We also know from the studies of others that if overweight patients are reduced, their insulin resistance also is reversed. It is thus illogical to do anything which will increase the obesity and in turn to add to the insulin resistance of our patient.

The UGDP studies showed clearly that that actually is what happened in the group given tolbutamide and in the two given insulin. In all of the five groups there was a loss of about 3 percent of the body weight initially, as a result of the moderate dietary restriction which they were all given. The placebo group and the phenformin group, maintained this loss throughout this study. But, in this, the phenformin group was actually no better than the placebo. On the other hand, patients in both the tolbutamide and the two insulin groups, not only regained the weight initially lost, but gained well above their original baseline. So, there is a considerable difference in the study between the weight of those receiving insulin or sulfonylureas as opposed to the placebo group.

What are the other options available to us in 1975. And I see them as follows:

First, in the September 18 hearing before this committee last fall, Dr. John Davidson gave his experience in withdrawing oral agents from 1,500 patients at the Grady Hospital in Atlanta. As you heard yesterday, he has reported further on his experience in the May 26 issue of the Journal of American Medical Association, and I suggest that this article be part of the record of this hearing. By a comprehensive and rigorous regimen which included 25 hours of education per patient, he has been able to achieve substantial weight reduction in 50 to 90 percent of the patients and has essentially reversed their overt diabetic state. This is something quite different from the token prescription of a diabetic diet of which most of us have been guilty. He maintains that all diabetic patients who are overweight when they present themselves can be controlled without use of insulin, if they are given such a regimen, and, remember that this constitutes 50–80 percent of the group of maturity-onset diabetes that we are talking about.

Yesterday somebody asked me, well, if insulin is so contraindicated in this group of patients, shouldn't we have a package warning for insulin as well, against its use in the overweight diabetic? If you think about it, there really should be such a warning. So, perhaps, when Commissioner Schmidt gets done with the oral agents, he can rewrite the package label for insulin.

Second, there are more rigorous means of achieving weight loss. Dr. Davidson and others have sometimes initiated therapy of the seriously obese diabetic with brief fasting. There are now new techniques of modified, so-called protein sparing starvation that can accomplish weight loss without a damaging loss of body protein. These regimens sometimes very dramatically reverse the overt diabetic state as well. They have been proven in early pilot work to be a useful adjunct for initial weight loss. I would emphasize that must be done under supervision and we have much more to learn about them.

Third, there is a whole new field of behavioral self-modification as applied to both eating and physical activity, which can help a patient modify his basic lifestyle. Parenthetically the blame for