

# A New Perspective on Consumer Health Web Use: “Valuegraphic” Profiles of Health Information Seekers

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*Only one half of adults in the United States place a high priority on seeking health information. An examination of today's health information seeker based upon health behavioral intentions, values, and priorities (valuegraphics) reveals that an individual's level of health information seeking corresponds to the value he or she places or the quality of health desired, and current level of personal health involvement. The relationship between valuegraphics and health status and health care use is also examined. Findings from a study that identified significant variance in Web use and satisfaction based upon the valuegraphic profiles of visitors to a hospital system-sponsored consumer Web site are also examined. The implications of consumer health valuegraphic profiling to future Web development by health care organizations are discussed. Key words: consumer health Web use, e-health, health behavior, health information seeking, health values, profiling*

## A New Perspective on the e-Health Consumer

Most health care professionals by now are well aware of the projected growth in use of the Web by consumer health information seekers. So too, the demographics of today's e-health consumer are familiar to us all: predominantly female, 39 to 40 years old, well educated, with an above-average income. What most of us are probably not aware of, however, is that from a “valuegraphic perspective,” only about one half of adults in the United States place a high priority on seeking health information on the Web or anywhere else. Demographically, on-line health information seekers and non-information seekers are practically indistinguishable. When looked at in terms of their personal health values and priorities (forces that shape health behavior), there are significant differences between health information seekers and non-health information seekers. Given the level of financial and human capital being directed by health care organizations at reaching and interacting with today's e-health consumer, these are differences that health care strategists cannot afford to overlook.

This article looks at today's e-health consumer from a “valuegraphic” perspective. Just as a person can be profiled in terms of his or her known gender, age, education, the Web sites he or she visits, and so on, that same person can also be profiled based upon health behavioral intentions, values, and priorities. Using the PATH (Profiles of Attitudes Toward Healthcare)<sup>TM</sup> Model, this article will identify nine different consumer health care valuegraphic patterns that exist in every market in the United States, present research-based examples of how these valuegraphic patterns help shape consumer use of the Internet for

seeking health information, and discuss the implications for Web strategy and development.

**Valuegraphic Profiling of Today’s e-Health Consumer: The PATH Model**

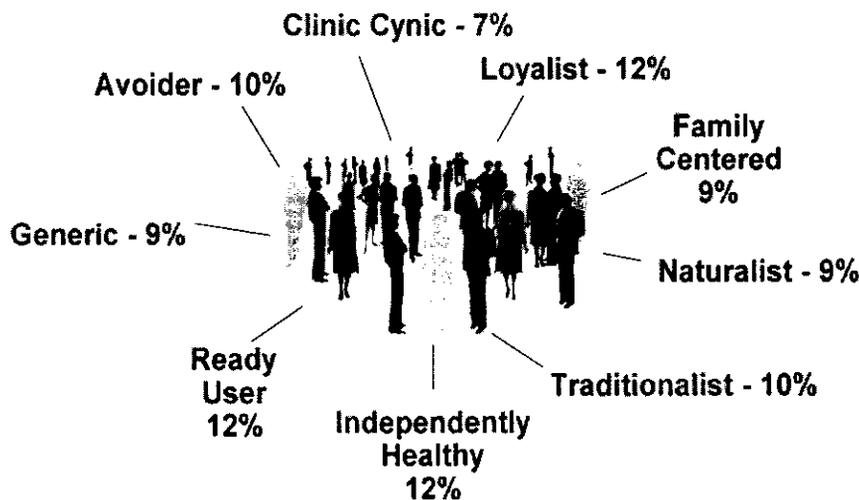
The PATH (Profiles of Attitudes Toward Healthcare)™ Model is a nationally validated approach to segmenting and profiling adults based on the health care behavioral traits, intentions, and attitudes measured using a 15-question research instrument.<sup>1,2</sup> Behavioral traits describe what a person is doing now or commonly does; intentions refer to what they intend to do in the future. The behavioral traits, intentions, and attitudes captured by the PATH Model provide insight in the health care priorities and values held by adults. Values are those generalized, enduring, consistent priorities that shape how a person wants to live. They reflect what is important to people; they explain why a person chooses one course of action over another.

Research has consistently shown that 90 percent of adults in the United States fall into one of nine “valuegraphic profiles” (PATH Groups) based upon their pattern of health care values and priorities. The remaining 10 percent of adults do not display any predictable or consistent pattern. Figure 1 shows the

national distribution of adults who display each of the nine PATH profiles. The valuegraphic patterns represented by each of these nine groups are independent of a person’s gender, age, education, income, or geography.

The PATH Model measures consumer health values and priorities across 11 dimensions (see Figure 2) that are known to influence the way consumers shop for, select, use, and evaluate health care services, including seeking health care information on the Web.

The PATH Model captures the dynamic interplay between the 11 dimensions of consumer health behavior that it measures across different individuals. For example, a high Level of Health Information Seeking has strong positive associations with a high Level of Health Proactivity among one group of adults, but a negative association with high Health Proactivity among another group of adults. Likewise, a high Level of Health Emphasis and Involvement (in nutrition, diet or exercise) is positively associated with a high Level of Trust in Medical Professionals among one group of adults, and negatively associated with a High Level of Trust in Medical Professionals among another. The PATH Model shows that high levels of health care information seeking are not always tied to things like high health care demand.



**Figure 1.** Distribution of PATH Groups—National. *Source:* PATH Trends Database. Copyright 1999 by the PATH Organization. All Rights Reserved. Used by permission.

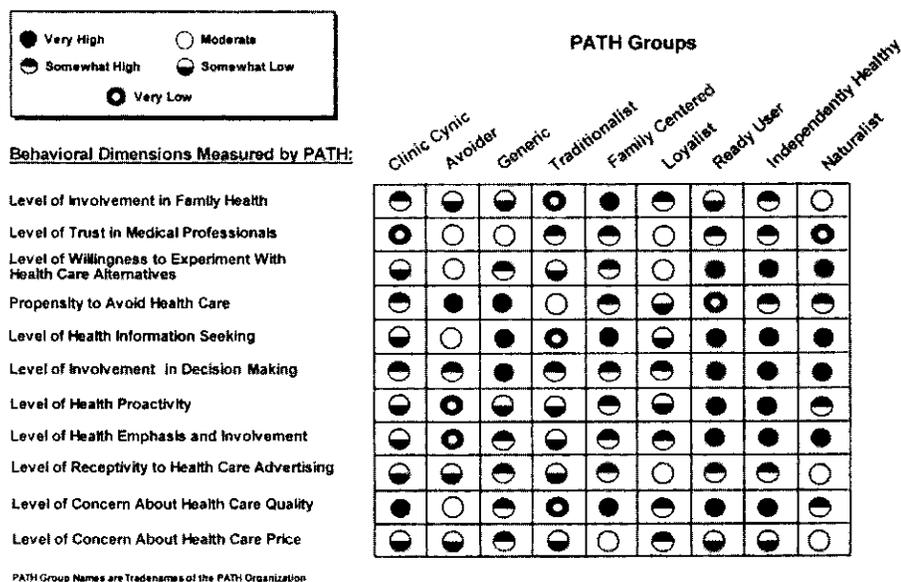


Figure 2. Pictogram of behavioral dimensions. Source: PATH Trends Database. Copyright 1999 by the PATH Organization. All Rights Reserved. Used by permission.

## Health Care Valuegraphics and Demand for Health Care

The behavioral trait, intention, and attitude measures used in the PATH Model have been linked to meaningful variance in the utilization of and demand for health care services.<sup>3,4</sup> These variances include prevalence of certain disease states and different levels of demand for health care services such as physician visits, specialist visits, outpatient treatment, prescription drug use, and hospitalizations. Traditionalist adults, for example, tend to be older and frail, which is consistent with their 20 percent higher rate of inpatient hospitalizations. Ready User adults are linked to higher rates of conditions like hypertension, and while they too have high use rates for primary care physicians, specialists, and outpatient visits, they have lower rates of inpatient hospital admis-

sions. Independently Healthy and Generic adults, in contrast, display consistently lower rates of demand (10 to 20 percent below the average) for the same medical services. This corresponds with the higher health status and lower prevalence of many diseases typically linked to adults with these valuegraphic profiles.

## Consumer Valuegraphics and Health Information Seeking

Of the nine PATH Groups, five place a high priority on seeking health information. These PATH Groups are the Generic, Ready User, Family Centered, Independently Healthy, and Naturalist. Yet, the motivation for seeking health information, the nature of the information sought, and where they go for health information differs among them. Let's take a look at the different health care values and priorities expressed by these health information seekers.

### Generic™ Profile

Adults with the Generic profile are highly price-conscious and want only the basics when it comes to health care services, even if they have to trade off quality to get it. These adults display a low concern about their

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personal health and do not plan ahead for their health care, seeking health care only when they really feel they need it. They display moderate trust in medical professionals. Adults with the Generic profile have high information needs, particularly as it relates to shopping for price, and display a high receptivity to health care advertising. These adults are also willing to experiment with new health care alternatives. Whether justified or not, these adults generally display lower demand for the majority of health care services. A prime obstacle may be their concern about health care costs.

#### **Ready User™ Profile**

Adults with this profile are very actively involved in their own health, plan ahead for their health care, and are driven by the high value they place on achieving above-average health. They place a high priority on health information seeking and are receptive to health care advertising. They place a high value on quality care and are willing to pay more for it. Ready User adults are also very willing to experiment with health care alternatives. Consistent with their high level of Health Proactivity and their high Level of Trust in Medical Professionals, the Ready User adults have the highest use rates for most health care services.

#### **Family Centered™ Profile**

Adults with this profile place a high value on making sure that family members have above-average health, suggesting a willingness to settle for average health for themselves. Their tendency to plan ahead for health care, including actively seeking health information, is largely directed toward others in the family. Adults with this profile have a higher level of Trust in Medical Professionals and are willing to experiment with new health care alternatives. Family Centered adults place a high value on quality, and to a lesser extent cost.

#### **Independently Healthy™ Profile**

Adults with this profile are very actively involved in their own health and are very proactive in their behavior, including participation in competitive sports. They are driven by the high value they place on achieving an optimum level of personal health and performance. The active health information seeking behavior offsets a slight distrust of medical professionals. Low use of and low dependence on physi-

cians is common and mainly the result of their regular health and fitness activities and their associated low disease prevalence. Independently Healthy adults show a high willingness to experiment with health care alternatives and a moderate receptivity to health care advertising. They place a high value on quality and are willing to pay more for it.

#### **Naturalist™ Profile**

Naturalist adults place a high value on achieving above-average health, including good nutrition, and are involved with staying physically active. Adults with this profile have a higher tendency to avoid traditional medical care and a strong distrust of traditional medical providers, including traditional health care advertising. Their high level of health information seeking is generally directed toward alternative health and medical treatments. Naturalist adults place a high value on quality and to a lesser extent, cost.

### **“One Size Does Not Fit All” When It Comes to Effectively Meeting the Needs of Today’s Health Information Seeker**

As the descriptions of these five different profiles of health care information seekers suggest, adults look for different types of health and medical information for different reasons. Generic adults place a priority on seeking out health information that will guide them in shopping for the best economic value for themselves and their family. Ready User adults place a priority on seeking out information about the latest high-quality clinical treatment services. Family Centered adults place a priority on finding information on preventive treatment and support services for their family. Independently Healthy adults place a priority on finding information that will help them maximize their health potential, particularly when it comes to exercise and competitive sports. Naturalist adults place a priority on looking for information on alternative and complementary medicine, partially motivated by their lack of trust in traditional medicine.

Understanding what information today’s e-health consumers want (priorities) and why they want it (values) are key to developing targeted, customized health information content for the Web, or any other medium. This will be demonstrated in the case studies that follow.

## Valuegraphics and Health Web Use: Two Case Studies

HealthPlus™ is a survey product of HCIA/Sachs/Scarborough Research. It is an annual survey of health care trends measured across 30 U.S. markets consisting of nearly 100,000 interviews. Conducted since 1995, PATH Model information has been an important part of the data collected through HealthPlus™. In the most recent study completed in the fall of 1999, only 24 percent of those adults surveyed had reportedly used the Internet to “look up” health information during the previous 12 months. Because respondents in the HCIA/Sachs/Scarborough study were profiled using the PATH Model, health care information seeking can be analyzed from a valuegraphic perspective, as shown in Table 1.

Consistent with their valuegraphic profiles, Generic, Family Centered, Ready User, Independently Healthy, and Naturalist respondents reported the highest levels of using the Internet for a health care reason during the previous 12 months, accounting for 76 percent of all Internet health information seekers. As expected, the valuegraphic profiles associated with lower levels of Health Information Seeking (e.g., Avoider, Clinic Cynic, Traditionalist, and Loyalist) reported much lower Internet use for something health care related.

**Table 1**

PATH Group Behaviors as Reported in Survey

Path Groups	Used the Internet to Look Up Health Information in the Previous 12 Months (%)
Clinic Cynic	2
Avoider	9
Generic	21
Traditionalist	4
Family Centered	15
Loyalist	9
Ready User	14
Independently Healthy	16
Naturalist	11

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In another study conducted in late 1999, the 15-question PATH profiling instrument was included in a telephone survey of 400 adults who were known to have visited a health Web site introduced three months previously by a national hospital system. The nature and scope of the consumer-oriented Web site followed a familiar format: physician referral information, information on member hospitals, disease-specific information, and prescription drug information.

Table 2 shows the breakdown of visitors to the Web site in the case study by PATH Group compared to the breakdown of the U.S. population by PATH Group. Generic, Family Centered, Ready User, Independently Healthy, and Naturalist adults accounted for 83 percent of total Web site visitors compared to only 51 percent of the general population.

As stated previously, because consumers with these PATH profiles place a high value on their own or their family's health, they make health information seeking a high priority.

In contrast, Clinic Cynic, Avoider, Traditionalist, and Loyalist consumers made up only 7 percent of all Web site visitors, compared to 39 percent of the general population. Again the explanation lies in recognizing that because they place a lower value on their health, other activities (including non-health-related Web surfing) take on a higher priority than health information seeking.

## Use of the Web and Other Health Information Sources by PATH Group

Respondents in the study were provided with a list of health information sources and asked to indicate whether they had used that source within the previous 12 months. Figure 3 is a spatial preference map showing each of the nine PATH Groups relative to 13 different health information sources, including the Internet/on-line service. The greater the proximity of a group to an information source indicates more frequent use. Results will be contrasted by looking at the positions of the active health care information seeking groups with the less active ones.

### Active Health Information Seekers

Ready User and Independently Healthy consumer profiles show more frequent use of the Internet along with their own personal doctor, wellness classes, soft-

**Table 2**

Distribution of PATH Groups

Path Groups	Distribution of U.S. Population by PATH Group (%)	Distribution of Web Site Visitors by PATH Group (%)
Clinic Cynic	7	1
Avoider	10	1
Generic	9	18
Traditionalist	10	1
Family Centered	9	18
Loyalist	12	4
Ready User	12	22
Independently Healthy	12	15
Naturalist	9	10

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ware on compact disks, and physician referral services. Family Centered consumers demonstrate a greater reliance on health information kiosks, magazines and newsletters, newspaper articles, nurse help lines, wellness classes, software on compact disks and to a lesser extent, the Internet. Generic adults tend to look to magazines and newsletters, nurse help lines, medical textbooks, and toll-free information lines rather than the Internet. Adults with the Naturalist profile show less use of the Internet and more reliance on medical reference books and nurse help lines.

**Less Active Health Information Seekers**

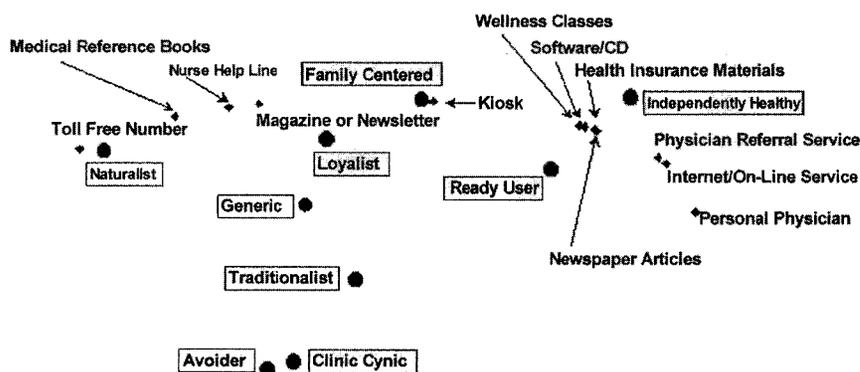
Adults with the Loyalist profile show greater use of magazines and newsletters, but moderate attraction for the Internet. Avoider, Clinic Cynic, and Tradition-

alist adult consumers, as expected, show little use of any health care information sources, particularly any source on the Web.

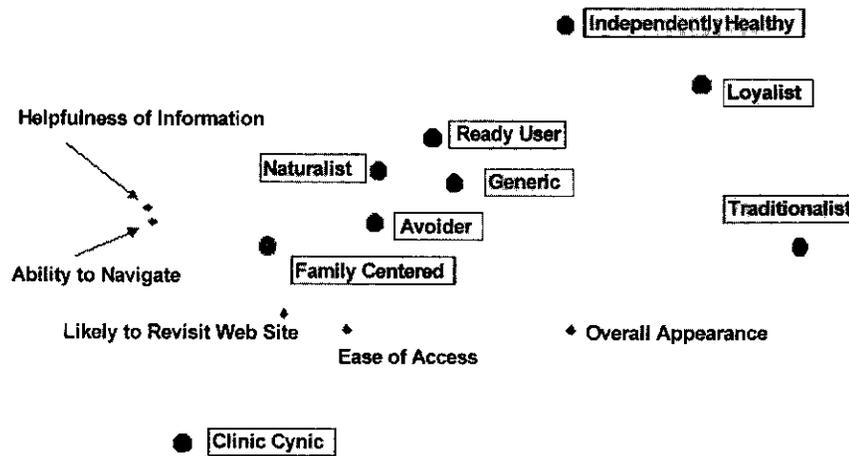
**Rating Their Web Experience: A Valuegraphic Perspective**

Web site visitors in the study were asked to rate the health Web site on the following criteria: helpfulness of the information, ability to navigate, ease of access, overall appearance, and likelihood of reuse. The results of this evaluation are depicted in the perceptual map shown in Figure 4.

Based on each PATH Group's proximity to each evaluative criteria, it can be seen that both Independently Healthy and Loyalist consumers were gener-



**Figure 3.** Health information sources used by PATH group. Source: PATH Trends Database. Copyright 1999 by the PATH Organization. All Rights Reserved. Used by permission.



**Figure 4.** Web site user evaluation by PATH group. *Source:* PATH Trends Database. Copyright 1999 by the PATH Organization. All Rights Reserved. Used by permission.

ally the least satisfied with the health Web site that was the focus of the research. Ready User and Generic consumers were only somewhat closer to each of the evaluative criteria. Among health information seekers, only the Family Centered consumers gave the Web site above average marks for each of the evaluative criteria.

Perhaps the most disconcerting finding was that Independently Healthy adults, who are the most active health information seekers, and very active Web users, were the least likely to “reuse” the Web site in question. Why might this be? One probable explanation has to do with the type of content offered by this and many similar hospital-sponsored sites. That is, the health information content (and graphics) on the site’s home page focused entirely on disease, disease treatments, and information of prescription drugs. Nowhere on the home page was there any information that Independently Healthy consumers would find particularly valuable based upon their valuegraphic profile, that is, information on wellness, sports medicine, and peak performance.

The same rationale that helps explain why the Web site in this case study was poorly rated by Independently Healthy may also explain why Family Centered consumers rated it well. More than likely, Family Centered consumers are online looking for health information for family members, including older relatives who are sick or under medical care. Information

about specific diseases, treatments, and prescription drugs are exactly what Family Centered needed and found on the Web site.

### Conclusions and Implications

The initial euphoria that brought staggering profits and eventual record losses to dot com pioneers such as Dr. Koop, MD, DrugStore.com, Healtheon/Web MD, and so on, is fading. Yet, the easy availability of health care information on the Web has helped to spark the new “age of consumer empowerment.” Health care consumers can now get the facts with a click. They no longer need rely only on what the doctor wants to tell them. The information to help them make more informed choices is easily obtained.

Yet, going forward, health care organizations must temper the promise of the entire U.S. population eventually going online to look up a medical condition or symptom with the reality that as many as 50 percent of health care consumers nationally do not place a high priority on their health or on seeking health information, even when they are sick. The percentage of adults in the United States that constitute health information seekers from a valuegraphic perspective has not changed since the PATH Model was first used to profile health care consumer in 1986. This fact suggests that up to now, the availability of health information on the Internet *has not changed*

people's inherent health care values and priorities. Rather, the Internet has afforded those consumers who value and seek health information a promising new medium for learning about and managing their own health care.

Health care strategists must also acknowledge that consumers who are active health information seekers are not a monolithic group, and should not be treated as one. As has been shown, health information seekers can be segmented into five different valuegraphic groups with different patterns of health care values and priorities. Each group relies on different information sources to find different types of information, motivated by different reasons. The second case study demonstrated how a lack of appropriately targeted, meaningful content resulted in a poor Web experience for the most active e-health consumer segments.

Health care organizations need to be very clear about what they want to accomplish when it comes to establishing a presence in the consumer e-health market. Are you a hospital that wants to attract prospective new patients, or a health plan looking for new members? Is your goal to provide support for noncompliant patients with a chronic disease? As demonstrated here, different valuegraphic patterns (PATH Groups) are linked to and can be used to predict specific health behavioral outcomes, including physician, hospital, and health plan selection, health care use rates by type of service, expected level of patient/member compliance, and expected level of satisfaction with service. For example, if the goal of a hospital's Web site is to increase inpatient and outpatient admissions, and its positioning strategy is that of being a health information leader, the hospital's Web strategy may well appeal to Independently Healthy adults who are very active seekers of on-line health information. Their goal of increasing admissions would not be realized, however, as this valuegraphic group is the least likely to require the services of physicians, hospitals, and pharmaceuticals throughout their lifetimes. However, Independently Healthy adults would be an attractive market for health plans for these very same reasons.

Health care strategists need to begin collecting valuegraphic data on Web site users, in addition to demographic and banner ad tracking data, if they are going to be successful in delivering a customized, one-to-one Web experience. Alone, demographic data, or

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data collected when visitors fill out a registration form or click on a banner advertisement, are weak predictors of current or future health behavior. You cannot, for example, predict the likelihood that a Web visitor is accessing health information for his or her own use or for a family member. By including a simple valuegraphic-profiling tool on a Web site, the user's profile could be stored (consistent with the appropriate privacy regulations) and in the future used to call up highly personalized content targeting their known health care values and priorities. The fact that health care demand rates can be linked to each valuegraphic profile makes such targeting that much more appealing.

Finally, just as health care valuegraphics can be used to help develop appropriate message elements (headlines, graphics, and offers) for traditional health care advertising, so too can valuegraphics be used to help identify key message elements for health care Web sites customized for a target audience. Let's assume that a health plan wants to design a site to promote a new alternative medicine benefit. Whereas the inclination may be to use a traditional "white coat and stethoscope" approach to convey a message of confidence and trust, these message elements would repel Naturalist adults—those with the most interest in alternative medicine. The reason is that they have a very low level of trust in medical professionals, that is, the traditional medical model. So the health plan's efforts to convey trust would have a high probability of causing the opposite effect on those members who should most welcome and benefit from the information. The correct application of health care valuegraphic information would drastically reduce the chances of this happening.

Health care valuegraphics is the tool that can more effectively empower health care organizations to better understand and interact with the new empowered health care consumer. As these health care consumers

grow in dominance, a correct understanding of their varied and diverse health care values and priorities will become exceedingly acute.

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