

Barbara Gerbert, PhD, Professor, University of California San Francisco, has pioneered the development and use of the innovative, interactive, multimedia “Video Doctor.”

What is the Video Doctor?

The Video Doctor has successfully assessed patients’ risk behaviors, and has encouraged patients to reduce drinking, smoking, and risky sexual behaviors, and increase exercise and healthy eating. The Video Doctor simulates a real and ideal doctor-patient risk counseling conversation. Interactive video clips, using an actor-portrayed doctor, are matched to patients’ answers from assessment questions, allowing counseling that is individually tailored to each person. The Video Doctor also encourages the patient to continue discussion of risk reduction strategies with his/her real physician. Upon completion of the interaction between the Video Doctor and the patient, the program produces a one-page Provider Alert to be used by the provider during the medical appointment, offering a summary of the patient’s risk profile and readiness to change, as well as suggested counseling statements.

The Video Doctor plus Provider Alert model seamlessly supports busy providers and simplifies their prevention efforts to help patients improve their health. The program accomplishes this by assessing risk, delivering brief, patient-centered advice messages, and generating a tailored report that cues the physician for further discussion with the patient.

The Video Doctor intervention is delivered in the clinic waiting room prior to the patient's appointment with their provider. Patients are given headphones and escorted to a laptop computer sitting on a portable cart in a private corner of the clinic waiting room. Once the patient is shown how to initiate the Video Doctor computer program, the Video Doctor appears on the screen as a talking head against an exam room backdrop, introduces herself, and begins to ask the patient an initial set of general health-risk questions about smoking, alcohol use, HIV risks, exercise habits, and weight, as follows.

Hello. My name is Dr. Ann Summers and I'd like to begin by asking you some questions about your health history. All of your answers will be kept confidential and not placed in your medical record.

If a patient indicates that he or she has smoked a cigarette and/or has had a drink of alcohol, the Video Doctor proceeds to ask a range of risk-specific questions to assess risk behaviors, stage of change, self efficacy, and prior attempts at reducing risky behaviors.

I know from experience that quitting smoking is not an easy thing to do, but I'm confident that if there comes a time when you make a firm decision to quit, you will find a way to do it.

As the Video Doctor asks each question, the text of each question and response options appear on the screen adjacent to the Video Doctor. In some cases, graphics are used to support specific questions (e.g., examples of one standard drink of alcohol). Based on the computer program's branching logic, the Video Doctor skips questions that do not pertain to a given patient. The Video Doctor

then offers risk-specific information and referral pamphlets and makes a generic closing statement.

In the primary care setting, the Video Doctor has been shown to be highly acceptable and effective in assessing primary care patients' sexual, alcohol, drug, smoking, and domestic violence risks. Subsequently, in a study where individuals were asked to choose one of six actor-portrayed Video Doctors, participants responded more positively to a combination of patient-centered qualities than they did to physician gender and race. The actor who portrays the Video Doctor in our recent intervention studies is a female actor-physician who has many patient-centered qualities and has been highly rated by participants in all studies.

From 1998 to 2002, Dr. Gerbert was funded by the National Institute on Alcohol Abuse and Alcoholism to conduct *Project Choice*, a randomized, controlled trial to determine the effectiveness of a multimedia Video Doctor intervention in reducing primary care patients' alcohol use and smoking. The *Project Choice* Video Doctor program assessed participants' health-risk behaviors and randomized those with smoking or alcohol risks into a pamphlet-only control group or an intervention group receiving a 5-10 minute brief motivational intervention from a Video Doctor, delivered immediately prior to their clinic appointment. Over a 12-month period, the computer program screened 1,398 patients at four general medicine clinics and, of these, 738 patients reported

risk behaviors and were randomized into the study. We are pleased to report that the Video Doctor was well received and widely accepted. Those who received the intervention believed they would change their behaviors. Overall, participants found the program interesting, engaging, easy to use, and valuable as a way to receive health information and recommendations. Even older patients and those who had little or no computer experience completed the program with ease and were eager to meet with the video doctor.

Three Most Recent Successes of the Video Doctor

With funding by the National Institute on Drug Abuse, Dr. Gerbert conducted a randomized controlled trial, *Positive Choice* (2002-2007), which examined whether a Video Doctor intervention designed for HIV primary care settings could reduce patients' risky behaviors. Nine hundred seventeen patient participants were screened for the study using the *Positive Choice* Video Doctor program. The program then randomized those reporting risky sexual or substance abuse behaviors - about half the sample - to either the intervention or the control arms, per our Video Doctor model. The interaction with the Video Doctor lasted an average of 24 minutes. The most striking finding was that many of the intervention arm participants eliminated risky behaviors altogether - 38 percent who reported unprotected sex at baseline reported no vaginal or anal sex without a condom after the intervention, compared with 23 percent in the control group. Forty-four percent who

had been using drugs at the first visit had stopped using all drugs at the conclusion of the study six-months later, compared with 14 percent in the control group. Even among those participants who continued risky behaviors, those in the intervention arm had three fewer casual sex partners and reported five fewer days of drug use in the prior month than those in the control arm. All of these between groups differences were statistically significant.

The Centers for Disease Control and Prevention (CDC) added *Positive Choice* to the 2008 Compendium of Evidence-based HIV Prevention Interventions, a list of 57 rigorously evaluated, highly effective HIV prevention programs recommended by the CDC for implementation. This designation is particularly timely as a new administration with a preference for evidence-based approaches and a desire to better fund domestic HIV prevention programs takes charge. In addition, *Positive Choice* is one of the first interventions to establish a reduction in HIV transmission risk behaviors among people living with HIV, commonly called “prevention with positives.” This has emerged as a top priority in CDC prevention planning because the approach can efficiently concentrate resources on reducing the number of new infections by engaging people living with HIV as partners in prevention.

The *Health in Pregnancy (HIP)* study, also funded by the National Institute on Drug Abuse, from 2002 to 2010, is a randomized clinical trial

designed to improve prenatal providers' counseling about behavioral risks, including smoking and domestic violence. Pregnant women at participating clinics who reported one or more risk behaviors were randomized to intervention or control. Subsequent to the Video Doctor screening, clinicians received summary Provider Alerts notifying them of their patients' risk(s) and suggesting counseling statements. With Provider Alerts for intervention participants, 100 percent of smokers in the intervention group had discussions of the risk with their provider, compared with 60 percent in the control group, a statistically significant difference. Concerning domestic violence, the intervention was able to increase discussions of the risk to 85 percent of patients reporting domestic violence. By contrast, only 24 percent of the control-group participants reporting domestic violence had a discussion of this risk factor with their provider, also a statistically significant finding. The *HIP* computerized assessment supports clinicians by screening for smoking and domestic violence and alerting clinicians of the risks, thus identifying important risks that otherwise might go undetected. With Provider Alerts, the program is also able to simplify the doctor's role by providing counseling messages and significantly increasing discussions of violence in a woman's life.

Also in the *Health in Pregnancy* study, recent analyses revealed that our brief intervention significantly reduced risky smoking in pregnant

women, with 14 days a month reduction in the intervention group and only one day per month reduction in the control group.

In *Keep Fit*, Dr. Gerbert applied the model to women's diet and exercise behaviors during pregnancy. Keep Fit was a randomized clinical trial comparing the Video Doctor plus Provider Alert intervention to usual care, in an ethnically-diverse, low-income sample of English-speaking women at five sites. Brief messages about diet, exercise, and weight gain were given at an average of 19 weeks gestation, with one follow-up about six weeks later. Three hundred and twenty seven pregnant women were recruited; 158 were randomized to the Video Doctor plus Provider Alert and 163 to usual care. In the intervention group, there were significant within group increases in exercise, intake of fruits and vegetables, whole grains, fish, avocado and nuts, and significant decreases in intake of sugary foods, refined grains, high fat meats, fried foods, solid fats, and fast food. In contrast, there were no within group differences for any of these outcomes in the usual care group. With just one single brief intervention, we found trends toward significant differences between the intervention and control groups. Decreased sugary food intake (sweets, soda and juice) was reported by 44% in the Video Doctor group compared to 36% in usual care. The combination of increased whole grains and decreased white grains was reported by 47% in the Video Doctor group and 32% in the control, a statistically

significant difference, and the combination of increased good fat and decreased bad fat was reported by 38% vs. 28%, respectively.

Dr. Barbara Gerbert and colleagues have shown that a Video Doctor plus Provider Alert intervention reduces risky behaviors, such as drinking, smoking, and drug use, and increases healthful behaviors, such as diet and physical activity. This research has been implemented in multiple studies and in primary care, HIV care, and prenatal settings. Since the intervention is system based, it could easily be implemented in a variety of settings and for numerous preventive health behaviors. Multiple prevention behaviors can be addressed simultaneously using this model. By including a Video Doctor to support and augment the real clinicians' counseling, and by cueing the clinician with the Provider Alert, thereby simplifying the task of the busy provider, the Video Doctor plus Provider Alert intervention holds great promise as a seamless part of health care in clinical settings