

interpretations which were sent back to Hartford Hospital. We will show you copies that we have here today. It is actually a working system.

Senator NELSON. Does it just interpret normal electrocardiograms, or does it also interpret or analyze disease situations?

Mr. CALLAHAN. It does all of the analysis and interpretative work which would normally be performed on an EKG tracing by a specialist. It actually removes the burden of that interpretative work from the cardiologist or specialist.

Senator NELSON. What does the cardiologist do with this information? Does he use it?

Mr. CALLAHAN. The hospital then acts upon that information just as if they had received the interpretation from a cardiologist.

Senator HATFIELD. Do I understand that the hospital actually will receive a monitor signal to be seen on their encephalographs or cardiographs?

Mr. CALLAHAN. Yes, Senator.

This question really does get over into the field of medicine more than communications, and, if it pleases you, I would ask Dr. Meyer of the University of Wisconsin if he would care to make some comment to describe that more clearly.¹

Dr. MEYER. Thank you, Mr. Callahan.

Senator NELSON. Dr. Meyer, of the University of Wisconsin, we are pleased to have you here today.

Dr. MEYER. Thank you very much.

With an electrocardiogram, there are a great number of measurements, and a great number of judgments that have to be made, that can be done mechanically. The actual judgment of what the implication of this is to the patient cannot be done by a computer. This has to be done by somebody who knows the history and what they have found on physical examination. It is a synthesis of all the data that can only be done by the physician. But the mechanical reading of the electrocardiogram can quite easily be automated.

Senator NELSON. I still do not understand it very well. What has it done that the cardiologist does not have to do over again? The cardiologist gets the machine's mechanical analysis. How does that save the cardiologist from repeating himself, and what good does it do him?

Dr. MEYER. It saves him a tremendous amount of time in doing all these basic measurements that have to be done. It gives him these measurements in a form in which he can interpret from them what this cardiogram means to the patient, knowing the background of the patient, knowing the symptoms and the physical signs of the patient. A cardiologist spends perhaps, oh, 8 to 10 minutes looking at a cardiogram and taking these measurements and this data from this.

Senator NELSON. You are talking about actually——

Dr. MEYER. Physically doing this.

Senator NELSON. Measuring in terms of centimeters and so forth?

¹ See complete prepared statement of Dr. Meyer, p. 1204, *infra*.