

## Response

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I would like to speak briefly about two somewhat related topics. The first is the need for developing a mixture of public and professional participation in arriving at policies related to immunization.

Yesterday, a variety of different points were made, including the fact that the public would like to be fully informed about all of the benefits, risks, and uncertainties of vaccines. We also heard voiced a rather contradictory desire: to have a consensus presented to the public so as not to confuse the public. This creates a basic dilemma for the participants in policy decisions, and I am not certain how this dilemma can be resolved.

Observations made during the development, testing, and use of vaccines can be considered facts or absolutes. However, there may be widely different opinions as to how to interpret those facts or absolutes, and this may result in substantial discussion and argument. It's often very difficult for the scientific community or the public to try to derive any real consensus from this discussion or argument. There is a particular problem in trying to define what is meant by consensus in terms of policy on immunization.

Should this policy be developed by referendum, for example? Should a panel of 1000 leading public members and 1000 leading scientists be established and polled as to whether measles vaccine should be given at a particular age, or whether or not influenza vaccines should be given at all? Truly, there is a need for involvement of the public as well as the professions in developing policy.

I don't believe we have yet arrived at the best solution. I don't know what the best solution is.

The second issue I want to mention briefly is the problem of trying to develop new vaccines or improve existing vaccines. If we have a vaccine such as measles vaccine, for example, which is 95% effective in providing protection, but which may be followed by encephalitis once in every million vaccinations, the question comes: how is it that one can improve upon that vaccine and know it is an improved product? From a statistical point of view, you would have to administer new vaccines to several million individuals to determine for certain whether or not the rate of encephalitis after the new vaccine was different from that seen with the existing vaccine or from what would be expected in an unvaccinated population.

Additionally, it would be difficult to guarantee in advance that the new product being tested was better than the existing vaccine in terms of giving protection. There is a clear consensus in this country, as far as one can arrive at consensus, that measles is a dangerous disease, that the existing vaccine is good vaccine, and that measles vaccination is a desirable procedure. As a consequence, in testing a new product, one runs the risk of withholding from an individual (or the public) a very effective existing vaccine which has given good protection. This is a further dilemma in trying to improve existing vaccines.