Knowledge is the best prescription. Dr. C. Everett Koop '37 has always kept this phrase dear to his heart. In recent years, he has worked hard to communicate the message to the world in an innovative way--via the Internet. His website, drkoop.com, is a giant in the world of health care on the web, offering a tremendous breadth of information and approachable services to any health conscious individual. From databases on prescription drugs to online chat rooms on family health, the website contains volumes of medical information and advice at one's fingertips.

To Dr. Koop, the website is an extension of his lifelong ambition to raise the level of health awareness in the world. An informed patient is a strong patient, someone who can "take control of his or her own health," says Dr. Koop. The Internet is, therefore, the health educator arm of the doctor, but who is responsible for monitoring the education that patients receive? Moreover, how can ethical standards be upheld on the Internet, where standards and regulations are difficult to enforce if they even exist? The DUJS explores such questions and more as Dr. Koop provides a rare glimpse into his perspective on the issues surrounding the world of health care and the Internet.

DUJS: After your career as a pediatric surgeon and the U.S. Surgeon General, why did you decide to pursue health care on the Internet?

Koop: Well, I wish I could tell you that I was very foresighted and I knew this was the thing of the future and that's why I did it. Actually, it was because I had a particular interest in an electronic personal medical record. I wanted one that was free to the public, could be obtained with ease on the Internet, and was owned by the patient. The trouble with most medical records is that although the record is legally the patient's, they have a hard time getting hold of them. The hospital says they are theirs, the doctor says they are his, or the clinic says they are theirs. So, we started off as a little company called "Personal Medical Records, Inc." In order to test our personal medical records, we
needed a website and so we started a little website called "Dr. Koop's Community" and as that developed, we got so many e-mails from people who were using it saying "You have informed me . . . you have empowered me . . . I am now able to make decisions with my doctor that I couldn't have made without this kind of help. Thank you. Keep up the good work." So, we decided we would go public. There is a story behind that, Amar. I've had two messages that I have tried to give the public all my life, even before I was Surgeon General. One of those messages was, "Take charge of your health." And today, in this age of managed care, you could say another caveat: "because if you don't, who's going to do it?" The second message that I used to have was, "There is no prescription that I can give you that is more valuable than knowledge." I tried the non-profit world and I did not find any foundations or non-profit corporations that were interested in that message. And when I took that message to industry and told them if they would teach their employees to take charge of their health, they would save money on insurance, save money on absenteeism, save money on accidents at their plant and so forth, they weren't interested either. And so, the only way I could get the message out was to do it commercially so I could make some money on advertising and so forth so I could support the staff. That is how it evolved.

DUJS: "Take control of your own health" has been one of your most passionate statements. My question for you is whether you think the Internet is the patient's primary tool to take control of his or her health?

Koop: I think the Internet will become the primary tool for everybody. It is the primary tool now . . . . I think the Internet will replace places like Poco Ritan where doctors go to exchange information. It won't do it completely, but I think they will meet for different purposes. I think that most physicians in the long run and almost all consumers will get their health information from the Internet. It's up to date, easy to obtain, and it puts the doctor and patient on the same page, allowing them to talk the same language.

DUJS: Is it safe?

Koop: It's not safe if you don't know how to use it. For example, there are 20,000 websites. I have been told, although I haven't seen it, that there is one website that says if you put a peanut in each ear, then you avoid heart disease. Well, the problem with the Internet is that right news and wrong news glows with the same intensity on the computer screen, and how is a layman going to make the decision which is right and which is wrong? The only way they do it is by a brand. Unfortunately, Dr. Koop has become a brand. I was a trusted person as the Surgeon General. People trust me now. There are other brands out there that people recognize like Johns Hopkins, the Mayo Clinic and so forth. I think you will find that in the long run, it will be the brands that are known throughout the public that win the greatest share of the market. DUJS: As the "brand name" that you have become, what are the rewards and the risks?

Koop: I think my reward has always been in educating people. When I go some place and meet a stranger who says, "I heard your lecture in 1985, and you changed my thinking on something," that's the biggest reward that you can get from somebody. To know the power of the word in a lecture changed
somebody's view on something to a way that you think is the right way to think. That is a very rewarding thing to me. The risks are that, in this country, celebrities who are successful have become fair game. It doesn't matter if the accusations made against them are true or just innuendo, it is a risk when you put yourself on the line as a prevailer of health information, somebody is going to try to shoot you down. It's not pleasant to be in that position, but I've been in that position a lot of my life. When I was Surgeon General, there was almost nothing I said that didn't divide the public. They were those who agreed with it and those who didn't.

**DUJS:** Is it wise for patients to trust the medical information and suggestions about their health on the Internet today? Do you feel it might get more dangerous in the future?

**Koop:** I don't think it will become more dangerous in the future. I think as people will understand "branding," they will go towards the names that they can trust or that their doctors trust. The doctors can control a lot of this. If the culture of physician referral changes, so that when doctor X speaks with patient Y, and says "before you see me tomorrow about your gallbladder, look up on so-and-so, read what it says about gallbladder disease," he can guide those patients away from inaccurate sites to accurate sites. I think that it is going to take awhile before doctors feel comfortable in turning over the education of their patients to the Internet but I think they will be forced to do it because the way medicine is set up today, doctors have less and less minutes to spend with their patients every time they see them.

**DUJS:** What do you think of those who feel the whole practice of medicine may be put on the Internet in the future?

**Koop:** Well, you can't. First of all, you can't make a doctor out of a layman on the Internet. Secondly, there are laws preventing you from practicing medicine that way. You can't practice medicine if you don't know the patient, if you don't know things about their personal history, things of their personal physical examination, things of personal test they have had. We make it a point on our website to constantly refer the patient back to the physician and to make it clear that when we are talking about X, Y, Z, we are not talking about you, Mrs. Smith, and the fact that you have X, Y, Z. We're saying out of every 100 people who have X, Y, Z, this is what happens to 20 of them, this is what happens to 30 of them, this is what happens to 40 of them and so on. I think that we are trying to raise the basic scientific and medical information base of all patients. But, we are specifically trying to hone in and give them a real depth of knowledge of that.

**DUJS:** So, it is not to replace, but to enhance medicine?

**Koop:** It is to enhance and to compliment, but not to replace. What is I think a better way to say it, Amar, is that the Internet becomes the health educator arm of the doctor. Doctors have to be health educators but they don't have time to right now. But just a few years ago when a visit to a doctor took half an hour instead of eleven minutes, the doctor had a much better chance to be an educator. As far as I'm concerned, that was what was the fun for me about the practice of medicine. To have enough time...
to spend with a patient so you could explain to that patient's family what was going on in the child, what to expect, how it could have been prevented, how you could keep it from going the wrong way and have it go the right away. Then, when you said goodbye to that patient, I frequently used to say facetiously, "now you know as much about this subject as your doctor does," and sometimes I'd be right, because remember, the doctor has to know a tremendous amount about a lot of things, so he can't know about all those things in great depth. When patients are sick, they only have one problem so they can study that in as much depth as they want to. So, you are always going to find times in this new order where patients seem to know more about their problem than the doctor does. The doctor has to be of a mindset that that doesn't bother him. He has to recognize that he is a man of broad interest with shallow knowledge, where the patient is a one with narrow interest and depth.

**DUJS:** What is your response to the prescription of medication over the Internet?

**Koop:** I don't think that doctors should prescribe for individual patients over the Internet except if it is a convenience and it is a refill of a prescription given previously by a doctor. In other words, I don't think that you should get on the Internet and ask me a question over e-mail and have me treat you. But if you say, "I have been getting Cardizem from the drugstore and my prescription is this number, and I need a refill," then I think we can do the convenience of getting that for you. Drkoop.com has contracts with thousands of pharmacists, all the major chains, and some of the retail druggists and so forth and I think that's perfectly okay. But I think it's wrong for somebody to put an ad on the Internet saying, "Tell us your age, send us this amount of money, and we'll send you a prescription of Viagra." That's a peculiar drug because some patients are ashamed to ask their doctors for it; some are ashamed for it from their drugstore and so they do it on the Internet anonymously.

**DUJS:** What is your opinion of pharmaceutical companies' tackling of these issues of health care on the Internet? Do you feel they have the same concerns you do?

**Koop:** I think that more and more pharmaceutical houses consider themselves health educators. Many of the publications that are put out now such as the Pfizer Journal is practically like a peer-review journal. It has good stuff in it; things that a doctor will do well to read and patients will do well to read. They would both be benefited by it. So, I think that it is a system that is changing. I'm sure the pharmaceutical houses have mixed feelings about this. On the one hand, they would like to sell as much of a particular medication as they can, yet the more ethical ones would not sell it to you without going through a prescription through a physician.

**DUJS:** If I may go back to drkoop.com for a minute, I would like you to briefly describe the mission or purpose of your website.

**Koop:** Well, the mission is to inform patients in order that they might be empowered to make decisions in tandem with their doctors so that they will be able to have better outcomes from both diagnostic and therapeutic procedures.
DUJS: There are many statistics that suggest that drkoop.com is the most popular and financially successful health care site in the world. To what do you credit this success and how do you feel about this achievement?

Koop: I'm delighted with the achievement. If I am an educator and this many people are coming to see us, sometimes twice as much as our nearest competitor, you can't help but feel a sense of pride in that, and I am very pleased to be able to do that. I also get somewhat of a kick out of the fact that my competition is all 35 years old and I'm 83. So, it's sort of fun to be mixing it up with kids that are a third my age. I want drkoop.com to be not only to be the most dominant website with accuracy of information, but I want it to be the most ethical website... Every once a while, something slips by you, but it's not our endeavor to sponsor anything, to endorse anything or to make it a condition reflex on the part of the patient: If you have X disease, you ought to take Y medicine.

DUJS: What are the rules given to companies who want to advertise on your site?

Koop: First, they have to obey the laws of the land. They have to have no claims that are not evidence based. Everything is evidence based. We are in process of developing our own code of ethics. Next Tuesday, I will meet with 11 of the 12 CEO's of the 12 most popular national websites on health to establish a code of ethics on advertising to which we will all subscribe.

DUJS: What is the difference between informing a patient and advertising to a patient?

Koop: Informing a patient is based on evidence done by scientists and medical people and published in peer review journals so that other people have the opportunity to critique the material and say it's true. When you advertise something, you always face the chance that the company will put anything but its best foot forward. They will tend to downplay the side reactions; they will tend to downplay the expense; they will tend to exaggerate the ease with which it can be done and so forth.

DUJS: That being said, would you have medical advertising in an ideal world?

Koop: In an ideal world, I would probably have what is called tombstone advertising: "We are in the business of making a drug for asthma. Our drug for asthma is called X, Y, Z. These are what it does; these are what it does not do. Go to it." It's the type of advertising you see on PBS for example on television. You never see any glitzy ads; you don't see models or anything like that. You just see: "This opera was brought to you by Texaco."

DUJS: Who is responsible to uphold medical ethics on the Internet? Can ethics even be upheld in a place where all regulations are difficult to enforce?

Koop: First of all, Amar, the Internet is not regulated. You can't regulate it because that's interfering with free speech and free speech is part of the first amendment and people would die for the right for you to say the wrong thing. I subscribe to that. I believe very much in free speech. The thing we do at
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drkoop.com is have two people that are employed by the company but they report to me and not to the company. These are monitors of new material that comes on the Internet. If we decide to put on something tomorrow, they review it to make sure that there are no glitches to the best of our ability. Now we don't second-guess Dartmouth Medical School for example. We have a contract with Dartmouth Medical School that says during the course of this year, Dartmouth Medical School will update thirty of our old applets about disease and they will make 30 new ones and they will provide from time to time, medical newsbreaks. We chose Dartmouth because we trust the Dartmouth faculty to do that. So, we don't second-guess them and I don't have anybody reading what they say about osteoporosis, asthma, or Alzheimer's disease to see if it's correct. I assume that by choosing a medical school with this reputation that I've chosen the right people. But I do have somebody look at advertising and see if it's on target, and I make sure that the advertising is separated from the other thing and you know it's an advertisement. Every once in a while you probably get mad like I do: you're reading through Time Magazine, all of the sudden you think, "That doesn't sound right." You look at the top and it says "Advertisement." We want to be sure that doesn't happen. The other thing is that these two people constantly review what is currently on the Internet. For example, somebody put on the Internet something about agitated anxiety in females under certain circumstances, and you had to read the whole article to find out that they were talking about female rats. That came off right away, but that slipped by somebody. It's very hard to monitor 90,000 pages and so every once in a while when we slip up, I say to people, "These are the years of growing pains on the Internet and any Internet site, no matter how ethical they try to be and how accurate they try to be, something will slip past them." We just try to minimize that to the best of our ability. That's why I have the monitors set up. They don't report to the company. They report to me, and I tell the company what to do about it.

DUJS: Can you give me an example of ethical advertisement and unethical advertisement?

Koop: Here's an example: "Lose ten pounds--it's good for your health." That's an ethical advertisement. "Lose ten pounds by November 1--it's good for your health." That's not an ethical advertisement because we are all different people. For some people, lose ten pounds by November 1 might put them on a stringent diet that would be detrimental to some other part of their health. I do not like anything that is not totally health. You see we have partners, and you can't always control what your partner does. Recently, I was shocked to look at the [drkoop.com] headlines that say: "win a trip to Hawaii." Well, that is a healthful place to be I guess, but is that our business to be selling trips to Hawaii? Well I found that that was really an AOL advertisement (one of our partners). But what I really didn't like about it was when you went to AOL and you wanted to find out more, there is a picture of a hula girl and it says click here, and it takes you back to my webpage! I don't like that. So, we get rid of that. It's not just the accuracy or voices of exaggeration. We would never advertise alcohol, tobacco, a crash diet . . . but we also find things that are improper. They are just not in good taste and we would like to get those off there too.

DUJS: What is your advice to doctors looking to provide health care on the Internet?

Koop: Doctors cannot provide health care over the Internet. They can provide health information over the Internet that makes their patients better patients to work with them making decisions with better
outcomes. My advice to doctors about the Internet is that the Internet is here to stay. Internet II will be
even faster and better, and you better give up trying to fight it. Instead, join it . . . . I also talk to doctors
about the culture of the Internet. You would understand that here at Dartmouth better than some people
would. I don't think you could necessarily go into X, Y, Z state and go to A, B, C city and make it work
tomorrow. You could do it here because Dartmouth has been steeped with computers since computers
have been around. This is the first non-technical school that demanded that every student come fluent in
the use of a computer. Here we have a student body of 5000, a faculty of 1200, and a little town that
supports them. And yet, this little group of people churns out everyday 250,000 e-mails. That is
colossal! But what it means is that everybody is comfortable with that. So, Mrs. Smith is 60 years old
and went to the doctor yesterday and she had one very important question to ask him, but like many
people when they get in the presence of a doctor, she forgets what she was going to ask or she didn't
want to bother the doctor and so she comes home and she says, "I never asked the most important
question." So, what do you do? Usual person calls up the doctor and they play telephone tag for a few
days or he never calls back. Suppose instead, she sits down on the computer and writes an e-mail: "Dear
Dr. Jones, I forgot to ask you whether I should take the medicine before or after meals, and you never
told me." So, what does he do? We figure it takes him 90 seconds to sit down and say, "You can take it
either way and just remember, you're in real good shape. You don't have to worry about your health."
Not only does she get an answer she wants but she also has a little word of comfort that she can
download. She can read it a hundred times a day if she wants! But you have to have a faculty and a
group of doctors that are comfortable in doing that. And I'm sure that when doctors begin to answer
their first e-mails, they're nervous about it and they think this is a big effort but eventually, it takes so
much less time than the telephone, you could do that in the time it takes you to ring them.

**DUJS:** But, how to do you get the elderly population to use the Internet in this way?

**Koop:** One of the things we worried about five years ago was how we are going to teach older people
about the Internet. These are the most rapidly growing users of the Internet and they call them the
"Wired retired." It's amazing . . . they learn very quickly. They don't have to learn how to use a
computer. They just have to learn how to follow what they need to do. The computers are so easy now,
they're self-explanatory. Click here and you go there and you're suddenly in a new world. Then you
click here and you're in another world.

**DUJS:** What does the future hold for drkoop.com and what does the future hold for you, Dr. Koop?

**Koop:** I would like to see drkoop.com be the dominant medical health site in the United States. I would
like to see it be goal standard for the ethical use of advertising on the Internet. Then, I would like to
branch out in two directions. I would like to see this go to the European countries that are most up on
the Internet. That is Great Britain, France, Italy, and Germany. But, all my life I have wanted to see
better care brought to the Third World, and the thing that I always thought would stand in the way was
that the Third World had no infrastructure on which to build a medical system. But, wonder of wonders,
you don't need an infrastructure if you have computers and a cellular phone system . . . . So, you could
have a computer in a town and somebody who understood something about medicine . . . and a cell
phone system that connects you with somebody back here . . . . What I really want to do is see
drkoop.com expand with the help of other companies and work with WHO [World Health Organization] to bring what we know we can bring to the Third World now. **DUJS:** Similar to the ability of drkoop.com to empower patients to be well informed about health care, we, at the DUJS, hope to empower students and the Dartmouth community as a whole to be informed about science and scientific research. Do you have any advice for us as we proceed with this mission?

**Koop:** Yes, I feel so strongly about this, Amar. . . . The last decade was the world of physical medicine. It was the nuclear and all that sort of stuff. The next decade, being the first decade of this next century, is going to be biomolecular. It's going to be within the cell, and I don't think that three years from now, if you don't have some understanding of biotechnology, you will be able to read Newsweek magazine. So, I feel very strongly that what you are doing to try to elevate the scientific intelligence of the community here is tremendous. It's not only a necessary thing, but it will be a very rewarding effort because even though the guys who read it may not know what they're getting out of it at the beginning, it will count a tremendous amount later. I think it is very important.

See Dr. Koop's website for yourself at [www.drkoop.com](http://www.drkoop.com).