

Dr. MOSER. At the outset, I would like to state that I am not a clinical pharmacologist. My subsequent remarks, sir, represent my personal opinion as a practicing internist interested in the drugs I prescribe. I am not speaking for the U.S. Army Medical Department, nor for the AMA Council on Drugs, of which I am a member.

My interest in drugs has centered primarily around the problem of adverse effects of drugs, drug interactions, and related areas.

Most of the comments I am about to make are quoted or paraphrased from sections of books, chapters of books, and papers I have written on this subject in the course of recent years.

The physician and his patient are the beneficiaries of the most dramatic expansion of medical capability in the long history of our art. But the rapid proliferation of medical knowledge has not been entirely benign.

Our reverses have been minor when contrasted to our advances, but negative effects cannot be ignored or derogated.

Pertinent to this evolution of medical capability has been the improvement in quantity and quality of drugs. In the early days new drugs came in a trickle. There was time for the physician to become familiar with their virtues and idiosyncracies.

Soon the trickle became a stream and there was less time for study and reflection. The stream has now become a torrent; it is impossible for the physician to keep pace. One might say his little black bag runneth over.

It has been stated that drug-induced adverse effects are the price we must pay for more effective and better medicaments, and there can be no quarrel with this statement; it is the high price we are haggling about. The thalidomide disaster indicated how expensive it can be.

By last count there were 2,625 amelic and phocomelic children born in West Germany—these were children with extremity deformities—between 1958 and 1962. About 1,000 of these deformed children will be obliged to remain under regular prosthetic care and supervision for the rest of their lives; about 100 with the most serious deformities will remain under medical supervision the rest of their lives. Fortunately between 80 and 90 percent of the deformed children were in school by the end of 1967, and 60 to 70 percent were attending regular schools.

From the financial aspect, the Health Ministry of West Germany has spent \$2.8 million in research, treatment, rehabilitation, and developing facilities for the deformed children.

This sobering catastrophe had the effect of catalyzing international concern about adverse effects of drugs, a sentiment of rather amorphous configuration before thalidomide.

It is true that each year a mere handful of important new drugs ultimately emerge from the profusion of products offered to the physician. But it takes time and experience to sort out nuggets from gravel.

Senator NELSON. May I interrupt you, Doctor, for just a moment?

Dr. MOSER. Yes, sir.

Senator NELSON. In 1968, according to the statistics our committee has, there were 101 new drugs introduced, of which only 14 were new chemical entities, and of these five new single drugs and two biologicals had any significance. Do you have any comment to make