

Video in Health

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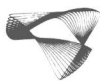
Video in Health



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Foreword

Although historical records reveal that pictures have been used to teach the tenets of medicine for more than 2000 years, it is the twentieth century that has truly brought visualization to health sciences education. The turn of the century saw the advent of the biological photographer and the medical illustrator and the production of the first medical teaching films. During the first half of the 1900s use of these tools of audiovisual communication continued and increased, although the course of development seemed somewhat slow and erratic at times.

In the late 1940s, video burst upon the scene, bringing the wonders of instructional technology to health sciences education. Imaginative teachers, searching for new and better ways to communicate the ever-growing body of health sciences information, were fascinated by the electronic mystery of television. Now, a short 35 years later, this book, presenting a rich variety of information about television and its applications in health education, gives testimony to the phenomenal growth and development of this most versatile of media.

The first recorded use of television in medical education occurred at Johns Hopkins Medical School in 1947. Five surgical procedures were viewed via television by those physicians and health professionals attending a meeting of the local medical and surgical associations. Seven hundred fifty participants watched a fuzzy black-and-white picture and heard the surgeon explain his technique as he worked. Without a doubt, those in attendance were impressed and excited by the potential of what they saw; however, none could have envisioned the evolving sophistication of this new medium that has produced such wonders as the low-light color

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mini camera and video disc technology, or the resulting extensive body of knowledge regarding the nature and use of television.

That first television venture was rapidly followed by other similar experiments — a symposium on stomach cancer in Omaha in 1947; followed by television presentations at the American College of Surgeons' meeting in New York City and the American Medical Association meeting in Chicago; and the subsequent first color television demonstration of surgical procedures by Smith, Kline and French at the annual AMA meeting in 1949. That same year the first television camera was permanently installed in a U.S. medical school: a black-and-white camera was set up in an operating room at the University of Kansas Medical Center where it was used to provide routine, televised instruction on surgical techniques to medical students.

A national survey indicated that by 1963 47 of the 88 U.S. medical schools and 30 of the 48 dental schools were using television in some way. Findings also revealed that the introduction of television had rarely been undertaken on a schoolwide basis; in almost every instance the medium had been introduced in one department through the efforts of an innovative faculty member. It was also discovered that faculty members all too frequently were responsible for the maintenance and operation of the equipment because no technical support had been provided.

The lack of technical expertise was an important factor in the pattern of rapid but haphazard instructional television growth during this period. Enthusiastic faculty found money to buy television hardware, but usually had no concept of its complexity and no idea of how to use the medium to teach. It is no wonder that disillusionment often followed!

Both the belief in television's potential and dissatisfaction with its failures were influential in making faculty and administrators aware of the need for a more organized approach to the use of this new instructional technology in the health sciences. The concept of centralized audiovisual services has been promoted by the Association of American Medical Colleges, through the efforts of Tom Jones and others, from the late 1940s into the 1950s. In the early 1960s, spokesmen for the new field of "medical communications" argued that "specialists" in television, illustration, photography and other media support areas should assume new roles in the health education setting, i.e., managing the technology and guiding faculty to a better use of television and other media. Writers such as David Ruhe and James Lieberman recommended that departments of "audio-visual instruction" or "medical communications" be created and given academic status in the health professions education setting.

As a result of all these efforts the number of centralized medical communications centers grew slowly but steadily throughout the 1960s. In

1970 new impetus was given to the movement with the publication of the Carnegie Commission on Higher Education's report, *Higher Education and the Nation's Health*. The impact of this report spurred federal legislation and funding for the development and support of biomedical communications centers and encouraged funding and legislation for a more effective use of technology in health education.

For several reasons, it seems appropriate to attribute to television a major role in the rise of the health sciences communication centers. Television has been a great synthesizer: first, by its very nature, for it alone can incorporate all other media into its electronic format; second, by promoting the consolidated efforts of the many different professionals involved in its production and use. The medical illustrator and photographer had worked as independent professionals in most health sciences institutions for years, but television required creativity through teamwork among many specialists, including the illustrator and the photographer. The centralized audiovisual production service — combining the output of writers, producers, cinematographers, photographers, artists, television technicians and other possible team members — obviously provided the most effective and efficient working environment, not only for television but also for other types of instructional media production.

Finally, it should be noted that the economic characteristics of television also encouraged centralization of services. The large monetary investment required to purchase video hardware and hire production personnel quickly led administrators to the conclusion that duplication of such services for several departments was far from cost-effective, and that one television system should be established to serve an entire institution.

This book provides ample and detailed evidence that television has found valid use in many aspects of the health sciences today and that video's proper use is indeed a science. We may ask: Has television reached its full potential in all our health sciences classrooms? The answer must be a resounding "No!" After more than two decades of growth and development in video we should no longer be so impressed by the constantly evolving television technology that we hasten to buy the latest or the biggest innovation before determining whether it meets our institution's educational needs. We should no longer use television as an end in education — rather we should always use it as the means to effective instruction. We should not use television solely because the investment has been made in hardware and personnel. We should instead opt to use it because it teaches students more effectively than, or as well as, any other medium, giving appropriate consideration to relative cost effectiveness.

When these simple tenets of video utilization are accepted and followed, television becomes a vehicle of enormous potential. The continued sharing

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of knowledge about this medium and its use can only result in a more effective realization of that potential in our own health education efforts.

Reba Ann Benschoter, Ph.D. Omaha, Nebraska
September, 1981

Introduction

Television is a powerful and unique medium, yet its potential uses in teaching and learning have only begun to be realized. We are at the beginning of a revolutionary decade in which television will serve the needs of individuals as it has never been able to do as a mass medium of communication. Today, there are more hours of closed-circuit video in the United States than the combined programming of the three major networks plus the Public Broadcasting System. Most analysts predict that the use of video in education, business and medicine will grow significantly. The health industry is among the most rapidly growing industries in this country and is in critical need of people who are willing to jump in and work with the technology of the twentieth century.

Not all professions, however, are taking advantage of this opportunity. In education, for example, one study revealed that teachers believe that television has only limited application in the classroom, that it is a threat to personal contact with students, that it is time consuming or inconvenient, and that it does not help to build basic skills.¹ But these beliefs simply do not have to be true. They become real only if we allow them to.

This book was written for the health and/or media professional who believes that video is an idea whose time has come. The authors share this belief. They have joined together in this enterprise to share their considerable experience and knowledge in an effort to better prepare the health industry to ride the wave of modern technology into the future. Their points of view extend beyond the limits of the continental U.S. Their practical suggestions are based upon actual experience and will enable the reader to see immediate results.

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The reader will sense an excitement generated by each author's appraisal and predictions regarding the use of video in health-related facilities. From the Department of Biomedical Communications at the University of British Columbia, Victor Doray and Ian Cameron remind us that "only a few years ago the patient, doctor, and health professional had to come to the TV studio. Today, with small, simple color cameras the whole hospital is now our studio."

Robert D. Rathbun, managing editor of the trade magazines *Video User* and *Shooting Commercials*, provides an overview of the now affordable and easy-to-use equipment needed to set up a modest in-house production facility. Maria Keckan, production coordinator at Cleveland's Fairview General Hospital walks us through some typical and atypical trials and rewards of one hospital-based video department.

Mary Heider and Roger Verny, both affiliated with the University of Cincinnati, provide two detailed chapters which show the reader how to locate information directly related to the needs of the health professional. Moreover, they provide the reader with specific criteria for making wise judgments in the complex process of selecting appropriate materials and with a practical approach for obtaining the best results in viewing the selected materials — as well as discussing some of the possible problems which may develop.

L. George Van Son, of the School of Allied Health Professions at Ithaca College, assures the reader that writing for video is well within the abilities of most health professionals. In fact, he says, the person who should write the scripts for health related video programs is the health professional. Many of the technical problems in writing for video are minimized by use of the VIDEOPAPER technique he describes, which allows the health professional to make a full contribution to the process of video production.

Robert Dixon of Stockton State College emphasizes the wide-ranging applications and techniques of biomedical photography and shows how still photography can relate to video production. Fred Christen, founder and current chairman of the Department of Biomedical Communications at the University of Texas Health Science Center at Dallas, talks about the distribution and marketing of biomedical communications products.

Andrea Sherman, director of media services at Cornell University Medical College, shows how video may be used for in-service training and continuing education.

John Burke and David Stein of Ohio State University provide a fitting conclusion to the book by concentrating on the role of video and other communications technologies in the continuing professional development of all those who have an interest in providing improved health care.

This book obviously reflects the point of view of biomedical com-

munications since most of its authors are affiliated with one or more of the institutions of higher learning in which these programs exist. It also is a definitive text which emphasizes the use of closed-circuit video in health settings. It is one of the first books to recognize the critical role of the health professional as a producer or co-producer of media programs and as such it provides a non-technical informational background which will help the reader to make that all-important first effort to use video. The media and video specialist will find this book helpful in that it identifies many of the vast and growing applications of video in health, and for its identification of common grounds which can be used as motivation for working with the health specialist to perform a better job. Finally, it is hoped that the decision-makers in the medical and audiovisual fields will be better equipped to anticipate and evaluate the many uses of video in health.

If video has failed to achieve its potential in the past it is because we have avoided direct involvement with the medium. This book will provide a key to more effective and intelligent involvement by health and media professionals.

L. George Van Son, Ithaca, New York
Ellen A. Lazer, White Plains, New York
September 1981

FOOTNOTES

1. Van Son, L. George, "Why the Best Teachers Don't Use Television," *EITV, Educational and Industrial Television* 11:10 (October 1979).

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Video in Health: An Overview

by Victor Doray and Ian Cameron

INTRODUCTION

This chapter discusses the role changes created by the increased use of television and its interactive capacities in hospitals and health care institutions, as well as in the important area of continuing medical education (CME). Also discussed are the expanding health sciences applications of cable, microwave and satellite systems of interest to biomedical communicators and health and media professionals. Some of the many areas in which these advances may be put to best use are enumerated.

EARLY USE OF TELEVISION*

Since 1945 there has been phenomenal growth in all types of communications in medicine. In 1950 the Association of Medical Illustrators (AMI)

*This section was developed in part by Charles W. Sargent, Chairman of the Health Communications Department and Director, Educational Resources Division, Texas Tech University Health Sciences Center.

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was established when professionals recognized a need to formalize what they did and how they interacted with the physician, nurse and other health professionals.

Hospitals began using television for education and documentation in the early 1950s. In 1959 the Council on Medical Television was formed; this organization subsequently became the Health Sciences Communications Association (HESCA). HESCA has become a recognized forum for all who participate and are interested in the applications of instructional technology to health education. Its MEDPRO section (Media Production and Distribution) seeks to improve the educational and aesthetic qualities of all media programs for health sciences education as well as to promote the interchange of media programs through the publication of catalogs and program listings.

Health sciences education is extremely diverse. A 1977 survey identified hundreds of programs: 113 medical, 58 dental, 13 veterinary, 72 pharmacy, 280 nursing, 728 allied health, 10 osteopathy and 164 dental hygiene.¹ Significantly, one-fourth of the members of the Association of Biomedical Communications Directors (ABCD) work for institutions other than medical, i.e., dental, veterinary, allied health, nursing, pharmaceutical, etc. Thus, health sciences media programs must be suited to highly disparate audiences.

Until the mid-to-late 1960s, hospital use of television was only sporadic. A major exception to this was psychiatry, which was able to use video effectively because of its capacity for instantaneous recording, playback and even erasure of sound and picture at a reasonable cost. In addition, the constraints of a black and white picture did not affect psychiatric documentation. Television's predecessor, cinematography or film, was too costly for routine psychiatric documentation in an institution. It did not offer the aforementioned benefits of video tape, and thus video tape became for the psychiatrist the equivalent of the preserved specimen for the pathologist (see Figure 1.1).

In the United States, the public—at all educational levels—regards television as its number one source of news information and rates it the most desirable and credible of the mass media.² The public's confidence in television is worldwide: a sample of viewers in Germany, for example, found that 90% viewed health programs favorably.³

Currently, the health care field is experiencing a surge in the use of documentation and recording procedures for varying educational uses due to the availability of low-cost, easy-to-operate television cameras and video cassette recorders which capture full-color images more reliably, accurately and with greater resolution.

Figure 1.1

Psychiatry TV Studio camera shoots through one-way glass so patient is not disturbed. Normally, lights on the camera side are kept off. Patient always signs consent for recording.

