Clinical Aspects of Telemedicine

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Communication among physicians is an essential in order to combine our experiences for the elucidation and application of new knowledge and for the accurate and uniform application of established medical practice. This communication requires and adequate understanding of the culture of the patient and the social context of disease and indeed the culture of the physician. Malnutrition in Bangladesh means caloric insufficiency, and a program to lower cholesterol would be impertinent, while a program to enhance the nutrition of patients in Texas by an international effort to import more grain would be ludicrous. In the same vein a public health effort to combat alcoholic cirrhosis in Mecca would be as silly as a program to increase fiber in the diet of the Bantu. Clinical communication must acknowledge the culture of the issue at hand and the differences in the experiential base of the physicians. Not only do geography and culture affect the potential differences in the experiential bases, but the world utilizes very different traditions of education and science in training physicians. We are influenced by the diseases we treat, and learn to look for the expected at least as much as we are attentive to the unexpected. A physician in Siberia would be much more likely to recognize frostbite than one from Buenos Aires, and the Argentine doctor would much more likely consider Chaga's Disease to explain abdominal pain than a colleague in Zurich. Beyond these obvious issues in communication among physicians we must deal with the many languages and idioms used in the world.

The need for communication is not diminished by the differences among physicians. We must share our experiences, our science, and our humanity in order to bring forward the new, to expunge the useless and to realize the synergism of international medicine. In times of crisis when the very fabric of a local health system is strained and threatened we must communicate sufficiently to permit assistance and cooperation across even great distances. When the Republic of Armenia sustained its disastrous earthquake in December of 1988 there was a profound urge among physicians throughout the world to assist our colleagues, and some of us were fortunate to do so in a small way through the Telemedicine Spacebridge. I have every confidence that had the situation been reversed the colleagues I found in Armenia and Russia would reciprocate in a flash.

Therefore, I believe we must examine the experience we shared in order to prepare for the next inevitable disaster.

The major characteristic of theTelemedicine Spacebridge was medical communication. The equation of the communication brought into relationship consulting physicians in Armenia who had primary responsibility for the patients and consultant physicians in the United States. The features of the consulting physicians which were important for success included full recognition of the experiential differences between our systems of education, our practice, our culture and language. At that point it was important for the consulting physician as the initiator of the relationship to identify the problems we should discuss. This required great understanding of the clinical problem as recognized in Armenia and the framing of the question to be discussed with great clarity. Given the complexity of the differences in experience and practice, the question required a very clear format for presentation of the background of the patient and a full knowledge of the technology we would use for the communication. The communication itself would entail words in print and images and sounds which then were to be processed at the other end into accurate concepts which were as similar as possible to the original concept of the consulting physician. When the consultant responded it was imperative that the consulting physician understand the response with reference to the issue or the patient at hand and that the consulting physician have confidence in the consultant. This kind of confidence is normally developed over years among colleagues in a given specialty, but in this case the confidence was needed promptly. In order to accomplish this there was a variety of conferences to share experience and expertise, which established the peer relationship among the participating physicians. Credentials were also offered and credibility was bolstered by offering as much in the way of personal published information as possible. In order for the communication to satisfy the test of usefulness the consulting physician had to be willing to consider changing the approach and management of a particular patient. Without a generous willingness to incorporate the new information into action in patient care the purpose of the communication in reference to the actual medical disaster would have failed.

The features required of the consultant physician were quite similar, as one might expect, to those of the consulting physician if the objective was an equation or relationship which would lead to improved patient care. Certainly the consultant needed to understand the generic problems of patients following the disaster and to have sufficient expertise to be a worthwhile collaborator. The consultant was required to adequately understand the question and to recreate the concept of the consulting physician in order to summon the confidence to respond to the question with information that might be translated into a new management plan for a patient the consultant would never see. This sense of personal responsibility on the part of the consultant to at least approximate that of the primary treating physician in Armenia was critical to the relationship. The

consultant also had to be willing to abandon preconception and incorporate new knowledge contributed by their Armenian counterpart into the response.

The overriding feature of the relationship was one of professional trust, employing the mediation of an extraordinary technology. It was clear from the outset that the technology was not an end to itself but a conduit for the engendering of professional trust and reliance. The proof of effectiveness was to be the implementation of useful clinical activities developed by new colleagues in a peer relationship of international medicine.