

Dr. Levy on May 24, 1967 he agreed that dissolution time of a tablet should be correlated with plasma or urinary levels. It is also noteworthy that Dr. Campagna's study was reported in 1963 on tablets of undefined age and Dr. Levy's article was published in 1964.

Finally, a Food and Drug Administration official was not aware of any substandard prednisone tablets reported to it or determined by the FDA itself. If your department has evidence of substandard prednisone tablets or other preparations we shall be grateful for the information.

One unrelated point—iron and vitamins are considered to be absorbed only in the jejunum. Are any drugs absorbed chiefly in the ileum or even in the colon?

Sincerely,

HAROLD AARON, M.D.

Senator NELSON. Just so I have the record straight, did we put all of Dr. Slessor's statement and the summary in the record?

Mr. CUTLER. Yes, sir.

Senator NELSON. Now, did I put Dr. Lueck's full statement in the record?

Mr. CUTLER. Yes, you did, Mr. Chairman.

Senator NELSON. I thought Dr. Lueck's statement was very professional and very valuable and informative. We are pleased to have it for the record.

I did not know whether I had asked that it be printed in full.

Mr. CUTLER. Thank you very much, sir.

Senator NELSON. Proceed.

STATEMENT OF DR. LEONARD A. SCHEELE, PRESIDENT, WARNER-LAMBERT RESEARCH INSTITUTE, MORRIS PLAINS, N.J.

Dr. SCHEELE. Mr. Chairman, my statement is very brief. With your permission, I will read it.

First, I wish to make a very brief statement concerning my background. I was a career medical officer in the U.S. Public Health Service for 23 years, serving as Surgeon General from 1948 until 1956. Since then, I have been a member of the staff of the Warner-Lambert Pharmaceutical Co. in Morris Plains, N.J., and have devoted the last 5 years primarily to administration of the company's research programs.

I shall devote my statement mainly to new drug research and development as conducted by the research-oriented companies in the pharmaceutical industry.

A recent National Science Foundation study shows that industry supports about 96 to 98 percent of its own drug research. Facing unknown odds against success because the overwhelming majority of chemicals synthesized never become useful drugs, and being self-financed, each pharmaceutical company must draw new research and development money from its own financial resources.

The key organizations for finding urgently needed new drugs for many unsolved medical problems are the research-oriented firms in the pharmaceutical industry. Currently research and development expenditures for a successful new single chemical entity drug product range from \$500,000 to \$10 million—with an average estimated cost per new drug discovery of about \$7 million during the period 1957-66. From the point of discovery it takes from 4 to 10 years to develop and market a new drug product. Obviously, the successful product must pay for the hundreds of costly efforts that failed along the way.