And people should feel offended by the complicity and sham paternalism of health authorities and of profitable tax-exempt charities. Such an officially imposed tyranny has no place in countries that claim and presume to be free, enlightened, and just. We are not children, nor bumbling simpletons who need to be deceived for our own good — a deceit that is doubly grating when the wilfully flawed surgeon general's report on ETS runs against statutory requirements of "ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by a government agency."

If this fraudulent nonsense is not halted, an Orwellian world may not be far away. A redemption of ETS from its *bête noire* image now engrained in false public perceptions might appear quixotic and unnecessary. Yet, is it ever too late for pointing out that the emperor has no clothes? R

Readings

- *Clearing the Smoke: Assessing the Science Base for Tobacco Harm Reduction.* Washington, D.C.: National Academy Press, 2001.
- "Compendium of All Primary Studies on Passive Smoke and Lung Cancer" website. http://www.data-yard.net/ets_summary/index.htm.
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