

information as synonymous with technology which must be transferred from its point of origin to those who need it—in other words, to health professionals and consumers—to enable them to make rational decisions and ultimately to maximally enhance or preserve the health of the public.

Many of our problems in the health care system are due to deficiencies in information transfer or deficiencies in efficient and effective technology transfer. And there is a wide and probably widening gap between what we know should be done and what is done or practiced in this Nation's medical care system. Problems here exist in the premature introduction of inadequately tested technology, the failure to eliminate outmoded technology promptly and the failure to rapidly adopt new technology which has been established as beneficial. Examples of the latter include the inadequate use of drugs available for the treatment of hypertension and immunization against the common childhood diseases. We have all witnessed with dismay the spectacle of important new scientific information falling on deaf ears, or, worse, remaining unspoken at all. Time and time again, the objective of research, which is benefit to the consumer public, has been frustrated as the communications abort.

Mr. GORDON. Dr. Simmons, where are you reading from?

Dr. SIMMONS. I am on page 2 of my statement.

Mr. GORDON. All right.

Dr. SIMMONS. The disparity between our operant knowledge of communications and its application is crippling and, finally, intolerable. Mr. Chairman, you are well aware of the frustrations of the Congress as it surveyed HEW's efforts in technology transfer.

And that is why I ventured into the world of communications, to see if there were elements we have been overlooking in our efforts to implement the health information we possess. And the answer to that inquiry is resoundingly positive. A brief overview of the technology process of biomedical research communications point them up.

There seem to be two factors which necessitate taking a fresh look at how effectively biomedical communication or technology transfer are conducted. One is the fact of the sheer volume of information now being generated, many thousands of discrete items per year, and the other is the fact that many of these findings now require the active cooperation, oftentimes necessitating a reversal of long-term practice, attitudes and behavior, not only of health professionals but of the public at large in order to become beneficial. A pair of communications tasks are then manifest: Sensitive priorities and persuasive messages. The two tasks are inextricably intertwined at each of three stages of communication between: (1) Scientist and scientist; (2) between scientist and practitioner; and (3) between scientist/practitioner and the public. Communications between scientist and scientist are the most effectively managed at present, and a communications expert would probably attribute that to the following factors:

(a) Biomedical scientists are a relatively homogenous population conditioned by a well-understood set of procedures and underlying principles of investigation;

(b) Scientists communicate with considerable precision through the use of an assiduously defined and a carefully used set of language and symbols;