

THE CVD DINNER

3 December 1971

First, on behalf of my colleagues and myself, I want to thank Arthur Hyde for conceiving of a dinner reunion and for carrying through so that we now sit happily together, our hearts pumping a rich brew from a splendid dinner. And, too, I want to thank Dr. Carleton Chapman for making a hard trip to talk to us tonight. Finally, I want to thank all of you guinea pigs for your cooperation over nearly a quarter of a century.

Arthur Hyde's invitation to some guests here said I would talk and, I quote, "cover the fundamental concept of the CVD Group Research Project and its findings, also its extension to several other countries, and a comparison of the results." To fulfil that promise literally, I should talk for an hour and show several dozen lantern slides. But I think Arthur and you, his guests, will be happier if, in a few minutes, I simply touch on what seem to me to be some highlights.

Back in 1947, when this research program was started, heart disease was a major scourge, as it is now, but the overwhelming dominance of coronary heart disease was scarcely recognized and practically nothing was being done about it. A year later the American Heart Association was re-organized as a voluntary health agency and the first National Heart Fund campaign was conducted in February 1949. The U.S. Public Health Service first set up a National Heart Institute and began to support research on heart disease in 1947; one of the very first grants came to us in Minnesota in response to our application for help with a new kind of research program.

Our idea was simple. Though data were scanty in those days, it was clear that if we examined in detail a group of "healthy" middle-aged men and kept checking them over the succeeding years, eventually quite a few of them would develop coronary heart disease. Then we could go back to the earlier examination files and try to find in what ways those men differed, when they seemed to be perfectly healthy, from their fellows who stayed well. In that way, we hoped to find clues to the causation and the possibility of prevention.

When we invited you to join the CVD group, we focussed on business and professional men because it was then thought that such men are unusually prone to heart attacks. That idea was wrong; it is now clear that business executives are no more and probably are less apt to have heart attacks than the men below them on the socio-economic ladder.

And in selecting men into the CVD study we gave preference to the most overweight men available because it was then thought that such men would be far more apt to have heart attacks than normal or thin men. That idea was wrong too. We and others have found that overweight does not predispose to heart attacks unless it also produces high blood pressure. So hypertension is the real danger.

To these two mistakes we added a third. We did not make the refined statistical forecasts that would have shown us that we really needed a thousand instead of only 300 men in the CVD study group. The number 300 was as many men as we could cover with the budget we proposed in our application to the Public Health Service. In retrospect, our plans should have been much more ambitious and our budget much less modest.

A few months ago we published a major report titled "Mortality and Coronary Heart Disease among Men Studied for 23 Years." That means you, the CVD group, and the whole thrust concerns the 60 men in your group who developed coronary heart disease under our eyes, so to speak. We had to wait until 1970 to have enough cases, 60 men, to make it possible to carry out a sophisticated analysis. If we had started with a thousand men, by 12 or 15 years ago we would have been where we are now.

We started with too few men but our proposed approach to the coronary problem was later taken up directly by the Public Health Service which, with a budget many times ours, organized the Framingham Study covering some five thousand men and women. The entry examinations at Framingham were finished in 1950 and the subjects were re-examined thereafter every two years. The idea spread and now there are half a dozen other similar programs operating in the United States. In recent years we have been pooling some of our data in the United States so as to have numbers large enough for special analysis.

The CVD study in the Twin Cities was not only the forerunner for studies now covering some 7,000 men in the United States. It led to parallel programs in seven foreign countries. During a sabbatical year in Europe, it appeared that much could be learned by comparing different populations in regard to the incidence of coronary heart disease. Explorations, one-shot comparisons, in the year 1952 through 1956 in Europe, South Africa and Japan increasingly pointed to big differences between populations in the frequency of heart attacks, differences clearly related to blood cholesterol levels that seemed to be explained, at least in part, by dietary differences.

Finally, in 1957 it was possible to start long-term studies, patterned after your group, in other populations, including several thousand U.S.

railroad employees enrolled by Dr. Henry Taylor. So now we are working with findings from parallel studies of some 15,000 men in eight countries.

All this goes back to the winter of 1947-48 when you first came to Stadium Gate 27.

Out of this approach by ourselves and colleagues elsewhere have come many advances in knowledge. An important step forward has been the identification of risk factors, lately given much publicity in connection with prevention. We now know that the risk of having a heart attack in the future is directly related to your age, your blood pressure, the concentration of cholesterol in your blood and the number of cigarettes you smoke. As for obesity and overweight, our studies show that if these risk factors are constant--same age, blood pressure, cholesterol, smoking--then the risk is much the same for fat as for thin men. But if you are fat and your blood pressure is up you had better reduce. Of course it is bad to be extremely fat even if it does not promote heart attacks; gross obesity is a hazard in other ways.

It is notable also that this work is getting rid of the old idea of "normal" and "abnormal." Such distinctions of people and their characteristics are largely artificial. Now we know it is foolish to try to separate normal from abnormal in regard to blood pressure, cholesterol, or practically any test or measurement. We are learning to deal in quantities, not qualities.

The forces that produce or promote disease are quantitative, for the most part, and many of the diseases that concern us most, including coronary disease, are also quantitative. True, a heart attack is a heart attack. It may be a big or a little attack but there is not much gradation between having an attack and not having one. However, it is not true that we can separate people

into two groups, those who do and those who do not have the disease. For the heart attack, or the sudden death, or even the appearance of angina pectoris, are only late appearances of a disease developing in the coronary arteries for a long time. We all, at least almost all American men over the age of forty, have some degree of coronary artery disease.

We under the Stadium did not first discover and proclaim to the world these important concepts but we are proud to have been in there on the front line of the recognition of those concepts.

But this is a terrible after-dinner talk! All about quantities of disease and basic concepts and sudden death. I would not dream of talking this way to ordinary men at a banquet. But you are not ordinary men. You are all Guinea Pigs, certified as such because you submitted to a lot of tests, including the water test.

In part you have kept coming to Stadium Gate 27 because you hoped to get some personal benefit in the way of disease detection. And for free, too! But also in large part, I believe, many of you have kept coming to see us every year because you wanted to contribute to the research effort. Remember? We promised you no personal benefit or guidance; only a brief report to your personal physician.

In a few cases we did pick up conditions in time to save life; in some others our insistent reports to your own doctors got action for you when otherwise you would have blithely gone on your dangerous way. But I think the great benefit for most of you of being in the CVD study has been simply

because it has made you more health-conscious. You have been impelled to live a little more sensibly than otherwise. I like to think that your participation in the CVD program explains why your survival is much better than the actuaries predicted back in 1947-48.

Very likely the annual examinations will stop next year but we shall have much to do in the analyses of the records of 25 annual examinations. And we shall keep in touch. I want to show the world that guinea pigs live longer than ordinary men!

Thank you