Chapter 8

A Commitment to Health

American politics, especially during the era of mass communications, may have been subject to a psychology of "action moods" - for example, pendulum swings or cycles of 15 to 20+ years.[1] World War I was followed by the Harding Era's "Return to Normalcy." World War II was followed by a political pause during the Eisenhower years and, next, by a re-engaged activism as enough votes shifted to give President Kennedy a slight edge in 1960. The end of the Cold War may have produced another period of rest and recovery.

These Big Picture theories are difficult to test or prove. However, they raise the question: Are there unmet needs in America, or new opportunities to improve the country, that exist independent of any current action mood, that would be worthwhile to know about, and act on?

There *is* an unmet need to provide health and medical information to consumers: 55%+ of those with home access use the Internet to search for health information, and they are serious about wanting it (70% went online most recently for information about a specific illness or condition and 54% look for information for somebody

---

[1] I cannot do justice to this literature here. See, for example: James David Barber, *The Pulse of Politics: The Rhythm of Presidential Elections in the Twentieth Century* (New York: W. W. Norton, 1980). Walter Dean Burnham, *Critical Elections and the Mainsprings of American Politics* (New York: W. W. Norton, 1971).

else.)[2] Yet people are mistrustful of the reliability and completeness of the information they find on different sites, of the motives of the people providing the information, of respect for their privacy.[3]

---

[2] The 55% estimate is from November/December, 1999 reported in Mollyann Brodie et al., "Health Information, the Internet, and the Digital Divide," *Health Affairs* 19, no. 6 (2000): 261. The shopping rate is 52%. Email is the most widespread use (91%). The Pew Internet and American Life project (data from July - August, 2000) finds similar results: 55% of Internet users search for health information and a 48% shopping rate: Susannah Fox, Lee Rainie, and and others, "The Online Health Care Revolution: How the Web Helps Americans Take Better Care of Themselves,", (Washington, DC: Pew Internet & American Life Project, 2000). See also: Boston Consulting Group, *Patients, Physicians, and the Internet: Myth, Reality, and Implications* (Boston, MA: Boston Consulting Group. Online at www.bcg.com, 2000). For a report that 82% of Internet searchers want disease-specific data: Cyberatlas, "Internet Health Offerings Lacking in Consumer's Eyes," *cyberatlas.internet.com/big_picture/demographics/article/01323,10101_299081.html* 2000.

[3] For example, 69% of users are very concerned that a Web site would sell or give away information about what they did online: Fox, Rainie, and others, "The Online Health Care Revolution: How the Web Helps Americans Take Better Care of Themselves,",, 11. Similar percentages emerge from a survey of 1,000 patients and 250 physicians conducted by the Boston Consulting Group in Sweden and Germany: consumers are mistrustful of Web advice and skeptical of commercial Web portals or online services backed by pharmaceutical companies or health insurers: Boston Consulting Group, *Patients, Physicians, and the Internet: Myth, Reality, and*

Chapter 8

By now, we have several years of experience with commercial Web sites and cable television channels devoted to health information: There was early hype for the Web sites, but most were unable to sustain themselves through advertising, sales of products, and selling information about their users.[4] The television channels

---

Implications.

Concerning privacy of Internet searching, data (from 9/6/2000 - 9/18/2000) reported by the Internet Healthcare Coalition and National Mental Health Association show that 58% of the online public is not confident that health-related websites are able to maintain the privacy and confidentiality of individuals who provide them with personal information. Katherine Binns, Kinga Zapert, and Blaze Blyth, "Ethics and the Internet: Consumers Vs. Webmasters,", (Harris Interactive Inc., 2000). Online at www.ihc.net. A recent survey of 1,600 US online adults by Jupiter Communications found 75% of those seeking healthcare information on the Internet were concerned or very concerned about the sites with which they registered sharing personal information with a third party without their permission: Cyberatlas, "Internet Health Offerings Lacking in Consumer's Eyes,".

[4] For the roller-coaster experience of for-profit sites: James C. Robinson, "Financing the Health Care Internet," *Health Affairs* 19, no. 6 (2000). Stephen T. Parente, "Beyond the Hype: A Taxonomy of E-Health Business Models," *Health Affairs* 19, no. 6 (2000). As Robinson notes, by June, 2000 twenty-one leading Internet health firms were trading at more than 80% below their previous 52-week highs, including drkoop.com (97.3% below high), PlanetRx (93.2% below high), Neoforma.com (89.9% below high) and MedicaLogic (85.1% below high): Robinson, "Financing the Health Care Internet,",: 82.

survived as profitable businesses only for a limited infotainment market, especially a lifestyle, health, and relationships package for women 18-49.[5]

Proposal: A PBS-II Health Channel. It will be distributed by cable and direct-broadcast satellite (DBS) systems and, as broadband connections become widely available, by Internet Webcasting. It will be supported by an online Website with comprehensive health and medical information and video archives for video-on-demand viewing. The cost of the PBS-II Health Channel will be paid by foundations, non-profit groups and users without any subsidy by taxpayers.[6]

A. Benefits

- A national PBS Health Channel - designed to provide people the detailed information they need about specific health conditions, when they want it, in a form they can use - could imagine its potential audience and program philosophy quite differently from commercial TV. It can view its target audience as the full U.S. population, yet existing in dozens of niche markets created by information needs that arise from each individual s circumstances and health conditions, with new audiences continually being created by recent diagnoses or immediate needs of the consumer and/or family

---

[5] The major initiatives have been Web-MD and (fascination of science) Discovery-Health.

[6] For an extended version of this paper with added technical and strategic discussion, see www.policyscience.net. I am indebted to the Health Insurance Reform Project sponsored by the Robert Wood Johnson Foundation for an invitation to develop the extended version.

members. (For example, each year 1.6 million women become pregnant with their first child; several million people suffer from lower back pain, or become depressed; an estimated 105 million Americans have developed a chronic condition or have a chronic disease.)[7]

- The need for health information may be, to a degree, greater than people realize. The Institute of Medicine has summarized research that shows major and alarming differences in preventable medical errors and patient safety, the overall quality of health care, and outcomes for the treatment of serious conditions, including life-threatening illnesses, among physicians, group practice HMOs, and hospitals.[8] Research also shows that simply publishing this informa

---

[7] By one estimate, 105 million Americans had at least one chronic health condition in 2000, for which total medical expenditures were $503 billion/year. See Estimated Number of Persons with Chronic Conditions and Direct Medical Costs for Persons with Chronic Conditions, Selected Years, 1995 - 2050. in Institute for Health and Aging, *Chronic Care in America: A 21st Century Challenge* (Princeton, NJ: Robert Wood Johnson Foundation, 1996) 9.

[8] The health policy literature documents many ways in which the health of the U.S. population and health system performance fall far short of what they could be (e.g., Healthy People 2010; www.health.gov/healthypeople/); the National Committee for Quality Assurance s health plan performance measures (www.ncqa.gov); recent Institute of Medicine reports on health quality and chronic disease (www.iom.edu. Mark R. Chassin, Robert W. Galvin, and National Roundtable on Health Care Quality, "The Urgent Need to Improve Health Care Quality: Institute of Medicine

tion in medical journals does not reach consumers or change the behavior of institutions or the health system.[9]

- Health, also, is one of America s most credible areas of leadership in the world. A Health Channel, started in America, would quickly be part of the satellite television packages worldwide. And especially for the Third World (combined with an online Website) it would be a foundation to make American institutions a daily partner with health professionals, in every country, to achieve the best medical care for ordinary men and women worldwide. If America wants to run for office as a world leader, this is a winning commitment.[10]

National Roundtable on Health Care Quality," *JAMA* 280, no. 11 (1998).
Margarita P. Hurtado, Elaine K. Swift, and Janet M. Corrigan, eds., *Envisioning the National Health Care Quality Report* (Washington, DC: Institute of Medicine, 2001). There are many areas for improvement and, in nearly all of these instances, better-informed consumers could be a significant factor in improving health and health care: Steven Asch and et al., "Measuring under-Use of Necessary Care among Elderly Medicare Beneficiaries Using Inpatient and Outpatient Claims," *JAMA* 284, no. 18 (2000).

[9] Michael L. Millenson, *Demanding Medical Excellence: Doctors and Accountability in the Information Age* (Chicago: University of Chicago Press, 1997).

[10] A US-based project is an initial, practical step. For a global vision see: Lincoln C. Chen, Tim G. Evans, and Richard A. Cash, "Health as a Global Public Good," in *Global Public Goods: International Cooperation in the 21st Century*, ed. Inge Kaul, Isabelle Grunberg, and Marc A. Stern (New York: Oxford University Press,

Chapter 8

II. Five Questions

1.) What New Programming Would the Health Channel Make Available?

Table 8-1 gives examples of new types of programs that could be available. The Channel represents a shift from our traditional image of mass-market television: while some shows might attract tens of millions of regular viewers (e.g., a Medicare benefits call-in show), in other respects programming would be generated by needs and benefits. For example, patients with rarer medical conditions, and their families, may be sparsely distributed nationally, but the value of the information to each group would guide the programming, not the size of the niche audience. And shows would be repeated depending upon the arrival of new audiences.

Table 8-1
Examples: Types of Consumer-Oriented Health Programs

- New Illness Diagnoses
  - Diabetes: Information for New Patients (e.g., a three-part series)
  - _____ Cancer: Information for New Patients
  - Alcohol and Drug Abuse
  - Depression

- New Conditions & Life Cycle Issues
  - _____Becoming a Mother for the First Time
  - Your Child, Year One
  - How to Choose an HMO
  - Aging Society: Building Community Care Options (On the Road format?)
  - Preparing for Retirement (home improvements, evaluating your insurance)

- Chronic Conditions: New Information

1999).

Independent Living: new devices for the handicapped
Living with _____ (could include patient interviews, perhaps targeted to different groups, with people like themselves).
[It may be especially important to have these programs for rarer conditions as local support groups and information may not be readily available in many communities.]

- Local Programs (incl. local access)
(Interviews with local shelters for women, representatives of AA and other programs. Health information programs at local hospitals.)

- First-Aid/How to Be Your Own Doctor Sometimes (Red Cross sponsorship?)
Basic first-aid - and when to call a doctor
Targeted information for different groups: First-Aid for New Parents; First-Aid for Summer Vacations.

- Consumer Reports (a wide range of commissioned studies: wheelchairs and wheelchair ramps; lift chairs; new devices for the handicapped; health insurance; selecting a nursing home for quality)

- Self-Help; Smoking
Weight Loss
Family Members: Drugs and Alcohol
Depression
Managing Stress
Tai chi & other morning exercise classes for seniors (AARP sponsorship?)

- Government Information & Rights
Medicare/Medicaid Rights (incl. call-in)
Health Benefits for Children in Poverty
Assistance for the Handicapped

- Updates - Science Journalist Roundtables
_____NIH conferences
Medical Update (weekly - all topics - e.g., Washington Week in Review/Wall Street Week)
New Developments in Women s Health
Health Issues for the Black Community
New Developments in _____(as needed - e.g., Breast Cancer, AIDS)

Chapter 8

Body-Mind Update

- Quality & Consumer Awareness
  - Healthy People 2010: key national conferences, state & local discussions & annual progress reports for consumers/citizens
  - Local strategy planning conferences for public health planners and educators in an urban area or region (e.g., NYC).
  - Health Quality CSPAN: new developments in health indicators, report cards, research findings and program innovations that deserve wide and rapid dissemination. [This also could support physician awareness of the results, as they also will be available to physicians, and the programs could become a source of questions from patients.]

- Policy Choices for Health Quality
  - Selective CSPAN-like coverage of relevant hearings in Washington. (Possible partnership with www.kaisernetwork.org.)

- Feedback and Planning
  - Evolving the Health Channel - a series of ongoing research discussions concerning the national health information infrastructure & systems, health quality outcomes, and lessons.

2.) How Will a Health Channel Reach People?

The most cost-effective solution to reach tens of millions of households is to include the Health Channel as part of existing cable television and direct-broadcast satellite packages. This technology can be combined with a Web site offering comprehensive written material and video-on-demand archives.

A.) Cable Technology

The coaxial cables for cable television pass in front of 96.7% of American homes (December, 2001); about 73 million American

homes (69.4% of television households) subscribe.[11] The cable industry is expanding capacity and with digital technology can provide 250+ channels. About 15.2 million households were subscribing to these cable upgraded services (half of these with limited broadband) at the end of 2001.[12]

B.) Direct Broadcast Satellite

The second distribution route is via direct-broadcast satellite (DBS) companies, DirecTV and EchoStar s DishNetwork. Both companies are growing rapidly and provide 200+ television channels, 30+ CD-quality music stations, etc. to about 18 million US households (10.5 million for DirecTV and 7.2 million for DishNetwork in early 2002) via small and inexpensive satellite dishes.[13] The satellites are in geosynchronous orbit and require an open window toward the Southern horizon. A new DirecTV satellite will bring its broadcasting capacity (across seven satellites) to about 750 national channels. (EchoStar has a capacity for 500 television and digital music channels on six current satellites: it has launch agreements for three

---

[11] Data from National Cable Television Association: www.ncta.com/industry_overview. There are about 105 million television households.

[12] Ibid.

[13] Theresa Foley, "DirecTV Proceeds with a Local-Market Plan," *The New York Times*, August 13 2001. DirecTV s subscriptions have grown from 8 million at the end of 1999 to 10.7 million at the end of 2001; the subscribers to EchoStar (DishNetwork), the # 2 DBS provider rose from 3.4 million at the end of 1999 to 6.8 million at the end of 2001. Alicia Mundy, "Charlie's Angel," *Cableworld*, April 1 2002, 15 . DirecTV and EchoStar have 90% of the DBS television market in the US.

additional satellites.)[14] Both companies offer a modest Internet broadband option that can include video-on-demand.[15]

C. Adding Libraries

The country s 16,213 (main and branch) public libraries provide a public information distribution system for Americans without cable, satellite, or Internet connections.[16] The libraries also have reference staffs who, as first contacts with the public, are important and natural allies, and who are able to provide observations about unmet needs. If public libraries have broadband access, they can help to bridge any digital divides.[17]

4.) How Much Will This Cost?

Creating a national television channel may seem impossibly difficulty and expensive, but it is a well-established technology that

---

[14] Foley, "DirecTV Proceeds with a Local-Market Plan,". Also: www.directv.com and www.dishnetwork.com

[15] In the spring of 2002, a proposed merger of DirecTV and Echostar is before the FCC.

[16] When there is a need, friends, relatives, and children who are online can be alert for information: 54% of current Internet use for health information is for someone else. Fox, Rainie, and others, "The Online Health Care Revolution: How the Web Helps Americans Take Better Care of Themselves,",, 4.

[17] Or blank CD s that can store 600+ megabytes of text and multimedia clips can be purchased for less than $0.30 and copied for less than $1. Once a Health Channel is underway, it would be inexpensive to create sets of CDs or VHS tapes with high quality material, upgraded annually by subscription for each library.

simply involves contracting for a satellite transponder, an uplink, and a downlink to potential viewers.

A good model for the PBS-II Health Channel is the initiative of the Annenberg Foundation and the Corporation for Public Broadcasting, a 168 hours/week (24 x 7) national channel for the development of excellent teaching in grades K-12. The cost of the channel, including programming and Web site, is $14 million/year, a commitment made by the Annenberg Foundation for five years, and renewable for another 15 years.[18] The channel is down linked to public schools, public access channels, and other institutions that have their own larger, traditional satellite dishes that can access the PBS satellite directly; and sometimes it is down linked by cable companies for distribution within their systems. The Channel also can be accessed via Internet broadband.

(Since the larger satellite dishes are too expensive for most homes, the PBS satellite does not provide a complete distribution system for a PBS-II Health Channel. But it does provide the Big Hop national distribution to local cable companies. PBS leases capacity on its GE-3 satellite link at $15,000/month for a year s lease; and the uplink contract adds about $10,000 - $15,000/month for a 24 x 7 capacity. Today, a national satellite link at $360,000/year is a minor cost of the PBS-II project.)

Further costs can be broken-down in three areas: programming, cable/direct-broadcast satellite charges for home users; and Internet/Webcasting costs.

---

[18] Annenberg/CPB: 2001 Annual Report. Online at www.learner.org.

Chapter 8

A.) Programming costs

Programming costs (Table 8-2) can range from about $260/hour (to videotape and digitize a standard lecture with slides); to $15,000 - $25,000/week for a Washington Week in Review panel show; to hundreds of thousands of dollars for Nova-quality programs. Part of the programming already is available in health education lectures to small groups of patients at leading medical centers (and needs only to be videotaped and digitized.) And almost any leading medical center, national organization, or foundation committed to assist people with specific conditions could be interested in the opportunity to produce national programming in its area and to have online links from a Channel site to its own site. [19]

Table 8-2

Sample Programming Costs

Annenberg/CPB 24 x 7 national channel, incl. programming[20]	$14,000,000/year

[19] It is possible to spend a great deal of money for health programming, but perhaps it is not necessary. (A Nova (PBS) series about cancer might better be reserved for PBS.) A straightforward design for programming - professional but with few frills - would reduce costs for a Health Channel, and perhaps also convey the right messages. Audiences are familiar with CSPAN and might appreciate hearing leading researchers directly (e.g., NIH conferences on women s health) rather than the mediation of reporters.

[20] Annenberg/CPB 2001 Annual Report, online at www.learner.org.

Washington Week in Review[21] (Professional production staff, weekly)	$15,000/week
Nova-quality PBS, 30-minutes	$150,000 +
Commercial-quality television series, 39 weeks Production costs + pilot [22]	$4,300,000
Academic medical lecture - one hour 2 man-hours, original set-up & recording + 1.5 hours to digitize audio, + 0.5 hours to digitize 15 -20 slides = 4 hours @ $65/hour	$260
CSPAN panel discussions - one hour incl. more than one camera, lighting, light editing: $650 + encoding at $3/min	$830
NIH Conference on Women s Health (4 hours, plenary sessions)	N/C

[21] The costs depend upon a ton of variables but a series could be done for $15,000 - $25,000/show. Interview with Jeff Beiber, Executive Producer. 1/23/2000. Costs also would be affected by whether there is a partnership with WETA that uses existing public broadcast studios and personnel, whether there is a long-term commitment, etc.

[22] Howard J. Blumenthal and Oliver R. Goodenough, This Business of Television, Second edition. (NY: Billboard Books, 1998), p. 43.

2.) Cable/Satellite charges

Today, with limited competition, if a company or organization came to a large cable or DBS company with a proposal that it carry a new channel, these companies would normally ask for a payment based on their subscriber base. The launch of a new channel as a nationwide commercial venture, based on the recent asking prices of cable or cable companies, would be several hundred million dollars to buy distribution.[23]

However, there is a good case for the PBS-II/Health Channel (like PBS itself) to obtain free distribution from cable and DBS companies because of the public interest nature of the programming.[24] The cable industry has voluntarily supported public interest projects in lieu of regulation (e.g., 540 hours/month of educational programming and CSPAN.) And if there is a problem, local governments, who regulate cable companies, could simply require that a PBS-II Health Channel be included in a cable package. DirecTV has set aside 3% of its channels, allocated annually on a competitive and renewable

---

[23] A popular channel can easily afford these charges. If the Disney Channel has 40 million subscribers, at $1/month as its share of a premium package, Disney receives $480 million/year in revenue even before it sells advertising on the channel.

[24] For additional strategies: Lloyd S. Etheredge, "Consumer-Oriented Broadcasting and Video Archives for Health,", (Washington, DC: Health Insurance Reform Project - Robert Wood Johnson Foundation, 2001). Online at www.policyscience.net.

basis, for public interest initiatives at about $10,000/month.[25]

There will be abundant capacity as these cable and DBS systems expand. In reality, the industry is running-out of ideas for channels. The vast wasteland of commercial TV broadcasting is being multiplied in the 287 national cable channels at the end of 2001, including dozens of movie rerun channels (featuring many movies that had little audience even when originally released) and rebroadcast of television series that died for lack of viewership years ago, and abundant options for sports, infotainment, religion, XXXX, etc. (The Puppy Channel, 24x7, is under discussion; also a Children s Fashion Channel, etc. But the for-profit ideas already are scraping the bottom of the barrel.)[26]

Any public service obligation aside, the PBS-II Health Channel is unique and good for business. It can help to sell basic cable packages (to the 25%+ of households who do not subscribe to cable), or upgrade packages to the 55 million cable households who have not yet purchased an upgrade package, or satellite (DBS) dishes to new users (including cable subscribers who might want to switch.) Assuming that the basic DBS or cable charge is about $30/month, and an upgraded package will double the revenue: Each new cable or DBS customer, or upgrade customer, is worth an extra $360/year to an industry that has primarily fixed costs. If the national Health Channel can add 100,000 subscribers, or shift them from cable to DBS or vice versa, that is $36 million/year of revenue to the company that carries it.[27] [28]

---

[25] Foley, op. cit

[26] See www.ncta.com

[27] A Health Channel also could be a mini-premium channel in

4.) What Will Be the Role of the Internet?

- A first-class Website with comprehensive medical information might normally cost tens of millions of dollars. However, the basic investment already has been made by the National Library of Medicine: Their comprehensive and user-friendly Medline Plus (www.medlineplus.gov) project is a leading source of consumer-oriented health information with more than six million hits per month.

Table 8-4 provides an overview of Internet-television (Webcasting) costs.[29] The costs are for purposes of illustration: all costs of

---

some packages. If, on a DBS satellite, 6 million households felt that the best and latest medical information was worth $0.60/month ($7.20/year) that would generate $43+ million/year revenue. Or if 20 million households were willing to spend $5/month for a PBS package of add-on public channels via cable and DBS, they would generate $1.2 billion/year.

[28] If programming is developed by other organizations, it is straightforward to structure a click-through from a Web page to the other site or its Webcaster. In this case, the other organization bears the cost of the encoding, online storage, and download charges for consumers who want to view their material. Those organizations also thereby acquire visitors to their own sites. HMO or other Web sites that today develop medical information and keep it current could reduce their costs by mirroring some or all of the contents from the Health Channel Website, and would thereby help distribute the Health Channel s content more broadly.

[29] Current offerings can be sampled at www.broadcast.com. And www.real.com is a good site to see technology and costs: the

Internet distribution technologies will change and are negotiable, especially for large users and long-term contracts; and will be more negotiable in the future as competition increases. And Webcasting companies also will have an incentive, to move the S curve of broadband upgrades, to feature a PBS-II Health Channel and provide free distribution or favorable rates.

Table 8-4

Internet Costs:
Including Webcasting & Video-on-Demand

I. Basic Website	
500 megabytes online + 50 GB/month of transfer	$100/month
II. Webcasting & Video-on-Demand	
(assumes 500 hours of programs)	
Basic Webcasting contract (incl. basic 200 megabytes of on-line storage & 20,000 mega-bytes of user transfer)	$1,300/month

---

Internet encoding software to turn a VHS tape into Internet television (Real Producer Plus) is about $200. Like cable television, subscription-based and pay-per-view models also can be used for Webcasting and Internet video-on-demand: see Daisy Whitney, "Resource Guide: Streaming Video: Six Burning Questions,", (New York: Electronic Media, 2000), 3-4.

+ Initial Surestream encoding @ $3/minute x 500 hours	$90,000 *
+ Add l. online storage (startup of 20K/second files only = 500 hours @ 9 megabytes/ file) **	$1,730/month
+ 40,000 hours/month of consumer downloads @ 9 megabytes/hour= 360,000 megabytes/month	$9,520/month

* If outsourced. Costs are steeply reduced by an in-house encoding lab.

** Most programs will not be 1-hour - e.g., 30 minutes, or 5-minute clips, etc. Until broadband is more widely available, the maximum encoding might be 20K-only files suitable for 28.8 modems and close to the real transfer rate of most 56K dial-up modem users. The size of files is multiplicative: a 100K/second file would require 45 megabytes of storage and 45 megabytes of transfer. As a practical matter, however, I would recommend audio + slideshow & text formats (e.g., about 1.5 - 2 megabytes/hour) as the most user-friendly way to use Internet video-on-demand, for most users, in the near future. This also reduces storage and transfer costs proportionately. All charges are negotiable, especially for large users and long-term contracts. See Table 8-5 for further details.

Table 8-5

Costs for Internet Streaming Video and On-Demand Retrieval

Charges in 3 categories:

1.) Encoding: from standard videotape, $1 - $8/minute if outsourced, or can be created at in-house labs. If outsourced, 500 hours (@ $3/min = $180/hour) would cost about $90,000+ depending upon the complexity and number of files to be created (e.g., one 20K/second file, a 34K/second file, a 100K/second file, etc.) Equipment and RealNetworks software for an in-house encoding lab would probably be about $5,000.

2.) On-line archiving. Online storage depends upon the number and size of files for Surestream Webcasts. A 1 hour presentation that delivers 20Kb/second (suitable for 28.8K users) is about 9 megabytes (if only audio + slideshow, perhaps 2-3 megabytes); a 34 Kb/second file (recommended for 56K modems) is about 14 megabytes; a high-end (e.g., for broadband users) of 100 Kb might be 45 megabytes for 1 hour. Archiving charge is a $1300/month base rate for the first 200 megabytes, plus $10/month for each additional 100 megabytes. Five hundred hours of programming, encoded at 20K (9 megabytes/hour) = 4500 megabytes = $1300/month (base) + (43 x $10 = $430/month) = $1730/month for on-line storage.

Archiving charges depend upon the amount of storage, not the number of files. For example, 1500 programs of 20 minutes each still would cost $1730/month to store.

3.) Transfer charges. 20,000 megabytes/month of user transfer is included in the basic $1300/month rate. Beyond this, the charges

are 0.03/megabyte till 50,000 megabytes of user transfer and fall to 0.01/megabyte for more than 10 million megabytes of transfer. For example, if 40,000 people/month view 9 megabyte files, that s 360,000 megabytes @ 0.028/megabyte for the 340,000 megabytes above the base or $9,520/month.

All charges can be negotiated and can be lower - e.g., if there is a guaranteed minimum, a long-term contract, etc. [30]

5.) Who Pays?

A PBS-II Health Channel could be financed in many different ways, as illustrated in Table 8-6 (below). They are not mutually exclusive. Many people may want to participate. The best startup solution probably is for one or more major foundations (on the Annenberg Foundation model, above) to contact PBS and launch the Channel, and to develop a partnership with the National Library of Medicine s Medline Plus (www.medlineplus.gov) for the Website.

The expansion of PBS should be acceptable to Congress, as there will be no subsidy by taxpayers. (However, government agencies could participate from their existing budgets if the Health Channel

---

[30]Source: Jeff DeJulio, Real Broadcast Networks (interview). For similar estimates see Jan Ozer, Turnkey Hosted Solutions, PC Magazine, October 3, 2000, p. 190. Loudeye (www.loudeye.com) is a leading encoding service. Hosting and webcasting leaders include Real Broadcast Networks (ww.rbn.com), and Yahoo! Broadcast (www.broadcast. com). Globix (www.globix.com) and streampipe.com are companies that provide a full package, with camera crews and encoding.

increases the effectiveness of their programs - e.g., a Medicare call-in program; or the development of customizable Websites via partnerships between the National Library of Medicine and specialty societies).

Table 8-6
Alternative Financing Models

CSPAN	National industry pays. Programming & distribution fully paid by the cable industry (also, 540 hours/month of educational programming.)
Public access	Local cable companies pay. (Federal law permits local franchising authorities to create obligations for public-access, education, and governmental channels as a condition of licensing.)
www.research.com	Program initiators pay. University of Washington consortium for research universities, that supply programming in standard format at their own expense and pay $10,000 - $30,000 annual fees for rights to uplink their research conferences and programming for national distribution on DirecTV (w/ several repeats/program) and a video-on-demand Internet archive. (Includes partial passthrough to NSF and other grants.)[31]
Health Channel/	Advertisers pay. Lifestyle & fitness (incl. exercise shows, WebMD beauty and

[31] The consortium provides several replays in different time slots. Using this model, a 24 x 7 channel might only use 1/3 of its time (56 hours/week) for new programming.

	relationships) for women 18-49.
Basic cable	Consumers pay. Also extra subscription channels & pay-per-view.
PBS	Government pays + private/corporate philanthropy pays + mix and match: elements from all of the above.

PBS-II does not need to be used exclusively for health and medical programming, 24x7. PBS-II could be a de facto Foundation Channel that permits other foundation programs to share part of a national channel as a testbed for low-risk experiments, startups, and innovative programs, and to accelerate national progress in several areas (e.g., it could include part of the Global Affairs Channel; and also projects in chapter nine). PBS has recently taken a step forward to launch wireless PBS to transmit content directly to Personal Data Assistants (e.g., Palm Pilots):[32] if it was to add a major investment - perhaps with a foundation-supported move into DBS technology to homes? - an upgraded PBS system could support visionary national broadcasting initiatives in many fields. In the past decade, we have started to see what a low-cost public Internet can mean to the country (and the world); a free national DBS service to increase the effectiveness of nonprofit institutions might call-forth creative imagination and have many benefits as well.

Asch, Steven, and et al. "Measuring under-Use of Necessary Care

[32] See www.pbs.org/wireless/avantgo/signup.

among Elderly Medicare Beneficiaries Using Inpatient and Outpatient Claims." *JAMA* 284, no. 18 (2000): 2325-33.

Barber, James David. *The Pulse of Politics: The Rhythm of Presidential Elections in the Twentieth Century*. New York: W. W. Norton, 1980.

Binns, Katherine, Kinga Zapert, and Blaze Blyth. "Ethics and the Internet: Consumers Vs. Webmasters.".: Harris Interactive Inc., 2000.

Boston Consulting Group. *Patients, Physicians, and the Internet: Myth, Reality, and Implications*. Boston, MA: Boston Consulting Group. Online at www.bcg.com, 2000.

Brodie, Mollyann, Rebecca E. Flournoy, Drew E. Altman, Robert J. Blendon, John M. Benson, and Marcus D.. Rosenbaum. "Health Information, the Internet, and the Digital Divide." *Health Affairs* 19, no. 6 (2000): 255-65.

Burnham, Walter Dean. *Critical Elections and the Mainsprings of American Politics*. New York: W. W. Norton, 1971.

Chassin, Mark R., Robert W. Galvin, and National Roundtable on Health Care Quality. "The Urgent Need to Improve Health Care Quality: Institute of Medicine National Roundtable on Health Care Quality." *JAMA* 280, no. 11 (1998): 1000-05.

Chen, Lincoln C., Tim G. Evans, and Richard A. Cash. "Health as a Global Public Good." In *Global Public Goods: International Cooperation in the 21st Century*, edited by Inge Kaul, Isabelle Grunberg and Marc A. Stern, 284-304. New York: Oxford University Press, 1999.

Cyberatlas. "Internet Health Offerings Lacking in Consumer's Eyes." *cyberatlas.internet.com/big_picture/demographics/article/01323,10101_299081.html* 2000.

Etheredge, Lloyd S. "Consumer-Oriented Broadcasting and Video Archives for Health.". Washington, DC: Health Insurance Reform Project - Robert Wood Johnson Foundation, 2001.

Chapter 8

Foley, Theresa. "DirecTV Proceeds with a Local-Market Plan." *The New York Times*, August 13 2001, C4.

Fox, Susannah, Lee Rainie, and and others. "The Online Health Care Revolution: How the Web Helps Americans Take Better Care of Themselves.". Washington, DC: Pew Internet & American Life Project, 2000.

Hurtado, Margarita P., Elaine K. Swift, and Janet M. Corrigan, eds. *Envisioning the National Health Care Quality Report*. Washington, DC: Institute of Medicine, 2001.

Institute for Health and Aging. *Chronic Care in America: A 21st Century Challenge*. Princeton, NJ: Robert Wood Johnson Foundation, 1996.

Millenson, Michael L. *Demanding Medical Excellence: Doctors and Accountability in the Information Age*. Chicago: University of Chicago Press, 1997.

Mundy, Alicia. "Charlie's Angel." *Cableworld*, April 1 2002, 12-15.

Parente, Stephen T. "Beyond the Hype: A Taxonomy of E-Health Business Models." *Health Affairs* 19, no. 6 (2000): 89 - 102.

Robinson, James C. "Financing the Health Care Internet." *Health Affairs* 19, no. 6 (2000): 72-88.

Whitney, Daisy. "Resource Guide: Streaming Video: Six Burning Questions.". New York: Electronic Media, 2000.