upon a number of limited occasions in the past and the firms affected have chosen to have a hearing.

There is no question that the more stringent provisions of the Kefauver-Harris amendments were intended to require sponsors of new drugs to conduct more meaningful research which will lead to improvement in the drug supply. In many cases the improvement is already becoming evident. This is one of the beneficial results of the passage of the amendments by the unanimous vote of the Congress in 1962. And I might add that the improvement is taking place without damaging the industry as some of its spokesmen warned would happen—and occasionally still do. The drug industry is healthy, viable, and growing.

Mr. GORDON. Dr. Goddard, the material submitted, as I understand it, has to show only that the drug is more effective than nothing, than a placebo, and not more effective than another drug, is that correct?

Dr. GODDARD. We are barred by Congress from determining relative efficacy, but it is not quite as simple as saying more effective than nothing. Now, a drug that was only 10 percent effective against a serious condition—in 10 percent of the cases the patient benefited—for instance, if the drug were to be used against cancer, we would approve this drug, even though it had limited effectiveness. Now, 10 percent effectiveness on a new tranquilizer—what would your feeling be there, Dr. Ley?

Dr. LEY. There would be very little probability of that drug having really demonstrated effectiveness. "Beyond reasonable doubt," I believe is the phrase utilized in such decisions.

Mr. GOODRICH. That is, substantial evidence upon which it can fairly and conclusively be divided that the drug will have the effect claimed in the labeling.

Senator NELSON. Have you departed from the text of the law now?

Mr. GOODRICH. No, sir; I have not. My point was that in this area of relative effectiveness, although Congress said we were not to make that type decision in allowing the drug to go on the market or not, they also made the decision that where a drug claimed in its labeling that it was a superior product, there would have to be substantial evidence that it would actually perform in that way.

Senator NELSON. I realize this gets into a very difficult area. But supposing a New Drug Application issued on a drug to combat a serious disease, say pneumonia, is only half as effective as a dozen others on the market and is not misrepresented by the marketing firm. What do you do about that?

Dr. GODDARD. Dr. Ley?

Dr. LEY. This is a matter of balancing the benefit obtained from the drug with the risk of using it. If it has some unusual characteristic that makes it useful in a group of infections which other drugs may not be useful in, the decision is very clear. It depends also on the side effects observed with the drug, that is, if your benefits are less, if you have less risk of damage due to the drug, the balance may be in favor of approval of the application.

Senator NELSON. I am thinking of a case which may not occur very often where you have a drug to treat a serious condition. There is no problem of side effects, but there is a question of efficacy. It takes twice as long for this drug to have the proper effect as it does for another