By Carol Havens, MD

Videoconferencing and CME: "Pearls of Wisdom" Learned From Ten Years of Experience

This article describes the KP Northern California Region's decade of experience providing videoconference programs for continuing medical education (CME). Suggestions for planning and delivering an effective CME videoconference are also presented.

The Northern California Region of Kaiser Permanente (KP) extends northward from well below San Francisco up to Sacramento. About 3800 physicians care for almost three million Health Plan members in the KP Northern California Region's 17 hospitals and 31 medical office buildings. KP Corporate Offices and MultiMedia Communications Department are both located in Oakland, California.

During our half century of providing health care services in Northern California, KP has for the past decade been producing continuing medical education (CME) videoconferences. Our original CME videoconference programs were designed to educate our physicians about HIV disease, which was then becoming a frequent diagnosis in Northern California. Information was changing frequently, and few of our physicians were as yet caring for HIV patients. Our first videoconference program, a one-hour noontime series titled "*Sharing the Care,*" was given every two months. In the next two years, we increased the number of topics covered, increased frequency of presentations to monthly, and changed the name of the series to "*Medicine in the Nineties,*" and now to "*Permanente Medicine Today*" (Figure 1). As sources of information about HIV increased, we gradually decreased the number of programs dedicated to HIV and increased the number of general interest topics.

Figure 1. "Permanente Medicine Today"—the showcase program for primary care Continuing Medical Education (CME) videoconferences.

As our experience with videoconferencing and its acceptance by our physicians grew, we added to the videoconferences special topics, such as abuse and end-of-life issues. We then added Grand Rounds videoconferences on pediatrics, musculoskeletal medicine, medical ethics, geriatrics, use of computers in medicine, research, podiatry, echocardiography, risk management, alternative medicine, spine care, and neurology. These videoconferences are currently given at intervals ranging from semiquarterly to quarterly. We also give single presentations (eg, "*Healing the Healer*") on topics whose adequate coverage does not require the series format.

Most of the videoconferences originate from our regional MultiMedia Communications Department in Oakland, although programs occasionally originate from local hospitals. We present videoconferences to more than 100 sites in California and to an additional 100 sites throughout the rest of the United States, enabling us to reach a prospective audience of several thousand physicians simultaneously. We have produced live CME programs linking facilities from Hawaii to New York for as long as four hours. Most of our conferences are viewed in broadcast mode with live call-in capability (ie, one-way video and two-way audio transmission), but some of our smaller conferences permit two-way audio as well as two-way video transmission.

Among other uses, our videoconferencing system is used for CME, nursing education (for either a Bach-

Table 1. Permanente Medicine Today; 2000 Videoconferencing Schedule	
Fibromyalgia	March 9
Unstable Angina	April 13
Evidence into Practice	May 11
Palliative Care	June 8
Prostate Cancer: Controversies in Screening and Treatment	July 13
The Exercise Prescription: Giving Good Advice	August 10
Physicians and the Pharmaceutical Industry: Friends or Foes?	September 14
Gastroesophageal Reflux Disease (GERD)	October 12
Antibiotic Resistance	November 9
Fad Diets	December 14

CAROL HAVENS, MD is the Regional Director of Clinical Education and has been with TPMG for 16 years. She practices Family Practice at the Sacramento Medical Center. She is an Assistant Clinical Professor at UC Davis Medical School, Department of Family Practice. E-mail: carol.havens@kp.org

elor of Science [BS] or Master of Science [MS] degree in nursing), long-distance consultation, business meetings, and classes leading to certification in medical translating and engineering. Our current videoconferencing curriculum includes a mean of 150 conferences per month with about six of these conferences given regionally for CME credit. Depending on content, most of our videoconferences attract 200 to 800 physicians (Table 1).

CME credit for videoconferences is obtained through a combination of regional and local responsibility. The regional planning group for *Permanente Medicine Today* is composed of representatives from the Physician Education and Development Department, representatives from the MultiMedia Communications Department, and several physicians from various KP medical facilities. This group is responsible for documenting the needs assessment, developing objectives, planning the programs, and collecting and collating the evaluations. These activities are done in collaboration with the appropriate KP chiefs group, Regional department, or national effort. CME committees at KP medical facilities review the documentation and decide whether to offer the program at their respective facilities and whether to provide CME credit. Each facility is responsible for maintaining attendance records for the programs given at that facility; all other documentation is maintained in the Physician Education and Development Department. Publicity is developed in that department and is distributed to CME coordinators and chiefs at each facility for distribution at that facility. We are fortunate to have substantial production facilities, an outstanding MultiMedia Communications Department (Figure 2), and one of the largest videoconferencing networks in the country. Other producers of videoconferences may not be as fortunate, but we hope sharing our experience may still be valuable.

After ten years of experience, we have learned ten main things, all of which refer specifically to use of broadcast mode with telephone call-in:

1. The only thing less effective than an in-person "talking head" lecture is a "talking head" lecture delivered via videoconference. Holding the attention of a physician-filled audience is difficult enough when the speaker is present in the room, and this task is even more difficult when the speaker is remote. We have found that using a panel instead of a single speaker is more interesting and engaging—both aurally as well as visually—and encourages more questions from the audience. We therefore present all our programs as panel discussions with a moderator (Figure 3). We usually include two panelists, each with a different perspective. Instead of presenting prepared lectures, we plan our videoconference programs as a "conversation between colleagues," with the moderator asking questions.[1]

2. The most effective videoconferences are produced jointly by CME professionals and video production experts. CME professionals can determine needs and objectives, help develop case presentations, ensure that all CME requirements are met, and contribute educational design expertise.

Figure 2. Studio 3a—Staff and equipment that monitor audio and video signals.

Figure 3. Studio 1a—*Permanente Medicine Today* in the MultiMedia Studio.

Video experts can contribute technical expertise in such areas as staging for the program, design of graphics for clearest visibility when projected, and how to most effectively produce and use pretaped segments (eg, interviews). Video experts can also contribute advice on mundane but important matters such as what to wear and how to interact (or not interact) with the camera. During the videoconference, a video expert can keep the moderator informed about timing and provide invaluable feedback about the presentation.[2]

3. Moderating a panel discussion is a new and different skill which can and must be learned by people who assume the role of moderator. The role of the moderator is to ensure that the panelists remain focused on the given topic and address all key points; maintain the pace and continuity of the program; ensure that all panelists participate in the discussion; manage incoming telephone calls to the conference; and ensure that the program stays on time. Sometimes these tasks are accomplished easily, sometimes not; but failure to manage them can make the program a disaster for the audience, the panelists, or both.[3]

4. Being a panelist requires different skills than being a lecturer. Being a panelist requires mental agility and ability to be a "team player," and not all great lecturers have these skills. For this reason, preconference planning meetings are particularly important. We have had to remove from programs panelists who were unable or unwilling to abandon their "canned" talk and text-filled slides, but most panelists do adjust after receiving some explanation of why their presentation must be changed.[2]

The reason videoconferencing seems "just like television" is that it is just like television.

Figure 4. Studio 4a—MultiMedia Production Control Center.

5. Videoconferencing programs require intense planning to look spontaneous. Because the best videoconferences are not presented as prepared lectures, the planners (especially the moderator) must work with panelists on several objectives: development of realistic objectives for the presentation, design of the information "flow," appropriate selection of panelists for presentation of specific information, development of a conference outline for everyone to follow. Planning for the program must also include some rehearsal.[3]

The best programs look completely spontaneous but have included many hours of preparation necessitating that we plan our videoconferences several months in advance. As part of the preparation process, the moderator usually participates in two or three conference calls with all panelists simultaneously to plan objectives, key points, flow, graphics, and handouts. On the morning of the program, we rehearse in the studio so that panelists can become accustomed to the set, timing and manner of presenting graphics, transition points, and other issues of timing. The technical crew gives panelists feedback on how to act while on camera (Figure 4). Because we want it to appear spontaneous, we do not rehearse the entire program.

6. Developing an audience takes time. People always enjoy live performance best, and physicians are no different. Developing a dedicated audience for our videoconferencing program required several years, during which we offered raffle prizes, made telephone reminders to audience members before each program, and "planted" questions in our attempt to gain the audience's acceptance of videoconferences. We now cannot keep up with the demand for our videoconferences. In addition, videoconferencing gives all our physicians access to "expensive" speakers and gives physicians at distant or smaller facilities an opportunity they would not otherwise have to hear various speakers.[4]

7. The reason videoconferencing seems "just like television" is that it is just like television. Videoconference presentations must be visually interesting and include appropriate content. Because we do not use presentations prepared in advance, speakers must learn to present important information succinctly—or else they risk losing their audience. Graphics must be used judiciously (ie, only when they add to the presentation). Adding appropriate visual images increases the audience attention, but merely creating slides of text—as is done in many live confer-

ences—tends to lose the attention of the audience. As experienced television viewers, we all are easily bored; as videoconference producers, therefore, we must maintain a lively pace for the program by providing visual interest and diversity whenever possible.[1,3,5]

8. Consistency builds loyalty and identity. Consistent use of introductory music and graphics helps the audience to identify with the ongoing program of videoconferences; as in the television industry, use of identifiable characteristics develops brand loyalty. This effect can be accomplished alternatively by using the same set, moderator, and overall "look." Using different introductions for different series gives to the audience a signal that the program is a different one. Changing the set prepares the audience for a change in topic, perspective, and objectives. For instance, our series "*Medicine in the Nineties,*" uses different music and graphics than were used in the Grand Rounds series. Single videoconferences also use this device to differentiate themselves from one another. For example, for a series on business aspects of practicing medicine, we used a different set, introduction, and moderator than used in previous series.

All these techniques help to "cue" the audience and to connect the programs in a series.

9. When included in moderation, controversy can be good. A lively debate encompassing differing viewpoints between panelists can increase the audience's involvement in the program. However, too vigorous or lengthy a disagreement is likely to cause the audience to become so involved in the argument that they lose sight of the presentation's objectives.

10. Graphics which are effective for a live presentation are often inappropriate for videoconferences. In planning a videoconference, producers should remember the adage that "Less is more." At a live conference, graphics are projected onto a large screen which can usually be seen at the back of the room, whereas videoconferences are usually viewed on a television screen which is much smaller than a projection screen. Use of text-only slides should therefore be minimized, and charts or graphs should be simple.[2]

In summary, some activities essential for planning effective and interesting videoconferences are the same as for any other CME program.[6] These activities include completion of a thorough, accurate needs assessment; development of realistic objectives; identification of the target audience; and conducting postconference evaluations. However, factors unique to videoconferences include the skills needed by moderator and panelists; use of graphics that project well in the televised format; developing and maintaining a pace and continuity ("flow") throughout the program to hold the audience's interest in watching the screen; ensuring a balanced view is projected; and ensuring the participation of CME experts as well as video experts in both the planning and production phases.

We believe that well-planned, well-produced videoconferences are a valuable and effective part of a CME program.[7] In our decade of experience, we have learned much—partly by making mistakes. We are very proud of our videoconference program and look forward to its next decade. ❖

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Physicians in other Kaiser Permanente Regions may access the Web site to hook up to live programs by connecting through the video bridge despite limitations of time zone difference. For information on how to do so, call 510-987-3922 in the KPNC Region, contact your own local video-conference office, or contact the national videoconference program. In addition, tapes of all videoconferences are available within two weeks after a program: to purchase or borrow, contact Mary Leoni in the KPNC MultiMedia Library at 510-987-4991 (8-427-4991), or at Mary.Leoni@kp.org. Most of the tapes are available for CME credit for individual viewing. Pre- and post-tests and evaluations for each program must be completed and returned to Physician Education & Development, 1800 Harrison Street, Oakland, CA 94612. These forms are available through PKC (http://pkc.kp.org), Northern California

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