Supplemental Handout One: E-Health Colloquium

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(This presentation formed the basis of the first hour delivered by Joyce Flory on August 20, 2000.)

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PRELIMINARY COMMENTARY

I began the presentation discussing some basic trends that had been presented by previous speakers:

Auction sites: Auction sites are likely to proliferate. Already you can find sites such as Medicine Online (http://www.medicineonline.com/) Increasingly, patients, consumers, and payors will be able to bid for various types of products and services. The thought of William Shatner hawking galbladder surgery for Priceline.com is frightening, but it could happen.

Internationalization: The Web is going international, with a growing number of U.S.-based Web companies finding their way into Europe and Asia to capture the physician market. U.S. hospitals will use Latin American portal sites, for example, to promote their goods and services. And within the U.S. a growing number of sites will become more sensitive to the healthcare needs of ethnic populations. You can already see this manifested in African-American portal sites such as BET (http://www.bet.com/), which has a health channel, and in Yupi (http://www.yupi.com/), which serves the Hispanic population.

Wireless: This technology has tremendous implications for both patients and providers. Disease management companies such as Lifechart.com are experimenting with wireless technologies and measuring outcomes. Patients can track their symptoms and triggers via a wireless phone, while physicians can prescribe medications and schedule appointments. Look for more intriguing uses of this technology.

Patient e-mail: Don't drive yourself nuts trying to develop guidelines. Build on what has already been created by the American Medical Informatics Association AMAI, http://www.amia.org). Search on patient e-mail on the site's search engine and you will find a complete document on how to develop an e-mail system.

Licensing: The licensing decision —whether for content or for specific applications such as an online health record—is critical, but it isn't the ultimate solution. Providers—hospitals, health systems, and health plans—must still struggle to integrate their own content and use their sites to reposition and market physicians. An example of a site that has done this especially well is NetWellness (http://www.netwellness.org/), which pioneered the ask-the expert feature and involves a different group of physicians each week. Other approaches to the ask-the-expert feature have been taken by MylifePath.com (http://www.mymylifepath.com), Ahealthyme.com (http://www.ahealthyme.com/), and ThriveOnline (http://www.thriveonline.com),

which is now owned by Oxygen. NetWellness.org should also be studied for the way it involved schools, libraries and state government in promoting access.

PART ONE: Understanding the Changing Expectations of Consumers and Physicians

Where We're At Now

Key Point One: Demand for healthcare information is on the rise, but quality continues to be uneven.

By 2005, 88.5 million adults will use the Internet to find health information, shop for health products and communicate with affiliated payors and providers through online channels, according to research by Cyber Dialogue (http://www.cyberdialogue.com/)

Cyber Dialogue's study "The Future of e-Health" found the consumer demand for healthcare content has already reached critical mass -- an estimated **36.7 million adults** -- and will continue to grow at roughly twice the rate of the overall online population.

Health-related **e-commerce** has already taken flight with 11 million consumers shopping for health and beauty products, and Cyber Dialogue predicts this number will grow to more than 55 million by 2005. Purchasing vitamins, supplements, and personal health products marks a significant change in online consumer buying behavior, which has typically revolved around the purchase of books, travel, and computer hardware/software.

The study also identified key growth segments that will impact the future of e-Health, as well as areas that may inhibit growth. Among the reasons for continued growth are increased online penetration among the **elderly** (65+ years); **health insurance companies** aggressively migrating their customers to the Web; health **providers** urging patients to use the Web for education, insurance, and prescription drug orders; **employees** conducting health insurance transactions online; and **new parents** relying on the Web for health/parenting information. Among the possible culprits for declining growth in the market are a lack of detailed content; privacy concerns regarding the submission and transmission of health information online; delays in businesses implementing their business-to-business strategies; and reluctance of doctors/providers to embrace the Web as a tool for business and communication with other professionals and patients.

A survey by **Gomez Advisors** (http://www.gomez.com/) found the plethora of health-related content online may be one of the biggest disadvantages. Of the 12,000-plus individuals surveyed by Gomez, 77 percent indicated they have previously searched online for health information. But Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

30 percent of the consumers were indifferent when asked which health site they would use if restricted to only one.

The Gomez survey also found the top motivation driving consumers to access health information online is when a loved one was diagnosed with a medical condition, indicating the majority of **health information seekers go online to help others.** The findings also suggest the majority of these online consumers are most concerned with the credibility of health information on the Internet and the trustworthiness of a site. In fact, 85 percent rated high credibility as the single most important attribute when selecting a health site.

Privacy is also an important factor during an online health consumer's site selection. Sixty-one percent of consumers indicated they are hesitant to provide their health information over the Internet out of fear that others will gain unauthorized access.

The Gomez survey also found what consumers really want is for health sites to provide **convenience and interactivity**. Of those polled, 41 percent said the ability to e-mail their own doctor the most valuable feature they'd like to see on an online health site. Other site features important to consumers include **the ability to obtain lab results online**, and **convenient tools** that allow consumers to verify health insurance eligibility and track reimbursements.

(For more discussion on this issue, see key point three below.) On the e-commerce side of the e-healthcare business, US consumers are expected to spend \$10 billion on health-related products online in 2004, according to Jupiter Communications (http://www.jup.com/). While Jupiter found that nearly half (45 percent) of online consumers access the Internet for health information, they remain skeptical about making health-related purchases. The consumers told Jupiter it was more convenient to pick up healthcare items when doing other shopping offline, and also expressed concerns about returns.

Key Point Two: Consumers are worried about privacy.

Successful online pharmacies will move beyond improving infrastructure to providing high-level services that will enable patients to comply with drug therapies, according to Forrester Research (http://www.forrester.comn/). But unless they can provide a pharmacist or doctor, Greenfield Online says some consumers may remain skeptical.

Successful development of the online healthcare field will depend upon companies adequately handling consumers' concerns about privacy, ethical and security issues, according to a report by Cyber Dialogue. (http://www.cyberdialogue.com/)

The report, "Protecting Consumer Privacy in Online Healthcare," is based in part on a survey sponsored by the California HealthCare Foundation and the Internet Healthcare Coalition. It found that among the 37 million online users who do not currently use online health information, 6.3 million are not doing so primarily because of privacy and security concerns. The report Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

identifies several measures that, if implemented, could have a positive impact on users' desires to release personal health information online. The study also explores the attitudes of African-Americans, Asians and Latinos towards online healthcare.

In particular, online health seekers are concerned that insurers could use private personal health data to limit or affect their insurance coverage, or that employers could use such information to limit job opportunities. In fact, many Internet users fear that the mere act of searching for general health-related information online may bring repercussions from insurers and employers.

Other findings in the report include the fact that 49 percent of Caucasians online seek health information online, compared to 38 percent of African Americans, 37 percent of Asian Americans, and 29 percent of Hispanics.

Consumers are uncertain whether personal health data are protected by law and confused about whom should regulate Internet health information.

e-Health consumers are most likely to trust their physicians, medical institutes and associations to maintain the privacy of their personal health information; they are least likely to trust pharmaceutical companies, Web portals and online drugstores.

Key Point Three: Consumers are interested in buying online but perceive problems.

US consumers are expected to spend \$10 billion on health-related products online in 2004, but they are unimpressed by the current online offerings, according to research by Jupiter Communications. (http://www.jup.com/)

Nearly half (45 percent) of online consumers access the Internet for health information, but they remain skeptical about purchasing health products online. In a survey of more than 1,600 online consumers, Jupiter found that 49 percent of respondents stated they do not buy health products online because they feel it is more convenient to pick up items when doing other shopping. The consumers also expressed concern about difficulties returning items to an online merchant and slow product delivery.

With surge in consumer online health commerce from \$200 million in 1999 to \$10 billion by 2004, will be fueled by several factors, according to Jupiter Communications: a burgeoning health sector with well-financed players spending marketing dollars feverishly, a growing online population that is more comfortable with shopping online, and the emergence of women as online buyers. The commerce dollars for the online health segment are highly fragmented.

Pharmaceutical sales will account for about \$4.5 billion of the total \$10 billion spent in 2004, representing a dominant 45 percent of online health spending; however, only 2.5 percent of that \$4.5 billion will have shifted from the traditional channel, because players will continue to struggle to adequately address reimbursement issues.

Nutraceuticals will generate \$1.7 billion, or 17 percent of the online health market, in 2004. This represents a channel shift of approximately seven percent in this category, which includes vitamins and other herbal supplements.

Sales of personal care and over-the-counter (OTC) products will reach \$2.3 billion and \$600 million, respectively. Similar to the nutraceuticals segment, a multitude of players will mark the competition for dollars in these categories.

Jupiter's research also showed that online advertising dollars for the health space will grow from the \$100 million in 1999 to a still-modest \$700 million by 2004. Online health will only represent five percent of overall online ad dollars, a figure too low to significantly impact the multitude of existing content players. According to Jupiter, this suggests the market cannot sustain the current glut of players in the healthcare segment and a shakeout looms. It also implies that despite the impressively high margins advertising affords, content players cannot live by ad dollars alone and that convergence with commerce, and ultimately, connectivity players is thus inevitable.

Consumers have also expressed concern about healthcare-related content on the Web. A survey of consumers in Michigan found that only 29 percent of those surfing the Internet have a high level of trust in the health information they find online. More than half (59 percent) indicated they have only a fair amount of trust in what they find, according to the survey, which was conducted by MEDSTAT Group.

One-third of consumers surveyed used the Internet for health information in the last 12 months, according to the survey. Of most interest to these users is disease-specific data, with 82 percent indicating they used the Internet to gather such information. General and preventive health information was also popular, with 63 percent of users searching the Internet for it. The survey also found that consumers' trust of the health information they find on the Net is greatest when it's sponsored by a recognized organization or healthcare leader, such as the National Cancer Institute. Seventy-one percent of households said they have a high level of trust in information presented with such sponsorship. In contrast, information sponsored by a pharmaceutical company is viewed skeptically by consumers, with only 20 percent indicating a high level of trust in such data. The MEDSTAT survey found the respondents trust friends and family above all else for information about doctors and hospitals.

(For more on this topic, see key point two above.) aInternet users are also wary of the information they share online relating to their personal health care, according to a survey by Cyber Dialogue and the Institute for the Future, sponsored by the California HealthCare Foundation (CHCF) and the Internet Healthcare Coalition (IHC).

According to the survey of 1,000 US online adults, 75 percent of the respondents seeking Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

healthcare information on the Internet are "concerned" or "very concerned" about the sites with which they've registered, sharing their personal information with a third party without their permission. Despite this, the survey found consumers are willing to share a range of personal information if it is used to enhance their online experience and is not subject to unwarranted or undisclosed sharing or abuse.

The survey also found that consumer confidence in a site is boosted if it is recommended by a user's doctor; has a privacy policy that states information will not be shared; gives users the opportunity to see who has access to their profile; and allows users to make choices about use of their information. The factors with the biggest negative influence on users are if a site shares information with advertisers or marketing partners; automatically collects information about the users; and if the site is sponsored by an insurance or pharmaceutical company.

Key Point Four: The jury is still out in terms of really understanding how physicians feel about the Web.

Physicians' use of the Internet is increasing, according to the 1999 version of Healtheon Corp.'s Internet Survey of Medicine. It revealed that 85 percent of physicians surveyed are currently using the Internet, an increase in regular online activity by doctors of 42 percent in the last three months, and a jump of 875 percent from 1997. The ongoing research project has chronicled almost 10,000 physicians' computer needs and expectations over the last three years.

The survey also found that more than 63 percent of the physicians surveyed use e-mail daily and 33 percent have used e-mail to communicate with patients. Doctor-patient communication via e-mail has jumped 200 percent in the last year and nearly 20 percent in the last three months. Electronic communications between patients and doctors did not even register as a significant behavior when physicians were surveyed in 1997. The use of e-mail for personal communications had also increased by 33 percent.

More than 34 percent of the respondents noted that security remains a primary concern in the use of e-mail or other interactive Internet services. Other obstacles to Internet adoption include: lack of time (49 percent), lack of meaningful network content and services (20 percent), and cost (10 percent).

Physicians and group practices with Web sites represent approximately 30 percent of the medical professionals surveyed; nearly a third of the specialty medical associations offer a Web site for their members. An additional 16 percent of doctors plan to post a Web site for their practice within the year.

However, another 1999 study shows that physicians may be missing the Internet opportunity. Half of all online users say they would be interested in using a Web site operated by their own doctor's office, but only 4 percent are currently doing so, according to Cyber Dialogue's Cybercitizen Health study.

Only 9 percent of online users say they are aware of a Web site operated by their doctor's office. The finding of slow adoption of doctor-driven sites stands in contrast to the rapid overall adoption of Internet health information, with the number of Internet health users increasing 45 percent over the past year to reach 24.8 million US adults as of July 1999.

E-mail communication with patients is another area of slow adoption by doctors. Cyber Dialogue found that 48 percent of online users currently express interest in communicating with their doctors' office via e-mail, but only 3 percent are currently doing so, and only 11 percent are aware of their doctors' e-mail address.

Using the Internet for patient communication is also an opportunity for doctors to build stronger practices. Among those online users who expressed interest in using a doctor's Web site, 29 percent said they would be likely to switch doctors to do so. Similarly, among those who expressed interest in e-mailing their doctors, 33 percent said they would be likely to switch doctor to do so.

Aside from not having their own Web sites, physicians have also not been a major force directing their patients' use of other health Web sites. Despite the fact that 74 percent of online users using health content say a doctor or pharmacist recommendation would make them more likely to trust a Web site, only 4 percent say that doctor and pharmacist recommendations are currently having an impact on which sites they use.

The Healthcast 2010 survey of 400 healthcare executives in the US, Canada, the Pacific Rim, and Europe done by PricewaterhouseCoopers found the Internet will be among the factors causing disruptive changes in the health-care system.

For example, 35 percent of the survey's US respondents felt that by 2010 individuals would store their electronic medical records on a source that is not part of the current healthcare system. Twenty-four percent of respondents thought that source would be an Internet portal site, while 11 percent though patients would use non-healthcare, third-party businesses.

The survey also found that e-business will change interaction between providers and patients. Eighty-nine percent of respondents predict in-office visits will decrease if physicians routinely offer Web-based consulting tools. The reduction, estimated by 59 percent of the respondents to be at 20 to 30 percent, will shift to attending to patients' needs via the Web.

Consumers in the next decade will better understand healthcare issues and make more decisions Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

about their own treatments as a result of the Internet, the study found. However, among the findings of the survey was the belief that hospitals and insurers are unprepared for the upcoming surge in consumerism. Only 25 percent of those surveyed though hospitals were prepared and just 14 percent thought insurers were prepared to deal with empowered consumers.

Another 2000 study found that consumers choose health sites with doctors' input. Consumers believe the most credible health Web sites are those recommended by their physicians or sponsored by a local hospital, according to a study by LaurusHealth.com. The health-related Web sites viewed as least credible by consumers are ones sponsored by companies that sell products on the site.

The study found that 67 percent of the consumers polled considered health Web sites recommended by their physician to be the most credible and trustworthy, followed closely at 61 percent by Web sites sponsored by their doctor. Health sites affiliated with doctors and hospitals scored high overall, with 56 percent of consumers trusting Web sites sponsored by their local hospital and 51 percent trusting sites sponsored by an alliance of doctors and hospitals.

Consumers place the least amount of credibility, according to the study, in sites that are sponsored by a company that sells products via the Internet (9 percent). Other health Web sites perceived to be less credible are those consumers saw in a TV ad (13 percent); sponsored by a pharmaceutical company (21 percent); and those identified with the name of a famous doctor (28 percent). Even sites recommended by a friend were viewed much lower in credibility at 32 percent than those affiliated with a doctor or hospital.

PART TWO: What Consumers Expect: Faster, Better, Closer, and Free

The proliferation of Internet connectivity and the growing number of quality Web sites has transformed consumer expectations for a quality Web experience. People want their Web connections to be faster, better, and cheaper, but they also want a high-quality online experience—one that will make them want to return again and again.

To that end, what we're seeing are more and more integrated marketing communications and creative partnerships with providers. **WebMd** (http://www.webmd.com) has done a terrific job in this regard, creating a partnership with Sports Authority and HEALTHSOUTH (http://www.healthsouth.com/) to offer free gift certificates to Health South patients and do promotions to Sports Authority employees—using signage in Sports Authority stores, having columns in employee publications. Even more important, last month they partnered with **HealthSouth** to offer free mammograms with PSAs done by Gillian Andersen of the X-Files and other promotions on Rosie O'Donnell's. And they've also developed creative partnerships with

HealthNetwork, (http://www.thehealthnetwork.com/ which is owned by the Fox Network, to carry all of their promotions. In the future, I think we're going to see more creative partnerships between large media companies and portal sites as is the case with CBS and Medscape (http://cbshealthwatch.com/) between real-world and online stores and portal sites, and between healthcare providers and portal sites.

Following are some changing expectations of consumers:

1. Consumers expect providers to deliver on the basics: online job search, a strong search function, easy navigation, an online provider directory, and consumer information integrated with service information.

Example: http://www.rush.edu

2. Consumers expect high quality content—either created by the provider or delivered through licensing relationships with vendors. Editorial boards and codes of ethics and seals of approval have become more important than ever.

Examples:

Healthgate (http://www.healthcare.com/ Internet Healthcare Coalition (http://www.internethealthcare.org/) HON (http://www.hon.ch

On the one hand,, we have increasingly slick and sophisticated directories such as Health Street.com (http://www.healthstreet.com/ Who would have thought we'd see a site like Health Grades.com where patients can go on and find information on the supposedly best health plans, hospitals and doctors, and with special features like a directory of mammography facilities. Consumers demands for quality information are being fulfilled on the Web, by sites such as Group Health Cooperative which has always written about quality, to **Memorial Care** (http://www.memorialcare.com/) which publishes its reports cards to **Health Partners** (http://www.healthpartners.org/), which offers users charts where they can compare hospitals and patient services. Who would have ever thought we would see a site like surgery.com (http://www.surgery.com/), where potential patients actually get to compare outcomes of physicians if only in the form of pictures and in the process learn a little bit more about plastic surgery.

3. Consumers expect interactivity and tools—the opportunity to evaluate their health and to get involved in staying healthy. Programs such as Well Med,

(http://www.wellmed.com/) which offers a tool called Well Quotient and Personal Health Manager. And now, based on the scores people get in Well quotient they can visit sites such as My Daily Health (http://www.murrayhill.com/) and interactive, rewards driven health promotion service available to employers, insurers, and healthcare providers. At the core of the service is My Daily Health Check which encourages people to earn incentives and use their own personal health page to accrue My Health Points , which can be designed by whoever is licensing the content.

By using Myhealthcoach.comn http://www.myhealthcoach.com, users can get health information, personalized consultation and live interaction with credentialed health professionals. The site pairs the users with professionals who are willing to work live online to coach users to the healthy lifestyle they want.

Users' health needs are assessed in a variety of areas including fitness, weight loss, stress management, and motivation for changing lifestyle. The information is gathered on a confidential basis and used only by the coach to develop a customized plan for the subscribing user. Education materials, health goals, links to other web sites, and messages from the coach are highlighted in the plan. The site also offers one-on-one chat, which allows the user and coach to have live, real time conversations.

To subscribe, consumers access the site, complete the information form, and wait for a coach to contact them within 48 hours. The cost of the service is \$24.95 per month. The company behind myhealthcoach.com has also developed SeniorWellnessCoach at http://senior.myhealthcoach.com.

Overall, the site seems to be genuinely interested in matching users (subscribers) with coaches through completion of a personal goals survey and health questionnaire, implementation of a philosophy based on the stages of change, and development and execution of a personalized plan. Also notable are live online coaching sessions and user access to a personalized Web page that includes health goals, a goal tracking log, and educational materials and links.

As an alternative there are highly popular sites such as Asimba.com which provides features such as "Ask the Asimba Experts" and "Consult a Coach." These features provide users access to experts specializing in fitness, sports, and health information.

"Ask the Asimba.com Experts" is a free way for users to get fitness, sports, nutrition and health questions answered by professionals. Users can post a question to an expert via the Asimba.com Web site and get a response from the expert within 72 hours. The answer is delivered via e-mail to the user as well as being posted to Asimba.com for others to view.

For those users looking for even more personalized services, Asimba.com's "Consult a Coach" Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

tool provides users with an online personal trainer. Through Asimba.com's partnership with EXP.com, members can choose a professional coach after viewing profiles and ratings of coaches from several accredited sports associations.

These coaches can be used to enhance a training program, assist with nutrition advice, or provide injury prevention and rehabilitation support. Members are billed at the end of their session with their personal coach.

OnHealth.com's new interactive Symptom Checker

(http://onhealth.com/ch1/resource/symptomchecker/index.asp) puts the tools for assessing common ailments and where to turn for treatment right at consumers' fingertips. Developed for the Internet by OnHealth.com with content from Harvard Medical School's Family Health Guide (published by Simon & Schuster), the Symptom Checker takes users through a series of simple questions and answers, narrowing down possible causes of the symptoms and helping users determine how they may be able to care for themselves and when they need to contact a doctor. The Symptom Checker covers over 70 general, female, male and pediatric symptoms -- from anxiety and depression to numbness, swollen glands, back pain, bladder problems, breast lumps, constipation and fever.

4. Consumers expect a "fun" online experience. The Internet is, in many ways, a playground for adults.

This is the realization on the part of some site developers—most of whom came to healthcare from left field--that healthcare is more than diseases and conditions; Healthcare is about living well. These people understand that the healthcare isn't just about conventional definitions of staying well; it's about the way you choose to live your life, and every ;part of life can play a role. Who better understands that boomers want to know more about talking calcium supplements than Third Age.com . (http://www.thirdage.com/) which talks about money, family, kids, relationships, and travel, and of course, health. They've always got something going where it's partnership with Quaker Oats to lower cholesterol or giving away a car in a sweepstakes. And BabyCenter.com http://www.babycenter.com/) has the same sense of play and fun about everything feature they add--from the daily poll which today was the question: Are you becoming your mother? to its baby of the century feature and Halloween Costume contest, journals, and diaries. What these people really understand—and what hospitals, health systems, and health plans are just beginning to understand-- is that the Internet is a play pen for adults. It's about content and information, but it's also about making connections—what people call community—and having a good time. Small wonder Baby Center is one of the finalists in the Global Information Infrastructure awards.

5. Consumers expect community—a place where they can share stories, experiences, and ideas. Consumers derive strength from knowing they are of help to other people in their

situation.

Developed by Always, Tampax and Alldays, BeingGirl.com is for teenage girls. Teens can post messages on a bulletin board and ask questions of healthcare experts about topics such as puberty, menstruation, relationships and health. Also on the site are contests, links to free product samples, and an interactive area where girls can learn the point-of-view of a teen boy.

BeingGirl.com was driven by an advisory board of teenage girls. The site therefore offers more than 500 articles on topics the teens have said they would like to learn more about, including premenstrual syndrome (PMS), a first gynecology exam, sex and dating, and drugs.

To address girls' expressed needs to have fun, the site offers features such as Ms. Period Face, screen savers such as the Super Femmes, and dancing tampons.

The site is nicely written and designed for the teenage audience. Subdivided into the general topics of mind and body, sex and relationships, and menstruation, the site offers plenty of animated features such as My Solution, Quiz Zone, Self Discovery, Private Issues, Everything U Need 2 Know, Ask Iris, Total Opinion, Girl Vine, Laugh Out Loud, Your Turn, and Contests. In that sense, this is a model for communicating with a teenage constituency.

Users have created their own communities. Steve Dunn was so frustrated with his search for decent information that he actually created his own site called **Steve Dunn's Cancer Guide** (http://www.cancerguide.org/). Today, Steve is cancer free but people all over the world benefit from his online knowledge which is continually updated. And consider the story of the woman who had to have a mastectomy. She decided she would have it broadcast on **The Health Network**, formerly AHN.com, the site that gave us the first live birth on the Internet. To some people her decision would have been looked at as morbid. But to the woman who was going through it, it turned into an opportunity to share her experience, to let other women know about a special procedure known as a skin sparing mastectomy, and to give comfort to people and let them know they were not alone. They had options and they could take control. So now when women go to that site they can still learn more about skin sparing mastectomies.

Cyberdiet (http://www.cyberdiet.com/) won one of the ehealthcare world awards the last time around But highly specialized sites like Dietwatch.com (http://www.dietwatch.com/) which is owned by a company called SoftWatch.com go a long way by offering people practical tools like nutritional calculators, reports and graphs, exercise tracker and online community. Now if we could only get the computer to make us give up chocolate. I think you can make the same point about the pharmaceutical industry. Think of what they've done with sites such as Café Herpe (http://www.cafeherpe.com/) with the diseases of herpes. They've made the whole condition a little lighter and less forbodding and helped people feel like they're not alone. Cyberdiet is an interesting company because it was bought by Mediconsult.com, which bought Pharminfo.com, Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

Physicians Online, Heart Info.org/ and a site that deals with fertility. So what they've done is to create this deep network of sites that meets the needs of just about everyone.

With the opportunity to come together with others, they also want the opportunity for personalization. Web sites are moving beyond the personalized e-mail. Cancerfacts.com (http://www.cancerfacts.com/) has launched a terrific tool called Cancer Profiler that doesn't just give people more information. It pulls research from clinical studies to give each user personal reports on their situation. Patients can update their profile at any time and get even more information on treatment outcomes, side effects--everything that cancer patients want to know, including a list of questions to ask their healthcare provider. It was initially available only for prostate cancer but is now available for other types of cancer as well. And when My Life Path (http://www.mylifepath.com/) developed its e-mail feature it allowed people to choose from among eight different categories to get exactly the kind of e-mail alert they wanted with hyperlinks to specific articles built right into the e-mail. When users log into the Catholic Healthcare West site (http://www.chwhealth.com/) they can create their own personalized health profile where they can store data like blood pressure, height and weight, lab tests or dates of doctors visits, even sending themselves e-mail reminders of tests or appointments. What they're moving toward now is a full program of hospital specific newsletters so that if you enter your name and zipcode you'll be able to get generic news as well as news from your local hospitals. And all of this ties in with what CHW has done in licensing content and health risk assessments from Health Central (http://www.healthcentral.com/).

6. Consumers expect more than traditional medicine. They want reputable information and shopping opportunities related to alternative medicine.

The Natural Pharmacist (http://www.tnp.com), for example, includes the Natural Health Encyclopedia, a searchable database of herbs and supplements, health conditions and drug interactions; Conditions in Depth, a closer look at medical conditions such as arthritis and diabetes; and the For Professionals section, clinical monographs and drug interactions written for physicians and pharmacists. This content is showcased on the TNP.com Web site, which also features Health Tools, Topics of the Day, and Answers from Our Experts.

7. Consumers expect a "feel good" online experience. They come to the Web having already experienced well-designed and easy-to-navigate sites in other interest areas and sectors. The bar is now being raised with the integration of multimedia.

Among the services available through Cancerpage.com (http://www.cancerpage.com/) are a medical marketplace that supports the needs of cancer patients. Merchandise is divided into the categories of daily living aids, special needs products, Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

pain relief and relaxation products, books and tapes, insurance and legal services, and financial planning.

Other features include Ask Our RN, Ask a Chaplain, daily news, chat, message boards, personalized user pages, stories and experiences, physician and service directories, and Journal of Hope.

Organized under the themes of inform, connect, and empower, each page within the site is focused on a specific type of cancer such as breast, colon, lung, lymphoma, prostate and skin

The site also offers TrialMatch, a clinical trial matching tool, and MedsChex, which helps to check for harmful drug interactions. Users also have the opportunity to read plain English articles, share experiences, and keep a journal of their diagnosis, treatment, medications, and feelings.

Cancerpage.com also continually adds new features such as a series of special reports on cancer and sexuality, which were integrated into the site in August 2000. More than 7,000 people participated in the site's Ribbon Project, which involved a three-dimensional signature and personal testament.

8. Consumers expect that their privacy will be protected.

For this reason, more sites are updating their privacy policies and going after credentials such as those provided by Truste.

The TRUSTe privacy seal is an online branded symbol that signifies that a Web site has posted a privacy statement and, moreover, that the company's data gathering and dissemination practices address the elements of disclosure, choice, access and security outlined in the Federal Trade Commission's fair information practices. Specifically, TRUSTe's licensees must:

- -- disclose their information gathering and dissemination practices;
- -- give users choice through opt-in or opt-out of any secondary uses of their personal information:
- -- provide users with access to their personal information to correct any inaccuracies; and
- -- ensure that reasonable security mechanisms are being used to protect the data that is collected.

TRUSTe ensures that its licensees are in compliance with their privacy statement through regular monitoring and the TRUSTe Watchdog, an alternative dispute resolution mechanism for consumers.

9. Consumers ideally expect one-stop shopping—a place where they will be able to do everything—from e-mail their doctor to shop for supplies.

What we're seeing is the emergence of the vertical portal—one some people call the mega portal-such as Oncology.com http://www.oncology.com

Oncology.com is an online resource dedicated to improving the quality of information available to those affected by cancer. The site targets specialized groups in the cancer community: Newly Diagnosed, Living With Cancer, Caregivers, Physicians, Nurses and Allied Professionals, while Cancer Buddies, Oncology.com's community center, hosts discussions that allow for sharing of experiences.

Users can skim feature articles on issues such as the woman who spurred a major study of environmental risk factors for breast cancer, chat live with a site staff member, access daily news, meet a cancer buddy in the discussion area, or sign-up for a weekly e-newsletter.

In summer 2000, Oncology, com entered a partnership with SelfCare.com that enables users to purchase specialized health and cancer-related products online.

This site is extremely well organized and varied in that it serves the needs of multiple constituencies, including patients, caregivers, and a variety of healthcare professionals. At the same time, users can easily access information related to just about every type of cancer.

10. Consumers increasingly expect and want connectivity with their physician's office and with their health plan.

Healthcare is getting easier--moving gradually toward transactions. When people talk about the Internet, they talk in terms of juggling three balls in the air. Number one is the ball of information. Number two is the ball of personalization or customization–getting things that are meant for no one but you like your own personalized e-mail. Number three is transactions—being able to do in the virtual world what you do in the real world. Kaiser Permanente (http://www.kaiserpermanente.org/) has a special area just for members at kponline (http://www.kponline.org/) There members can make and confirm an appointment online, not just request one. And they 'll be able to go through an interactive exercise that will help them choose the right doctor by completing nine different statements through a special project done with Robert Wood Johnson and then, of course, move to a directory where you can search for information. But that's not all. Kaiser is about to pilot a program that allows for online fulfillment of pharmacy refills. And they look forward to the day when their members will be able to log onto a personal Web site to get test results, a personal note from a physician, and links to resource, and most important disease management from a online counselor. The same thing is happening with Blue Cross of California (http://www.bluecrossca.com/) where the plan has developed an entire member self-service area where members can find providers, get a new ID card, and check the status of claims.

And if you go to sites like United Healthcare, Blue Shield of California (MyLifePath http://www.mylifepath.com/) Blue Cross of Minnesota, you realize that they're moving in the same direction—using a base of solid content as platform to help people do online everything they can do in the real world. -- The option to create personalized home pages that are updated every day with health care articles that interest you most

- -- The option to register for free e-mail newsletters about health topics you select
- -- Quizzes, polls and on-line shopping
- -- Recent articles and research on hundreds of health topics
- -- The ability to set up online calendar reminders such as doctor's appointments

 And they're giving people the local information they really crave. It's interesting that when they were doing focus groups for the revamp of **Blue Cross and Blue Shield of Massachusetts site**, http://www.ahealthyme.com/) they found out that one of the things people wanted most was information on how and where to find places to do things like hike, bike, and play basketball, which proves that what you think patients want isn't always what they do want. They also have horoscopes—I think the first health plan site in the country to do that—and this Christmas season they wrapped buses in the Boston market to promote their site. Also important is the effort of many health plans to develop a local and regional identity by purchasing banner ads on local sites such as http://www.boston.com/ and http://www.startribune.com/ and in becoming health content contributors to city sites such as Hampton Roads and Arizona Alive.

11. Consumers expect the resources and tools to manage their health or their disease or condition. They expect that what used to happen over the phone or through home visits will happen online.

It's just beginning, but we're discovering ways to help people live better and more active lives with chronic conditions. We already have some terrific models from the academic community with programs like **CHESS from the University of Wisconsin** and the Problem Knowledge Coupler from the Maine Commons Institute which was profiled in the Wall Street Journal. But we're also seeing programs like **http://www.mybladder.com/**, a product of PDHI that helps people track and monitor their triggers and get the support they need. Imagine being able to track your symptoms, understand your triggers, get advice from professionals, and meet other people who are like you. Is it perfect? No, but it's a wonderful start. And of course, there's my allergy, my diabetes, my blood pressure, and my everything else. ,PDHI is continually adding new disease and condition-focused sites to the PDHI family, including My Blood Pressure.

In this category we'd also have to put LifeMasters Online (http://www.lifemastersonline.com, which allows people with diabetes, congestive heart failure, coronary artery disease and hypertension to get access to patient education, monitoring and support. Because of LifeMasters relationship with the Health Network, users can log in and get charts, graphs, and guides on their Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

condition. If people want to subscribe to a higher level of service they can get access to a personal health diary, health reminder calendar, online patient education and coaching, e-mails from a Lifemaster nurse, and customized medical news.

Right now at **Crozer Keystone Healthcare System** there's a project going on called **Senior Support Online** where they've gotten funding from the government to put Web TV s in the homes of fail elderly patients. And in Oak Park they created a program called **Every Block a Village** where they've given low income people Web TVs to see how their lives can be changed.

Disease management will undoubtedly be aided by a variety of portable devices. A San Francisco a conference on portable appliances showcased the announcement of a portable, wearable appliance from **Body Media** (http://www.bodymedia.com/ that would transmit vital signs to a secure Web server and send the person e-mail messages like: "You need to visit relaxation.com." or in my case, "Eat that donut and you die." Bill Gates says we'll be carrying around little screens; others think we'll be wearing our computers. Right now we've got programs like My Health Hero (http://www.healthhero.com/ where health providers sit at their computers talk to patients in the form of questions reminders and alerts. Patient to providers through a little device called a Health Buddy that looks a lot like a pager. Is it the ultimate appliance? Probably not, but it's a start. And the same thing could be said of Health Sentry.Net.

(http://www.healthsentry.net/) which is now being tested as a remote connectivity device that would allow diabetic patients to transmit data from any portable glucometer to their physicians via the Internet. And there's even a device—not yet approved by the FDA—where you can stick your finger in a special appliance next to your computer and send the results to your healthcare provider.

12. Consumers want a quality shopping experience

All the sites that were listed in Powerrrankings done by Forrester .com weren't around in the first part of 1998. And now we have a site like Net Grocer (http://www.netgrocer.com/) opening a new diabetic solutions store with 750 non-prescription medical and non-perishable food products-everything from glucose monitoring kits to cookies, chocolates and sugar-free dessert mixes. Go a site like Mother Nature (http://www.mothernature.com/) and you see the same attempt to deliver quality products with a higher level of content such as a health encyclopedia. And with Mother Nature, there's always something new—not just a national advertising campaign, special correspondents sent to other countries who send back information on alternative treatments. Even sites like More.com (http://www.more.com/), another online drugstore, have partnered with Care Guide.com to give users access to daycare and eldercare information. And what about a site like Intelihealth Healthy Home that rates and evaluates its product offerings and offers money-back guarantees—and is just about to launch partnerships with hospitals and health systems where you can get a commission on everything ordered from a link off your site. And Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

there's cost savings too. I just did a search of PlanetRx and DrugStore.com and learned I could save more than 30 percent off what I was paying at my local Walgreens.

The good news is that e-commerce is coming to hospitals and health systems, too—not just through affiliate relationships with Barnes and Noble and sites such as Fog Dog (http://www.fogdog.com/) It's also happening because more systems are looking at how to put their real world enterprises. The Children's Art Project (http://www.childrensartproject.org/) of MD Anderson Cancer Center is putting its entire line of children's art products online, with Christmas serving as a test case. And Seattle Children's Hospital (http://www.seatttlechildrens.org/) has put its gift shop online with an eye on donating some of the profits to caring for poor children. As of October 1, 1999, the online store had generated \$5,000 philanthropic dollars through a combination of online product purchase and online donations. But some of the benefits have been more than financial. The store can centralize large orders for promotional items used in events like health fairs. And the hospital can make sure that the products meet its standards and carry its Web sites address.

13. People want sites that speak to their interests.

Kids Health.org is full of articles, images, sounds and animations for children, parents, and pediatricians. Most interesting, it's the product of the Dupont Hospital for Children, the Nemours Foundation, and the Nemour's children's clinics in Florida. Now, they have a sister site called Kids Health at the AMA and new features for kids called My Body, research News Parents can use, and even a special healthcare site just for teens. And this is just one example of how a health system invested in the Net and is now bringing its content out for licensing. Just about all of the general teen and women's sites and increasingly the kids sites have healthcare components. It's not surprisingly that even the pharmaceutical companies are getting into the act with **Pfizer Fun Zone** (http://www.pfizerfunzome.com/, which encourages kids to get interested in science. And when Baptist Healthcare wanted to boost its pediatric business, it tested and created a new character called PD Parrot (http://www.pdparrot.org/) When it was PD Parrot's turn to be launched they didn't just do a standard Web launch; they created a Saturday morning hatching party where PD come out of a giant egg as kids and parents counted down. People left with a PD Parrot coloring book, stickers, bookmarks, pens, birthday cards—things that are continued to this day as PD makes visits to local schools and as Baptist makes plans to integrate PD in the school curriculum.

The place that understands women more than any other entity is a company called Ivillage (http://www.ivillage.com/) because they've been able to blanket every area of a woman's life.

PART THREE: Understanding What Makes A Site Sticky

People want a number of things when they come to the Web. One is fun. However, the other Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

relevant dimensions include: content, connectivity, and communication—and maybe a fourth, care. But people are increasingly speaking of other sites as well. Consumers and other users want control, commitment, cutomization, convenience, and continuity.

Licensed content: More institutions of the level of Emory Healthcare in Atlanta are realizing that they can't do it alone. They have to look at relationships with AmericasDoctor.com HealthCentral, Healthgate, Consumer Health Interactive, adam.com, and Medscape, as well as companies such as WellMed (http://www.wellmed.com/) and HealthMagic (http://www.healthmagic.com/), which produce health risk assessment tools.

Commerce: People want a positive shopping experience whether it's through an online store such as the one developed by Seattle Children's http://www.seattlechildrens.org/) and MD Anderson or affiliate programs with FogDog (http://wwwfogdog.com/)d drugstore.com .

Connectivity: People want a relationship with their healthcare organization. Increasingly, you will be getting services such as MyKidsDoctor.com (http://www.mykidsdoctor.com/) which develops relationships between medical practices and parents who can record their children's health records, e-mail their physician, and receive targeted information from the practice based on their children's growth stage or conditions. Among the other things patients will want

Online prescription ordering with prescriptions delivered to home or office

Online line pre-admission functions

Online office visit scheduling

Outpatient test scheduling

Secured health record access

Easy access to lab and x-ray results

Easy integration of the Web and call center

Easy and responsive e-mail to various areas of the hospital and with physicians

Streaming video for patient education

Online support groups

Detail local directories of services

Lifestyle-focused content

Physicians want:

All of the above, plus--

Health insurer specific formularies

Accepted standard disease treatment protocols

Streaming video for education

Online education opportunities through vendors such as HealthStream

(http://www.healthstream.com/)

Secure data transfer

Customer relationship management

Local practice patterns and norms

Sweepstakes: This is a great way to get linked to metaindexes of free offers and giveaways. Or it might involve nothing more than registration for a newsletter or e-mail alert. Other people have had great success giving away screensavers, icons, software, or even vacations. For example, **My Life Path (http://www.mylifepath.com/)** launched its site with a sweepstakes involving several health-oriented vacation giveaways. Sentara recently ran a sweepstakes where it gave away a computer from a Gateway retailer. If you have a product that can be sampled or promotional item to give away, you may want to have people register for a mousepad with your URL on it.

Other companies such as Universal Studios see http://www.universalstudios.com/ continually running contests. (For more examples, see http://www.sweepstakesonline.com/.) It's important to consider an ongoing series of giveaways that hopefully meet these criteria:

- Connected to the print media
- Have an interactive element or component
- Follow the rules, including a disclaimer for age and residency, lack of necessity to purchase, and application of local laws or "void where prohibited." (See Law Library of Congress (or http://lcweb2.loc.gov/glin/worldlaw.html)
- Link to a theme, concept, or season
- Perhaps include some sort of questionnaire to help people learn more about visitors
- Invite readers to return to the site on a regular basis
- Highlight sponsors

Contests: Also effective are contests that reward people for their creativity or permission. These contests are effective when they meet these criteria:

- Relate to your site's interests or mission or to a relevant holiday or commemorative health month
- Lay down reasonable rules relative to length of submission and format, etc
- Are the product of an announced judging process
- Follow copyright laws, meaning you need to get the permission of the submitter within the entry form

You may want to ask users, for example, to develop a short essay on why their Mother is the best mother in Tulsa, OK, for example, as part of an entry for a Mother's Day sweepstakes for a \$600 women's health physical. If the food and nutrition area of your site has elements on cooking, you may want to ask users to submit best recipes. Other ideas include best before-and- after photo following a weight loss campaign, best short essay about or by a cancer survivor or caregiver, or best drawing by a child on the meaning of good health or coping with a disease. Instead of giving away just one prize, think about giving away several smaller health related prizes or coupons that can be used within the hospital, health system, or health plan.

Examples

I-Won .com (http://www.iwon.com/)

Jackpot Hollywood (http://www.jackpothollywood.com/)

Games, Puzzles, and Teasers: Give users the opportunity to play through a treasure hunt that allows them to participate in a race to find and submit clues, a weekly or monthly trivia quiz where winners are selected randomly, or a puzzle such as a word association game. As an example, see http://www.webhunt.com/.

Other Elements Your Users May Want

What's New Pages and Calendars: Everybody what's to know the summaries of most recent features added to your site. Or they may want to know what's new in terms of research on a particular disease, product or service line, or an industry. Or you may want to try a calendar of events—perhaps for the community as well as for hospital or health-system based activities and commemorative health events. People want to know what's going on in the community, which is why a growing number of hospitals and health systems have become health content providers on regional or city-based sites.

Also think about offering health tips of the day, a site of the day, daily health news items and regularly scheduled quizzes. Under Capture, Bayfront Medical Center (http://www.bayfront.org/) does all of these things as well as offering a calendar of hospital and community events. And another idea, of course, is the joke of the day such as those at http://www.allworld.net/allworld/jokes/awjokes.html

Advice columns and ask the expert resources: Answer questions that pertain to the product or industry or a special area or problem. Netwellness (http://www.netwellness.org/), which launched NetWellness 2000, has 40 different areas in which it has experts answer questions.

Ahealthyme.com (http://www.ahealthyme.com/) has experienced great success with a physician called Dr. Anne. Other examples include http://www.thriveonline.com/

Coupons: Give people a coupon for a discount as MyLife Path did when it offered people who were interested in taking a 25 percent discount off alternative medicine services. Sometimes these coupons or discounts can be printed from your Web site. You may be able to change the coupon every month–perhaps in conjunction with commemorative health events–to encourage repeat visits. In the product world, users register for samples at Web sites and then receive coupons to purchase the item at regular prices. See examples of coupons at The Coupon Pages (http://www.coupon-pages.com/)

Surveys and polls: Have a single question poll or do a complete survey, making the results available the next day or later on. For example, on October 10, 1999, Baby Center (http://www.babycenter.com/) had as its daily poll topic, "Is fatherhood sexy?" Think about making the survey results available to participates or to all users. The survey can relate to a topic in the news or to seasonal events such as how people plan to prevent themselves from overeating during the holidays. (If you're a B-to-B site the poll can relate to industry issue.) Make the survey or poll a regular feature and people are bound to come back. And if the surveys results are Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

sufficiently detailed, you can disseminate the results to the media via a press release or through newsgroups and mailing lists.

Reminder services: Lifeminders.com (http://www.lifeminders.com/) has elevated this concept to an art but people may also want reminders on special dates. Godiva, for example, which is not a healthcare site, has a special giftminder service. But you'll want to develop a reminder service that relates to your service or business while also linking it to specific suggestions about the topic. For example, if you're sending out mammography reminders, tell people about the latest research in breast cancer as well as some developments on cancer Web sites. Linked to a reminder service is a service that allows people to send out postcards or greetings, as has been done by Blue Mountain Arts (http://www.bluemountainarts.com/) as well as sites such as Columbia-HCA which allows users to send out petals through its http://www.medtropolis.com/ site.

Chat sessions and bulletin boards: Sports sites such as Golf.com (http://www.golf.com/)have done a terrific job with forums or discussion groups on various aspects of golf, including tournaments, instruction, and travel. But be careful. You may have to function as a moderator or find qualified experts—including physicians—to roam the boards and respond to queries. Also think in terms of live, precorded or on-demand online seminars or Webcasts.

Interactive tours: Take people on a virtual tour of your new facility, construction project, center, or your Web site. Give users an opportunity an opportunity to meet staff or find out how a procedure is done.

Useful links: Provide users with links to other sites. But don't put them on your home page. Put them several levels down and develop a link exchange program with other credible sites. And don't forget to invite users to bookmark your site.

Some of the Sites You May Want to Visit and Analyze for Their Ability to Build Stickiness, Retention, and E-Loyalty

Aetna US Healthcare http://www.aetnaushc.com

Alina Health System http://www.allina.com

Advocate Health Care http://www.advocatehealth.com

Baptist Online http://www.bmhcc.org

Blue Cares

http://www.bluecares.com

Children's National Medical Center http://www.cnmc.org

Cleveland Clinic http://www.ccf.org/

Group Health Cooperative http://www.ghc.org

Health Forums http://www.healthforums.com

HealthNet http://www.healthnet.com

Health Partners http://www.healthpartners.com/

Jefferson Health System http://www.jeffersonhealth.org

Johns Hopkins Medicine http://www.hopkins.med.jhu.edu

Kaiser Permanente http://www.kaiserpermanente.org

Kids Health.org http://www.kidshealth.org

Laurus http://www.laurushealth.com/

Memorial Sloan Kettering http://www.mshcc.org

Methodist Health Care System http://www.methodisthealth.com

MyLifePath http://www.mylifespath.com

Palo Alto Medical Foundation

http://www.pamf.org

The University of Texas MD Anderson Cancer Center http://www.mdanderson.org

St. Judes's Research Hospital http://www.st.jude.org

Sentara

http://www.sentara.com/

Samaritan Health System http://www.samaritanatoz.com

Pacificare

http://www.pacificare.com

Oxford Health Plans http://www.oxhp.com

PART FOUR: BUILDING A WORKABLE WEB STRATEGY

I. Web Disasters Waiting to Happen: What Goes Wrong and Why

Questions: What is your attitude toward the Web? What warning signs exist that you view the Web as a trade show, brochure, or competitive move?

- Executives see the Web as a brochure, competitive necessity, business opportunity rather than a business, or as a fad or bad dream that will go away.
- Executives insist on a Web site that mirrors, reflects, or celebrates the organization and its departments or divisions. They build a site that attempts to be everything to every possible constituency. Eventually, they learn the hardest lesson of all: When everybody's somebody, nobody's anybody.
- Executives fall in love with technology. They create a site filled with spinning logos, flashing buttons, and animations that may or may not work for their audience.
- Executives create or insist upon a marketing. brochureware site that markets or promotes the organization. They fail to realize that marketing isn't communication or promotion; it's talking and listening to clients and customers and giving them the opportunity to contribute, participate, and build their own online community.
- Executives create a Web site that reflects the organizational chart. The organization pastes its products and services on the site. It fails to understand that customers either don't care about

the organizational chart or already know as much as they want to know. They want to a place to go—a community, a neighborhood—where they can find content just for them and meet like-minded people with whom they can carry on conversations.

- Executives assume that e-commerce is e-business. They fail to see that the goal is not to "sell stuff," but to give customers a complete and personalized experience. It's giving people what they want, when they want it and responding to new customer demands.
- Executives become obsessed with site "stickiness" and site statistics. They fail to realize that e-loyalty isn't just traffic; it's retention.
- Executives fail to understand that the e-customer isn't necessarily the same as the bricks-and-mortar customer. E-customers want to participate; they want to see and join with others like themselves; they want to find content and services at their own level; and they often want a choice between horizontal and vertical communities.

• A Way Out of the Jungle: Your Path to a Customer Focused Web Site

- Secure organization-wide commitment. Consider a Web team that functions as an independent business unit and functions as a catalyst for change and e-learning. Also consider a chief Net officer.
- Identify at least 15 to 20 customer groups.
- Talk to and listen to your customers. Find out what would delight and satisfy them without regard to cost. Find out information such as where, how, and when customers surf as well as turn-ons and turn-offs. Then consider developing a consumer advisory board representative of several of the key demographic groups
- Think seriously about measures of success. Avoid focusing on number of visits. If you want to focus on measurement, think about number of page views, unique visitors, and visitors who register. "Stickiness" can be measured by number of page views per visit or the amount of time a visitor spends on the site. It helps to break down visits by the hour or day of the week as well. Also consider measuring short-term results—the healthcare equivalent of sales. Also consider long-term results—the quality of the relationship you have with various constituencies. What does it take to get them to register? How deeply do they explore and use the site? At what

point do they typically leave? Are they interested in meeting other like-minded people online? Remember, on the Web tenure is everything.

Most important, Identify core customer groups and create vivid portraits of prototype customers. Construct your Web site around these prototypical customers, answering questions such as: How will she find us? What grabs her attention? What keywords will she use in the on-site search engine? How much time will she spend online? What offers will she respond to? What are her online needs and how can the site best respond to them as she moves from being a beginner to a potential community contributor or expert? Then develop a plan to execute community-focused pages based on customer groups.

APPENDIX

MAJOR TRENDS IN E-HEALTH

Trend One: Disease management is taking off. While not completely contacted to care delivery, the applications are becoming increasingly sophisticated and useful to patients and providers. Growing numbers of healthcare providers are becoming interested in investing in disease management programs

Some of the Players:

Diabetes Well

http://www.diabeteswell.com

DietWatch

http://www.dietwatch.com

LifeMasters

http://www.lifemastersonline.com

Confer

http://www.confer.com/

Physicians Online

http://www.pol.net

PDHI

http://www.pdhi.com

ProMedix

http://www.promedix.com/

The Daily Apple

http://www.thedailyapple.com/

Health Hero Network

http://www.hhn.com

Anthem Blue Cross Blue Shield

http://www.anthembcbsnh.com

LifeChart

http://www.lifechart.com/

Accordant

http://www.accordant.com/

Lifemetriz http://www.lifemetrix.com

Some examples:

e-MEDx unveiled three new products: e-SelfCare for Diabetes, e-PHA and e-Consult. e-SelfCare for Diabetes provides an interactive communication vehicle for diabetics, physicians and care specialists. A patient fills out a diabetes-specific risk assessment questionnaire every month and an ongoing health diary once a day or week. An assessment graph is produced, offering feedback to the diabetic. The patient forwards the information to a primary care physician electronically or by printing it prior to an office visit. The assigned online clinician is automatically reminded to review each patient's assessment information. If the data predicts poor health and/or high risk factors, the clinician contacts the patient to evaluate the situation and perhaps calls the patient's physician.

e-PHA works by having a health plan member completes an e-PHA online health survey. The data predicts the likelihood that the person might need help in the coming year. The person gets an in-depth report that includes ideas for improving his health.e-Consult works in a similar way. Patients complete an online medical history form before an office visit. The office is notified that the form has been filled out through an online alert which is linked to the day of the patient's visit. The day before or morning of the patient's visit, the provider's office either prints out the form and gives it to the physician or the physician reviews the form online. After the patient's visit, the patient updates the information on the form. The form automatically codes the visit.

LifeMasters Supported SelfCare has expanded its health management offerings to include both prevention and wellness. The site's features include coaching emails; health lessons and reminders; condition-specific diet and nutrition information; exercise planning and tracking; smoking cessation; a health calendar; medication schedules and medication compliance monitoring; a health data archive; and an emergency medical record with a family history table. All are tailored to a subscriber's requirements. The enhanced program is aslo available through a strategic partnership with iVillage.

CorSolutions Inc. (http://www.ecorsolutions.com/) has contracted with HIP Health Plan of New York to provide its members with a congestive heart failure (CHF) disease management program. In the CHF program Disease Managers, who are trained CorSolutions cardiac nurses, perform an initial data gathering assessment with members by telephone. A site visit is then made by a contracted home health agency at the member's home, followed by regular telephone encounters by Disease Managers with the member. The nurses now work with members by telephone using a disease management system called MULTIFIT, a protocol-based clinical decision support system that was developed at the Stanford University Department of Cardiac Rehabilitation. Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

In early May, Regence BlueCross BlueShield of Oregon announced that it had partnered with LifeMasters Supported SelfCare, Inc. and Interactive Heart Management Corporation (IHMC) to enable subscribers with high-risk medical conditions to monitor their health using HeartMasters Web-based health management program for coronary artery disease and congestive heart failure.

eCorSolutions Inc.announced a partnership with Humana Inc. to migrate traditional disease management program online. By visiting the Humana Web site at www.humana.com, visitors can link to the eCorSolutions program that will provide access for patients enrolled in the disease management program, as well as online education and health assessment tools for members. Patients will able to interact with clinicians via the Internet and share experiences in patient communities.

Trend Two: The healthcare world is going wireless.

Some of the Players

Iscribe

http://www.iscribe.com/

Autros

http://www.autros.com/

Parkstone

http://www.parkstonemed.com/

WirelessMD

http://www.wirelessmd.com/

EPhysician

http://www.ephysician.com/

eProcrates

http://www.epocrates.com/

LifeChart.com

http://www.lifechart.com/

MDInTouch

http://www.mdintouch.com/

MedicinePlanet

http://www.medicineplanet.com

ParkStone's wireless gives physicians access to patient information, insurance guidelines, and submissions such as electronic prescriptions and changes in patient status. Physicians use this tool for managing and writing prescriptions, providing formulary guidelines, ordering diagnostic tests Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

and generating referrals. The result is that physicians can streamline workflow, automate paper-based processes, and reduce disruptions such as pharmacy callbacks.

WirelessMD provides a medical data retrieval system on multiple wireless hardware devices that function such as a pager, email, fax, phone and answering service in one handheld device. The application allows physicians to maintain two-way communication with office and hospital databases, obtain patient clinical information, acquire CME credits, prescribe medications wirelessly, and access non-medical applications. Physicians can communicate with pharmaceutical manufacturers, managed care organizations, pharmacy retailers, and the Internet via two-way alphanumeric pagers, handheld digital assistants, and wireless laptops.

ePhysician, a developer of a Palm-based wireless handheld medical device, allows healthcare professionals to prescribe medications, schedule patients, and view allergy and formulary information through a Palm handheld computer and the Internet.

Physicians using ePocrates qRx can check whether a drug is potentially harmful when taken with other medications. Via the Internet, physicians automatically receive updated clinical information from the ePocrates clinical editorial board and content partners.

LifeChart.com is an Internet based service that connects patients with their doctors and helps suffers of chronic conditions take greater control of their health. Using portable home testing devices, patients can monitor and report their condition on the LifeChart Web site, by accessing the Web via a WAP phone. With Web access from any location, the doctor can then prescribe medication or schedule office visits from anywhere.

MDinTouch, Inc. is an Internet portal designed to meet the needs of healthcare professionals. . The MDinTouch Internet solution extends computing beyond the PC by using WAP to make patient information available anywhere. With WAP, a mobile phone can be used to access medical information such as patient reports, medication lists, and allergy lists.

MedicinePlanet, Inc. is dedicated to providing travelers with health services, information, tools and products before, during and after trip. The company's Web site, http://www.medicineplanet.com, offers personalized pre-trip planning tools, country-by-country information and specialized content, as well as travel insurance and travel health products. MedicinePlanet is using WAP to provide travelers with access to healthcare assistance services and information resources while on the road.

Trend Three: The Internet is enabling better connections between patients and providers, as well as between providers and payors.

Some of the Players

Beansprout.com

http://www.beansprout.com

Healinx

http://www.healinx.com

Medivation

http://www.medivation.com/

Mykidsdoctor.com

http://www.mykidsdoctor.com/

W3Health

http://www.w3health.com/

Medscape

http://www.medscape.com

Health Vision

http://www.healthvision.com/

Axolotl

http://www.axolotl.com/

98point6

http://www.98point6.com

98six.com

http://www.98six.com/

MedPearl.com

http://www.medpearl.com

HealtheonWebMD

http://www.webmd.com

CareInSite

http://www.careinsite.com/

PointShare

http://www.pointshare.com

PassportHealth

http://www.passporthealth.com/

ClaimsNet.com

http://www.claimsnet.com/

Salu.Net

http://www.salu..net/

dbMed

http://www.dbMed.com

ValueMed

http://www.valumed.com

Axolotl Corporation will launch a Private Patient Portal through which physicians can send health information and clinical results to their patients, with patients accessing interactive tools and content. Using an ID and password, patients will log on to their personal Web page to view Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

their latest lab results, check medication lists, refill prescriptions, read advice from their doctors, with condition-specific questionnaires and assessment tools, and follow links to customized information about their conditions. Patients might also ask or answer questions via e-mail, schedule and review appointments, or pick up referrals to a specialist. The Private Patient Portal is available as a standalone product or as an add-on component to Axolotl's suite of clinical messaging products called Elysium.

MedPearl.com has introduced Web-based initiatives aimed at consumers. Among the offerings are a personalized health Web page offering doctor-patient communications, Web-based health commerce, online health assessments, and an online medical information card. MyHealthRecord.com, a personalized health home page, links patients to health services and information linked to their physician. Patients can use these personalized Web resources to communicate with their doctors, check test results and other data, research health topics, and shop for products and services. Patients can track lab results, schedule appointments, request referrals, review medical records, and ask questions of nurses. MyHealthRecord also provides links to Web-based sources for prescription refills, over-the-counter drugs, vitamins, and medical supplies and devices.

Rethink Inc.'s national college health Web site, 98six.com, provides students with access to the administrative, clinical and health promotion functions of their campus health center. Students can go online using 98six.com to make appointments at the health center, check lab test results and submit prescription refill requests. College and university health center staff also benefit from online ordering of medical supplies, continuing education programs and support of third-party reimbursement functions that come from pro98six.com.

Trend Four: Providers benefit from new Web-based tools that enhance care delivery.

Some of the Players
VitalCom
http://www.vitalcom.com/
HCPRo.com
http://www.hcpro.com/
ADAC Laboratories
http://www.adaclabs.com/
Medicalogic (medical record)
http://www.medicalogic.com
Epic (medical record)
http://www.epic.com
ichart
http://www.ichart.com

Siemens

http://www.usa.siemens.com

Mid America Heart Institute of Saint Luke's Shawnee Mission Health System in Kansas City, Missouri has become the first institution to allow physicians to view live monitoring information from a monitoring devices through VitalCom's Patient Browser.

HCPro (http://www.hcpro.com) has unveiled a section of accreditinfo.com to patient safety and the reduction of medical errors. In addition, HCPro launched a free e-mail newsletter for healthcare professionals concerned with these issues.

ADAC HealthCare Information Systems (HCIS) (http://www.adaclabs.com) has introduced QuadRIS OnLine, a Web-based radiology report accessing application that allows physicians to view their patients' reports from anywhere. The application allows clinicians to view preliminary reports immediately after they are created instead of hours later when the final report is faxed to them.

eStellarNet, Inc. has revealed an enhancement of the Internet bill and report attachment product called StellarClip. Through StellarClipAV medical providers can electronically transmit audio-visual information to payers, while employers and insurance carriers can send video-based job analyses to the medical provider for review and comment. Other uses of eStellarNet-AV include transmission of investigation reports and films to providers and claims examiners.

WebViewer Patient Browser from Siemens (http://www.usa.siemens.com/) makes bedside patient data available to clinicians over a hospital's Intranet or over the Web in close to real-time. Waveforms, vital signs and trends from any Infinity bedside monitor can be viewed remotely at anytime. WebViewer is a component of the Siemens Infinity Gateway Suite.

Trend Five: Providers are discovering ways to make their practices more efficient and effective.

Some of the Players

OfficefortheFuture http://www.officeof thefuture.org/ Scheduling.com http://www.scheduling.com API http://www.api-wi.com / ZvDoc

http://www.zydoc.com
NotifyMD.com
http://www.notifymd.com
WebMD
http://www.webmd.com/
Superior Consultant
http://www.superiorconsultant.com
Virtmed
http://www.virtmed.com/
Neon
http://www.neonsoft.com

Automating Peripherals Inc. (API) has announced several Web-based products that streamline employee data management. TimePC enables employees to input and review their time and attendance and payroll/human resource information via a corporate Intranet or the Web.. ReportXpress is a tool that allows managers to view time card reports, make edits, track notes and approve time online. Navigator allows employees to access demographic and benefits information online. ActiveStaffer allows offices to do self-scheduling, while EdTrack allows employees to iew course schedules online and enroll for courses.

Scheduling.com, an application service provider (ASP), has a solution that allows healthcare providers and clinics to schedule patients and resources via the Web.

ZyDoc.com, a developer of language models for speech recognition, has a suite of medical vocabularies for Dragon NaturallySpeaking Medical Suite version 4 from Dragon Systems Inc. The ZyDoc vocabularies include terminology for each medical specialty, such as orthopedics or cardiology. Zydoc.com also offers an Internet medical transcription service called ZipDoc, which uses the ZyDoc medical vocabularies and Dragon NaturallySpeaking Professional version 4. Using ZipDoc, physicians dictate into hand held recorders and send the recordings over the Internet.

Healtheon/WebMD's WebMD Practice has expanded its range of offerings with Scientific American Medicine, Superior Health on WebMD, a channel on WebMD Practice that provides tive business content, databases, decision support and advice, and WebMD OnCall, an answering service that provides coverage for physician practices through nine dispersed call centers. Users can get a general voice mailbox, with a toll-free number for forwarding non-urgent calls after hours, a personal voice mailbox assigned to each physician, where operator and patient calls are recorded and can be reviewed by the physician toll-free from any location, operators who take medical calls and handle medically sensitive messages, and daily recaps of urgent messages e-mailed to the physician's inbox.

The VIRTMED Charge Capture System allows a provider to record billable events at the point of Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

care by entering procedure and diagnoses codes into a handheld device.

NEON's HealthSphere is comprised of three e-Business applications -- MedPortal, MedMerge and MedSecure. MedPortal allows healthcare professionals to view consolidated patient information in various clinical systems. Clinicians use a Web browser to access patient lists, fact sheets, order results from lab and radiology tests, and treatment profiles. MedPortal also provides a notification system to deliver updated information to a Web page that physicians can access daily or before doing rounds.

Trend Six: Creative partnerships are enabling e-health companies to achieve unprecedented results.

Some of the Players

Women.com

http://www.women.com

ebody.com

http://www.ebody.com

WellMed.com

http://www.wellmed.com/

MedPearl.com

http://www.medpearl.com/

Medicalogic

http://www.medicalogic.com

The Health Channel

http://www.thehealthchannel.com/

HealthMagic

http://www.healthmagic.com/

NetPulse

http://www.netpulse.com

IHRSA

http://www.ihrsa.org/

GetFit.com

Stairmaster

http://www.stairmaster.com/

Women.com Networks, Inc., (http://www.women.com) has announced a two-year agreement with eBody.com, an cosmetic health, beauty and wellness site. more than 500 pages of new content and tools are being placed within Women.com's Fashion. The co-branded area connects Women.com users to news and information, first person accounts, "before and after" pictures, and answers from medical and dental professionals on cosmetic procedures.

MedPearl has announced a partnership with WellMed where WellMed's Personal Health Manager is being customized for Medpearl's consumer Web sites. These tools include health assessments, personal health records, interactive wellness and behavior modification programs, tailored e-mail, and customized news. The Personal Health Manager includes Health Quotient (HQ), Advanced HQs, WellTIPS (Tailored Improvement Programs), and WellRecord. Embedded in the WellRecord is the Consumer Health Terminology (CHT) Thesaurus, which translates common health words and phrases into medically accurate terms.

MedicaLogic, Inc.and Laboratory Corporation of America (LabCorp) have announced a joint -e-commerce relationship for the delivery of transaction-based lab services. The first customer to benefit from this service is the Los Angeles-based AIDS Healthcare Foundation (AHF), the largest community HIV/AIDS medical provider in the nation. Lab results from LabCorp are sent directly to the MedicaLogic data center, where they are distributed to a physician customer. The results are available for review within Logician, an electronic medical record (EMR) technology.Integration of lab results data allows providers to view lab results within the the patient's medical chart, including medications, allergies, and other medical history. Physicians can also graph trends.

Thehealthchannel.com has announced alliances with HealthMagic a provider of personal health management interactive applications, and Integrativ Medicine, an information provider in integrative medicine.

Netpulse Communications, Inc. and the International Health Racquet and Sportsclub Association (IHRSA) have announced the formation of a marketing alliance. Netpulse, which operates an Internet media network reaching fitness center users through exercise equipment outfitted with Netpulse's Internet appliance, is launching an offline consumer product-sampling program in the IHRSA-member fitness centers. Netpulse's Internet media network allows exercisers to surf the Web, shop, read their email, listen to music, watch TV, track workouts, customize workout programs, and participate in incentive programs.

GetFit.com, an online fitness site offering personalized fitness programs, has announced a partnership with StairMaster, Inc.. Through this partnership, GetFit.com features content in the form of videos featuring Stairmaster equipment and integrate Stairmaster equipment into its personal training programs.

Trend Seven: Vertical portals are rising in popularity.

Some of the Players CancerSource.com http://www.cancersource.com CancerFacts.com http://www.cancerfacts.com/ ChildofMyDream.com

http://www.childofmydreams.com/

Gazoontite.com

http://www.gazoontite.com/

FootHealthNetwork.com

http://www.foothealthnetwork.com/

Dr.SusanLove

http://www.susanlovemd.com/

CancerPage

http://www.cancerpage.com/

Diabeteswell

http://www.diabeteswell.com/

Drdrew.com

http://www.drdrew.com/

CancerSource.com is riding the celebrity bandwagon by offering a series of audiotaped interviews where celebrities talk about their experiences with cancer. The first in the series features Linda Ellerbee, a TV news reporter, writer and producer, and breast cancer survivor and Judith Light.

.

Child of My Dreams.com, a resource on infertility, has partnered with Sereno Laboratories to launch an interactive medications library, which makes it possible for patients to learn about how medications work, their possible side effects, and which pharmacies stock a complete line of fertility drugs. The medications library also addresses patients' concerns about multiple births, insurance coverage and treatment options.

Dr. Susan Love, an authority on breast cancer and women's health issues, has announced the addition of two new features to her Website (http://www.SusanLoveMD.com): PaperChase, a tool for retrieving synopses of reports in medical and scientific journals, and Advocacy Avenue, which offers Web-hosting and links to local support and advocacy groups. The site also features a photo collection of post-surgical breast cancer survivors who've had various types of procedures.

Cancerpage.com gets some 10,000 user sessions per day, the majority of which -- 6,000 -- are considered unique visitors. The average time spent on the site for each visitor is over seven minutes. Visitors can communicate via email with oncology nurses through the "Ask a Nurse" feature and receive an answer within 24 hours.

Trend Eight: Providers are forging ahead with creative solutions to Web-based communication of information, marketing, connectivity, commerce, and care, but continue to face challenges related to funding, content infrastructure, and cultural change. Other missing site basics include on-site search engines, healthcare content integrated with service descriptions, employment listings, ask-the-expert features, intriguing provider directories, and easy navigation access.

Some of the Players

HealthCentral.com

http://www.healthcentral.com or http://quickstart.healthcentral.com

Consumer Health Interactive

http://www.consumerhi.com/

AhealthyMe

http://www.ahealthyme.com/

Mylifepath.com

http://www.mylifepath.com/

TheNaturalPharmacist.com

http://www.TNP.com/

Sentara

http://www.sentara.com/

Medformation.com

http://www.medformation.com/

Mayo Health Oasis

http://www.mayohealth.org/

Johns Hopkins/Intelihealth

http://www.intelihealth.com/

Sharp

http://www.sharp.com/

Emory

http://www.emory.edu/

The Cleveland Clinic

http://www.ccf.org/

Licensing: Providers groups that are floundering or that want to upgrade their sites can benefit from licensing content or applications from companies such as adam.com, HealthGate, Medscape, or HealthCentral.com, HealthCentral, for example, has developed a private labeled QuickStart Web product that allows providers to improve Web presence in as little as two weeks.QuickStart Web HealthView Assessment Tools, for example, provides personal health profiles and recommendations on managing health. The HealthExplorer Knowledge Tools offer users Daily Health News from the Associated Press news service, keyword searches from the HealthCentral.com Library and Topic Centers grouped in five categories. Others sites such as Mayo are licensing their content to employers, as is KidsHealth.org.

Alternative Medicine: Companies like Consumer Health Interactive are licensing content from alternative medicine vendors such as TheNaturalPharmacist.com (http://www.TNP.com) and offering TNP.com's database on herbs, vitamins, mineral and supplements to sites such as Blue Shield of California's Web site, http://www.mylifepath.com followed by Blue Cross Blue Shield of Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

Minnesota at http://www.blueprint.bluecrossmn.com and Blue Cross Blue Shield of Massachusetts at http://www.ahealthyme.com.

Personalization and Transactions: Oxford Health Plans, Inc. has announced the launch of its Web site (http://www.oxhp.com), which provides a personalized page called "oxhp.com/myoxford." Through "MyOxford," a member can complete 10 transactions, ranging from choosing a primary care physician or specialist to ordering materials to checking claims history. Benefits administrators also can assist their employees in managing their Oxford experience through "oxhp.com/youraccount," where they can perform six transactions, from replacing identification cards to requesting forms and other materials, to checking an employee's eligibility. Doctors and hospitals can do six different transactions, from checking an Oxford member's eligibility to filing a claim, to reviewing benefits, to inquiring about a referral. Brokers can complete 10 transactions, from determining eligibility to checking commissions.

Trend nine: E-procurement is taking off and slated to grow to \$348 billion by 2004, with 24% of of hospitals and 12% of physician practices purchasing the majority of their products online.

Some of the players

SciQuest

http://www.sciquest.com/

MRO.com

http://www.mro.com/

Employease

http://www.employease.com

BioSpace

http://www.biospace.com/

Embion..com

http://www.embion.cpm/

Medicalbuyer.com

http://www.medicalbuyer.com/

Medibuy.com

http://www.medibuy.com/

MedicalSuppliesUSA.com

http://www.m,edicalsuppliesusa.com/

Neoforma

http://www.neoforma.com

Promedix

http://www.promedix.com

Stimulated by increasing cost pressures and rapid turnover of products, a variety of electronic hubs, e-hubs, or market makers are forming to serve a single market segment within an industry such as Sciquest (http://www.sciquest.com), or to sell specific products and services such as MRO.com (http://www.mro.com/) and Employease (http://www.employease.com/

Many sites, which are continually evolving offer a catalogue model. These include BioSpace.com (http://www.biospace.com/), Embion.com (http://www.embion.com/), Medicalbuyer.com (http://www.medicalbuyer.com/), Medibuy.com, and Medical SuppliesUSA (http://www.medicalsuppliesusa.com/)

Then there are so-called auction models such as Medpool.com (http://www.medpool.com, and Neoforma.com (http://www.neoforma.com/) which provide an e-bay type opportunity for people to bid for products online. A variation of the auction model is Promedix, (http://www.promedix.com/) which deals in commodities where prices tend to be volatile.

Look for these companies to offer new products and services such as specialized malls and management tools. Also look for increased consolidation which as the purchase by Chemdex of Promedix.com, and the sale of nontraditional products and services online (Medicine Online (http://www.medicineonline.com/).

Also look for more players such as group purchasing organizations, healthcare vendors,to invest in business to business e-commerce. Some developments:

- Aetna, Foundation Health Systems, Cigna, Oxford Health Plans, and Wellpoint Health Networks announced plans to form a new company called MedUnite that will compete with Healtheon/WebMD.
- Columbia/HCA and Tenet have initiated B2B exchanges, but could be limited by lack of knowledge of the Internet game, inability to move at Internet speech (where a year passes in three months), and lack of technological expertise but may benefit from having a established brand, strong management team, profitable business model, and flexibility to function online and offline.
- As an illustration of the partnership strategy, Tenet partnered with Ventro, an online exchange company, to create Broadlane.comm while Columbia Healthcare funded a venture called Empower-Health.com for its online exchange.
- As an illustrations of a merged clicks and bricks strategy, Premier merged its business-to-business purchasing exchange with Medibuy.com.
- As an illustration of a consortium or joint venture strategy, Johnson & Johnson, General
 Electric Medical Systems, Baxter International, Abbott Laboratories, and Medtronic announced
 creation of an online exchange for hospital supply purchases, putting pressure on Neoforma
 and Medibuy. Other players include AmeriSource, Cardinal Health, Fisher Scientific,
 McKesson HBOC, and Owens & Minor, which plan to create a wholesale market for

healthcare products.

 Many health systems and specialty care companies are implementing their own eHealth initiatives. Sharp Healthcare and Mayo Clinic are starting Internet initiatives, while traditional disease management companies such as Accordant Health Services and Cor Solutions are developing Web-based capabilities.

Other trends to consider:

There will be an increased focus on minority health and minority healthcare needs, as the internalization of the Web continues

Alternative medicine will become increasingly popular and legitimate as it finds a home on respected portal, health plan, and provider sites.

Providers will become more accepting of revenue-generating opportunities such as sponsorships and affiliate marketing agreements, but still lack a clear sense of how to proceed and how to integrate commerce with content.

Hospitals, health plans, and health systems will warm up to the Web see how the Web can transform care and generate cost savings—whether through online referral authorizations or eligibility verifications or B2B e-commerce.

Providers will increasingly reach out to local communities, gathering content and resources from not-for-profit entities, partnering with employers and the media, and functioning as content contributors for local or regional sites such as Access Arizona.

SUMMARY OF RELATED TRENDS PRIOR TO APRIL 2000

Trend One: Increased competition among portal sites is causing portals to upgrade their offerings and to build new relationships. A growing number of sites are delivering on the three C's of content, commerce, and connectivity, as well as communication and care.

Lesson Being Learned: Consumers want information, transactions, and personalization/customization, and healthcare organizations increasingly have to deliver on those dimensions. Many healthcare organizations are partnering with regional sites to increase traffic to their own sites. Other sites realize that the must license content from large portal sites such as HealthCentral.com, adam.com, HealthGate, Medscape, AmericasDoctor.com, drkoop.com, etc. to achieve success.

Trend Two: The healthcare Internet is going international.

Lesson Being Learned: The Internet is an international medium, but people want a connection close to home with local information and local providers. They continue to want resources they can trust. Within the United States, marketers are coping with new and emerging ethnic markets with distinct healthcare needs and preferences. These markets often prefer sites presented in terms of a total lifestyle package of services.

Trend Three: Disease management sites are becoming increasingly popular, as people look for more interactive online strategies to manage health problems.

Lesson Being Learned: Health plans and other providers have a vested interest in learning how to people manage their health—and their lives—online. Some of this management will still take place via traditional media such as the telephone. (See New York Times, April 9, 2000), while others will work with specially designed devices and appliances.

Trend Four: Consumers are coming to expect sites where they can track and record their health—the personal health record.

Lesson Being Learned: People want the opportunity to track their health and communicate with their provider. They may increasingly expect a personal relationship with their family physician—a place where they can send and receive e-mails, obtain lab tests, and access information targeted to their healthcare needs.

Trend Five: The healthcare Internet is becoming increasingly focused on ethics and quality of information.

Lesson Being Learned: It's important for sites to develop and uphold their own ethical code, and develop, promote, and monitor standards for quality information. Users will increasingly look for seals such as those developed by the Health on the Net Foundation, Trust-e, the Better Business Bureau, and Price Waterhouse.

Trend Six: Healthcare executives finally have opportunities for more quality online experiences—due in part to the online Web programs of

consulting firms and medical specialty focused sites being developed by associations. Vertical healthcare communities are growing. Many of these sites are beginning to deal with legal and regulatory issues.

Lesson Being Learned: Providers and healthcare want the same thing that consumers want: information, transactions, and personalization. They are looking for sites that will make their lives easier. Physicians want services that will help them better manage their practices.

Trend Seven: Business-to-business sites are proliferating—slated to be a large chuck of a \$370 billion market by 2004, according to Forrester Research.

Lesson Being Learned: Selling online is no picnic, but it's the wave of the future. Providers and consumers will increasingly do business online.

Trend Eight: Alternative medicine is gaining a growing online following.

Lesson Being Learned: Alternative medicine is here to stay. People are on the lookout for online solutions that will help them integrate traditional medicine with alternative and complementary medicine. They need help in avoiding quacks, scams, and urban legends, and want the truth about Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

nutraceuticals.

Trend Nine: Related to alternative medicine, there are a growing number of sites using creative tools to help people get fit and stay healthy.

Lesson Being Learned: People seem to want online coaches to help them through the process of parenting, managing stress, stopping smoking and exercise. They want a personal relationship with the site or the expert(s) behind it.

Trend Ten: Sites are increasingly understanding the appeal of clicks and mortar. Lesson Being Learned: People want an opportunity for a local, face-to-face connection. Sites will increasingly connect their programs to real-world screenings, special events, and sales opportunities.

A RUN-DOWN OF THE TRENDS

Trend One: Increased competition among portal sites is causing portals to upgrade their offerings and to build new relationships

Example: HealthCentral.com (http://www.healthcentral.com/), OnHealth.com (http://www.onhealth.com/)

HealthCentral.com, for example, now offers news sub-channels, including Business and Government, Health and Wellness, Science and Medicine, Sex and Relationships, Kids and Family, and Alternative Medicine. The site also features a channel devoted to HealthCentral.com's personalized 70 newsletters, allowing users to view and order all 70 newsletter offerings.

The site provides links to HealthCentralRx.com, an online pharmacy with more than 23,000 prescription and non-prescription items. There are also links to two of HealthCentral.com's network sites: Rxlist.com, which provides drug information, and the company's Canadian Web site, www.healthcentral.ca, which supports the notion that many healthcare sites are going international.

HealthCentral.com is also known for its connection with Dr. Dean Edell, original content from Joe and Theresa Graedon of the People's Pharmacy, and content from Best Doctors.

Trend Two: The healthcare Internet is going international

Examples:

WedMedicalServices.com (http://www.webmedicalservices.com/)

Salutia.com (http://www.salutia.com/)

WorldCareTech (http://www.worldcaretech.com/)

WebMedicalServices.com has entered China and Latin America with

http://www.preguntelealmedico.com (Spanish), as well as http://www.chinawebmedical.com which is targeted at mainland China, Hong Kong, Taiwan and Singapore.

The sites have features such as ASK THE DOCTOR (where patients' questions are answered by e-mail); SECOND OPINION; DIET PLANS WITH ONLINE PERSONAL TRAINER; LAST HOPE (where patients with terminal illnesses can find resources for advanced medical therapies); PLASTIC SURGERY ONLINE IMAGING (where consumers can see how they would look after a plastic surgery procedure). Brick and mortar approaches include referrals to medical specialists and hospitals for patients from Europe, Asia and Latin America plus a concierge service for with airlines, hotels, car rentals and translation services.

Another player is Salutia.com, which is Latin's America's first portal dedicated exclusively to healthcare. It will deliver highly localized content aimed at the Spanish and Portuguese markets.

And in Germany, sites such as DocCheck.com are working to tap into a potential market of 360,000 physicians—just 40,000 of whom are on the Web. A growing number of American companies are trying to develop a presence in Europe and other regions, with companies such as WebMD moving into Japan and the investors behind Medscape purchasing a healthcare portal in France. Many of the portal sites already have international initiatives.

Coupled with this is the growth of sites that cater to minority health issues such as http://www.bet.com/ and the http://www.omhrc.gov. OMHRC, for example, has separate programs dealing with HIV/AIDS, eliminating racial disparities, and Hispanic health.

Trend Three: Disease management sites are becoming increasingly popular as consumers look for sites to strategies, not just information.

Examples: PDHI, Inc. (http://www.pdhi.com/, LifeChart.com (http://www.lifechart.com/),

Lifemasters.net (http://www.lifemasters.net/)

The DailyApple.com (http://www.thedailyapple.com/)

Chronicrx (http://www.chronicrx.com/)

Promedex (http://www.promedex.com/)

Health Hero Network (http://www.hhn.com)

Blue Cross and Blue Shield of New Hampshire (http://www.anthembchsnh.com/)

Disease Management Consortium (http://www.dismgmt.com/)

MyBP, for example, is what is being billed as the "first interactive health channel for people with high blood pressure." The site provides e-mail communication with a team of nurses and medical specialists, a personal diary for tracking blood pressure, diet, exercise, lifestyle changes, and medication usage, graphs that use information from the diary to monitor

progress, a ten-year coronary heart disease risk assessment with comparisons, and other educational material, resources, features, tips and reviews.

Another player in this space is LifeChart.com, which offers an interactive asthma monitoring system and an electronic asthma monitor. Users blow into the monitor, which automatically records, stores, and displays the data in red, yellow and green-zoned charts. Results are uploaded to LifeChart.com over a phone line, where LifeChart.com organizes the information into electronic health reports.

Even pharmaceutical companies are getting into the act with PMS management programs and a site called The Daily Apple, which offers interactive software that tracks symptoms, offers results of studies on how women have managed PMS with calcium supplements, and features advice from experts. Users go through a question-and answer section, take the calcium supplements, and then track their response through a questionnaire.

Along with that are sites such as http://www.ahrq.gov/consumer/diaginfo.htm that help people access information about their diseases. Now You Have a Diagnosis: What's Next? encourages patients to work with their doctors in developing a treatment plan, explains the four main types of research studies, how to find reliable health-related information, how to use that information in making a decision, and how to discuss treatment choices with a physician.

Trend Four: Consumers are coming to expect sites where they can track their personal health—and the health of their families through a personal health record.

Example: MyKidsDoctor.com (http://www.mykidsdoctor.com

PassportOneSource (http://www.passportonesource.com/)

Medicalogic (http://www. Medicalogic.com/) Health Magic (http://www.healthmagic.com/

PersonalMD http://www.personalMD

Medivation.com (http://www.medivation.com/)
GotoMyDoc (http://www.gotomydoc.com/)

The Agency for Health Research and Quality (http://www.ahrq.gov/)

On PersonalMD.com consumers can enter include drug allergies, personal and family medical history, and other facts Following registration on the site, consumers receive a free PersonalMD emergency card to carry with them. If a member visits an emergency room (ER), ER personnel can retrieve the information via the Internet or fax

Developed by HealthMagic, Inc., a Web-based technology company, HealthCompass 3.0. is a tool that allows consumers to monitor health records for themselves and family members online. The record includes

patient health histories, healthcare contacts, allergies, immunizations, and details of previous Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

physician visits.

A username and password option allows consumers to examine their health records from any computer terminal with Internet access. Supported by digital encyption and security technology that allows each record to remain secure, HealthCompass 3.0 offers tracking services such as laboratory tests, risk assessments, and pre-visit symptom interviews that identify symptoms and issues before a doctor's visit. Users can share or distribute HealthCompass records to family members or friends, or to health providers who can use the information during office visits.

Trend Five: The healthcare Internet has become increasingly focused on ethics and quality of information.

Examples: Internet Healthcare Coalition (http://www.ihc.net/ Now http://www.ihealthcoalition.org/

Science Panel on Interactive Communication and Health (http://www.scipich.org/)

HI-ETHICS (monitored by http://www.healthwise.org/)

Health On the Net (http://www.hon.ch/)

Food and Drug Administration (http://www.fda.com/)

DISCERN http://www.discern.org.uk

HealthGrades (http://www.healthgrades.com/)

American Board of Medical Specialties (http://www.certifieddoctor.org/)

Gomez (http://www.gomez.com/)

Health Information Technology Institute's Health Information Quality Assessment Tool

http://www.hitiweb.mitretek.org/iq/default.asp

The Quality Information Checklist

http://www.quick.org.uk

Powerrankings by Forrester

http://powerrankings.forrester.com/

Mediconsult.com announced that it would donate \$25,000 to the Internet Healthcare Coalition to support its e-health initiative which includes a summit meeting in Washington, D.C.

Trend Six: Healthcare executives now have opportunities for more quality online experiences—due in part to the online programs of consulting firms and specialty focused sites being developed by associations.

Examples:

Passport Health (http://www.passporthealth.com/

Passport One Source (http://www.passportonesource.com/)

MedPearl (http://www.medpearl.com/)

HealthLeaders.com (http://www.healthleaders.com

FamilyMed.com (http://www.familymed.com/)

Knowledge Space (http://www.knowledgespace.com/healthcare/)
Health Information Network (http://www.hin.com/)
Managed Care Online ()http://www.mcol.com/)
OPUS Communications (http://www.opuscomm.com/VerticalNet.com (http://www.verticalnet.com/) MedicaLogic (http://www.medicalogic/)

Wisconsin Health Information Network (http://www.whin.net/_

One example is FamilyMed.com, an online resource devoted exclusively to family practice medicine. Among its offerings are multimedia tools for sharpening diagnostic skills, and reference and resource materials from the American Board of Family Practice(ABFP). It also features virtual patient encounters that allow physicians to diagnose and recommend a course of treatment. Each case outlines a patient visit, complete with history, review of systems, physical exam, studies that include graphics such as films and EKG strips, and lab results. The site delivers answers and supporting information. The FamilyMed.com reference center features the ABFP's 19 reference guides which have been enhanced with inks to references, flowcharts, and clinical narrative. Also presented are 2,000 questions from past in-training exams along with answers and references, free web sites for ABFP-certified physicians, and links to 20 full- text articles.

The KnowledgeSpace Healthcare Community

(http://www.knowledgespace.com/healthcare/) offers a community for healthcare leaders with resources, best practices, diagnostic tools, customized news, studies, and trend and statistical analyses. Targeted to hospital, health plan, pharmaceutical, research, and supplier professionals, KnowledgeSpace Healthcare Community gives users access to Business Radar and Daily Highlights, which feature news from 400 newspapers, magazines, journals, and news wires, including 70 healthcare journals. Global Best Practices for KnowledgeSpace offers a collection of case studies and self-assessment tools, while Trends & Statistics presents market profiles, trend and strategic analyses, and presentations. Meanwhile, Knowledge Bundles and Executive Briefs serve up content and tools on hot-button issues such as HIPAA, information technology, e-health and commerce, the Balanced Budget Act, consumer issues, and prescription drug costs.

Most recently, MedicaLogic (http://www.medicalogic.com/, an online medical records company allowed physicians to set up a query and five seconds to run a report on patients to find those using Rezulin. The same was true of a company called MedPearl (http://www.medpearl.com/).

Trend Seven: Business to business sites are proliferating

Examples:

Medpool.com (http://www.medpool.com/) Neoforma.com (http://www.neoforma.com/)

Medibuy (http://www.medibuy.com/

Medical Buyer (http://www.medicalbuyer.com/

MedicalSupplies USA (http://www.medicalsuppliesusa.com/)

MedMarket.com (http://www.medmarket.com/) , which is a sister site to MedMarketAuction.com (http://www.MedMarketAuction.com) and DiscountMedBooks.com

(http://www.DiscountMedBooks.com) offers discounted medical equipment and supplies, auctions, daily updates, a "virtual industrial park" for the medical device, diagnostic, pharmaceutical, and biotechnology product manufacturing industry, and even alternative health products.

Trend Eight: Alternative medicine is gaining a growing following.

Examples:

Dr.Weil (http://www.drweil.com/)

CancerOption.com (http://www.canceroption.com/_

MotherNature.com (http://www.mothernature.com/

VitaCost (http://www.vitacost.com/)

OneMedicine (http://www.onemedicine.com/)

Cancerfacts.com (http://www.cancerfacts.com/)

The Natural Pharmacist (http://www.tnp.com/).

Academy for Anti-Aging Medicine http://www.worldnet.net

WholeHealthMD.com (http://www.wholehealthmd.com/) was founded as an Internet venture between American WholeHealth, a provider of integrative medicine, Rebus Inc., a consumer health and medical publisher, and Whole Foods Market Inc.. The site features self-care strategies for dealing with more than 100 common ailments., with Healing Paths based on protocols that were reviewed and tested by integrative medicine practitioners. WholeHealthMD.com also offers e-commerce through Whole Foods Market, as well as a library of content related to integrative medicine therapies and studies.

Interestingly, there is also a backlash against alternative medicine—on the one side with sites such as http://www.ncahf.org, and on the other from sites such as The American Academy of Anti-Aging Medicine, which is actually mounting a defense of alternative medicine treatment through its site http://www.worldhealth.net where it offers Attack on Internet Health Freedom, a review of pending legislation to appropriate 10 million dollars to the FDA to police health information on the Internet. Users can also use World Health Network's "Click to Congress" to cast

their vote.

Other sites such as the Natural Pharmacist are adding features such as the Herbal Drug Interactions Database to their sites so professionals can understand the interactions between prescription drugs and supplements.

Trend Nine: Related to alternative medicine, there are a growing number of sites using creative tools to help people get fit and stay healthy.

Examples

Healthy People 2010 (http://www.health.gov/healthypeople

Asimba (http://www.asimba.com/)

Cyberdiet (http://www.cyberdiet.com/

DietWatch (http://www.dietwatch.com/)

Ediets (http://www.ediets.com/)

Shapeup.org (http://www.shapeup.org/)

RealAge.com (http://www.realage.com/)

Through ShapeUp.org, C. Everett Koop, MD has launched a new weight loss program called Shape Up and Drop 10. The site has identified seven diseases -- hypertension, cardiovascular disease, dyslipidemia, Type 2 diabetes, sleep apnea, osteoarthritis, and infertility -- as co-morbid conditions for obesity where the diseases either worsen as the degree of obesity increases or improve as the obesity is treated. Using the program, a user goes through a series of assessments, using online technology to design an individualized weight management plan. Combining a personalized diet plan and fitness program, the user can set personal weight management goals, such as weight loss or prevention of weight gain, which is known as the "Shape Up" option. Users can also choose each day's meals and snacks from four types of food plans--basic, non-dairy, lacto-ovo, or vegan—and chose from among five different physical activity plans. Finally, users identity weekly weight management challenges that need to be addressed.

RealAge.com allows users to calculate their "Real Age"—the age their body is based on how well they have maintained it over time. Then, through a process called Age Reduction Planning, RealAge.com helps users develop a personalized health plan, which suggests what steps that they can take to become younger.

RealAge.com incorporates a good portion of what scientists know about aging, including information about nutrition, exercise, environment, stress, genetics, and family history. All of this information can be used to calculate a person's biological or "real" age.

RealAge.com has also introduced condition specific interactive modules to address health topics such as weight loss, breast cancer screening, and arthritis. Based on the interactive technology on

RealAge.com, these modules make recommendations based on the individual user's profile.

With a community that supposedly passed the one million member mark according to the site's own estimates as of November 1999, http://www.ediets.com/ site starts its relationship with a user by making a request to complete a personal profile questionnaire.

The profile consists of more than 30 questions covering issues such as health, attitude, weight loss goals, exercise regimens, dietary preferences, allergies, and dietary restrictions. Reading the answers to questions as, "Are you on a restricted low sugar diet?" and, "How many times per week do you eat meals away from home?" allows the site's dietitians to create a free, personalized Copyright Joyce Flory, 2000. Please do not reproduce in written or electronic form without the written permission of the author. 312/944-3654; gojoyce@aol.com; fax: 312/337-6537.

profile.

Free membership on the site includes a bi-weekly newsletter, news@ediets.com, which offers information on health, nutrition, and fitness. Each newsletter contains health and diet tips, news articles, recipes, and book reviews.

For a fee of \$70, however, members can receive a three-month weight loss program designed to fit their nutritional needs and goals. The program includes personalized meal plans, shopping lists, and access to chat rooms and online support groups.

Trend Ten: Sites are increasingly understanding the appeal of clicks and mortar.

HealthScreenAmerica (http://www.healthscreenamerica.com/