

Mr. DADDARIO. I am not talking about the effects in all instances.

Dr. WOLMAN. Yes.

Mr. DADDARIO. But in some cases we are just making assumptions and there has been no study whatever made.

Dr. WOLMAN. I think this is true. This is why I stressed the fact that these studies, difficult as they are, should be pursued. Each of your witnesses pointed out that this kind of an epidemiological look is not only time-consuming and expensive, but professionally very difficult to do.

Mr. DADDARIO. But it ought not to be passed over only because it is difficult.

Dr. WOLMAN. No. I say it is an area that needs tremendous emphasis if for no other reason than either you assume that it has no impact or you assume it won't have. Either reason is a valid reason for exploring it.

It is stated, for example, that the rise in emphysema in our country is due to air pollution. However, it is also stated by competent medical profession that their evidence indicates the contrary, that two things have happened, that emphysema has increased tremendously in parallel with increased smoking by women and greatly with men because smoking has not yet been materially reduced.

However, if one talks to the British, as I have again this past June, they feel that emphysema in England is very closely related to air pollution. They point out that people on the Continent, the rest of the industrialized Europe, do not have the same disease situations that London, Birmingham, and Manchester areas have. This disease is known as "the English disease." It does not occur in large numbers anywhere else in Europe.

This is a very interesting thing. It is another example where the extrapolation from London to the rest of the United States or to the rest of Europe may not be warranted. But this is a simple explanation of what I still think needs a very, very detailed look.

The next problem is the question which comes up again and again on systems analysis, models, and computers.

I think, Mr. Vivian, you came in after I had described what I considered to be the first fine study in the Delaware estuary. It was an exemplification of the tremendous value of systems analysis over the last 2 years in the use of mathematical models and, of course, the computerized values that went with it.

It would not have been possible to have disclosed the alternatives presented by these more modern procedures. They were used, at least in this field, extremely carefully and extensively, and incidentally very intelligently.

This provided a policymaking group with almost dozens of answers that you normally would not have been able to do anything more than guess at and probably guess at erroneously. This kind of study needs to be done on a very much wider basis geographically throughout the United States and in many, many directions aside from estuaries. Because we have dozens of choices, this was one of the few times that you could plug them in and really find out what their impact on your answers were to be.

Reuse of waste, which is No. 13. I want to call the committee's attention to the fact that in 1960 there was supplied to the Kerr select