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Polio Vaccine Production

In the debate between Alan W. Dove and Vincent R. Racaniello (Policy Forum, 8 Aug., p. 779) and Harry F. Hull and R. Bruce Aylward (Policy Forum, 8 Aug., p. 780) about whether or not to convert polio vaccination from oral to inactivated vaccine during the last stages of eradication, the supply of enhanced-potency inactivated vaccine is an important consideration. Currently, Pasteur Mérieux Connaught supplies most of the inactivated polio vaccine (IPV) used in the world. In our opinion, expanded production to 500 million doses per year would be feasible if enough advance notice were given, particularly in view of the likelihood that other manufacturers would enter into production of IPV.

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Clean Air Skepticism

The article by Jocelyn Kaiser about the debate over tightened ambient air quality standards (News & Comment, 25 July, p. 466) does a good job of presenting the U.S. Environmental Protection Agency's (EPA's) side of the story, but does not mention several of the scientific issues that make up the basis for widespread skepticism. Most of the new epidemiological studies have examined short-term (daily) responses, including mortality. However, because of temporal colinearity among pollutants and uncertain exposures of the putative victims, it is not possible to apportion blame among potential environmental agents with certainty (*1*, *2*). The effects of carbon monoxide have often been neglected, and the effect of particle size (if any) remains unclear (*3*). As Kaiser points out, there are also questions about the degree of prematurity of death.

Two recent mortality studies considered long-term survival rates of defined cohorts in relation to the average air pollution concentrations, as measured during periods of follow-up. Kaiser describes the first of these studies (*4*) as "convincing"; it reported that about 26% of all deaths in six U.S. cities were attributable to air pollution, thus putting air pollution on a par with smoking and implying that eliminating air pollution could have about the same health benefit as eliminating all human cancers, for example. Kaiser quotes me as allowing that a systematic gradient in lifestyle across the six cities "might" account for the mortality gradient that was attributed to air pollution. Such a regional gradient in physical activity exists (*5*), and its implied effect on longevity is almost exactly the same as that shown in an independent study of individuals in California (*6*). Accounting for this confounding variable would leave a mortality excess of only about 5% (in the most polluted city), and this excess could well be a result of the much higher historic exposures that were present in that city (*6*). My concern is thus much more than a hypothetical "what if."

Studies that conclude that current air pollution is as lethal as smoking or cancer have omitted known confounders such as diet, physical exercise, income, and employment status, and treat nonlinear factors (for example, body mass and education) as if they were linear. The second cohort study