ACCESSING PHYSICIAN
INFORMATION ON THE INTERNET

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FIELD REPORT

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EXECUTIVE SUMMARY

The Internet has become a frequently used source of health information. Many consumers already use the Internet to choose physicians and to make a variety of other decisions about health care. It is therefore especially important that the information gathered from the Internet be reliable, complete, and understandable.

The Massachusetts Health Data Consortium, under a grant from The Commonwealth Fund, examined information about physicians and physician performance available to the public over the Internet during 2001. The project included searches for and evaluation of a number of sites as well as conducting discussion groups with potential users of information about physicians.[1] There are literally thousands of sources of information about doctors on the Internet. Most hospitals and health plans have online physician directories, and professional associations and state licensing boards often maintain online directories available to the public. In addition, there are a number of commercial sites (for-profit entities) that offer information about physicians to the public free or for a fee.

Information about physicians that visitors to a website want can be categorized into four major groups:

1. *Descriptors/Characteristics:* gender, medical school, specialty, years in practice, language, insurance plans accepted, fees.

2. *Convenience/Logistics:* office location, hours, parking availability, average waits for appointments and in the office, friendliness and efficiency of the office staff.

3. *Expertise/Knowledge:* training, years of experience, number of specific procedures performed, outcome measures (e.g., deaths or complications), complaints or malpractice suits, reputation, hospital affiliation.

4. *Relationship/Bedside Manner:* caring, compassion, listening and communication skills, thoroughness with patients.

Existing websites generally include some information in each group. However, significant limitations in the quality and accuracy of information were found, including the following:

- Many commercial online directories do not include all physicians; some contain a very low number of providers.

- Many desired variables are missing, largely because the website's framework or template is inadequate.

- Data are incomplete for included physicians (empty fields).

- No evidence exists that the information was verified (possibly incorrect fields).

- The timeliness of information may be poorly documented (outdated fields).

In addition, many of the data elements on websites about physicians are viewable but not searchable. For example, a user might be able to learn a specific physician's gender, if it is viewable, but if "gender" is not a searchable field, the user would not be able to search for *all* male or *all* female physicians.

Standards for physician information websites are needed. Ideally, each site should include:

- Disclosure statements about sources of data; what, if any, fees physicians are required to pay to be included; whether physicians may edit their profiles; and whether there is any independent verification of information.

- Information about the accuracy of each data element (date last updated/verified).

- A statement about the limitations of physician performance measures.

- The size of the database and what percentage of the active physician population it comprises.

- An explanation for why data fields may be empty.

- A description of the recommendation process and its limitations, if doctor recommendations are included.

- Data on the number of participants in patient satisfaction or experience surveys.

Collaborative efforts are needed to improve the quality of public information about doctors available through national and regional online physician directories and other websites. Optimally, the participants in these efforts should include accreditors, health plans, hospitals, physician and hospital associations, government, organizations sponsoring research, state licensing boards, and other regional groups. As these websites continue to evolve and improve, all users will benefit. The best sites will likely become essential tools in educating and empowering consumers and enabling medical professionals to improve health care.

ACCESSING PHYSICIAN INFORMATION ON THE INTERNET

INTRODUCTION

In 2000, a report from the Midwest Business Group on Health entitled *How We Choose Doctors: What Is and What Could Be* stated that almost 50 million households in the United States changed, added, or selected a physician within the previous two years. It asked, How did they know which doctors to choose? The report included these findings:

- Few reliable sources collect information on individual physician practices, and fewer still report their information to the public.

- Most people do not spend as much time researching information on doctors as they do on cars.

- When selecting a doctor, people tend to rely on friends' or relatives' opinions or on other doctors' or nurses' recommendations; reputation, not actual performance, is the main criterion used in the selection. Efforts are under way, however, to make physician-specific performance information available to the public.[2]

Other research has found that over 85 percent of consumers considered it essential or very useful to have information about participating physicians and the quality of care provided when choosing a health plan.[3] Based on these findings, the obvious question is, What are the best ways to develop and distribute reliable, user-friendly information on physicians to the public?

The Internet has already become an important tool for disseminating information. A California Healthcare Foundation study found that "even participants with limited education, income or ability with the English language mention the Internet as an important asset."[4] Internet and e-mail use has increased rapidly, not only because of access at home, but also because many without home access can use computers at work, schools, libraries, and the homes of relatives.[5] Internet use has risen overall, and for health care information in particular.[6] A survey conducted by Harris Interactive found that "75 percent of all adults online (47 percent of all adults) use the Internet to look for health care information."[7]

The California Healthcare Foundation report describes "teachable moments" in health care when the consumer is most receptive to needed data and learning: for example, when choosing a physician, starting a treatment plan, using a new medication, planning a medical procedure, or understanding a diagnosis. The Internet, with its 24-hour-a-day global availability, could be an ideal tool for timely guidance for consumers, but it also can

be difficult to navigate using search engines and simple search terms. The information retrieved may be incomplete and require a high reading level for comprehension.[8]

Accessible, reliable information on the Internet about physicians could help consumers when choosing or interacting with a physician or when making other decisions affecting their health. The Massachusetts Health Data Consortium, under a grant from The Commonwealth Fund, set out to examine existing information about physicians and physician performance on the Internet. The project included evaluating a variety of sites as well as holding discussion groups with potential users of Internet information about physicians.

The Consortium concluded that at the present time there are significant problems with the quality, quantity, and accuracy of information on physician directory websites. Further, efforts by accreditors, health plans, hospitals, physician and hospital associations, organizations sponsoring research, and state licensing boards could collectively lead to improving the quality of information about physicians.

WHAT INFORMATION DO CONSUMERS WANT?

Internet users seeking information on physicians and their performance are likely to come with a variety of needs. Some patients may want to find a physician who speaks their native language. Other patients may be looking for a list of the right questions to ask before undergoing a recommended procedure.

Healthy consumers may be more likely to be interested in information about convenience and logistics. Ill consumers, on the other hand, may be interested in the doctor's experience with a certain illness or the number of procedures of a certain type the physician has performed (and the outcomes). A physician user may want to refer a patient to a specialist with specific training and board certification or expertise in a given procedure. Ideally, a website would have value for different types of users with different needs.

The information about physicians that visitors to a website want can be categorized into four main groups: *Descriptors/Characteristics, Convenience/Logistics, Expertise/Knowledge,* and *Relationship/Bedside Manner:*

1. *Descriptors/Characteristics:* gender, medical school, specialty, years in practice, language, insurance plans accepted, fees.
2. *Convenience/Logistics:* office location, hours, parking availability, average waits for appointments and in the office, friendliness and efficiency of the office staff.

3. *Expertise/Knowledge:* training, years of experience, number of specific procedures performed, outcome measures (survival, deaths, complications, functional status), complaints or malpractice suits, reputation and ethical actions, affiliation with specialists and hospitals.

4. *Relationship/Bedside Manner:* caring, compassion, listening and communication skills, thoroughness with patients, and practice style (authoritative vs. collaborative).

The Massachusetts Health Data Consortium held focus groups to discuss the information and resource needs of consumers and health care professionals. The groups included the Board of Directors of the Consortium (representing consumers, providers, insurers, employers, researchers, and government sectors) as well as an employee group convened by a large financial institution. Based upon these discussions, health care consumers seem to be most concerned about "relationship" and "expertise" issues. They want to find doctors with philosophies similar to theirs with whom they can be comfortable. They want physicians with good bedside manner who care for patients in their age group or who have a dedicated interest/expertise in their specific medical problems. The group discussions also revealed unease over the process of finding a physician. A number of participants said that only a recommendation from a person they knew (e.g., a friend, relative, or co-worker) or a medical professional inspired any level of confidence, especially if the consumer faced a serious medical condition. Such recommendations are likely to incorporate components of *Expertise/Knowledge* and *Relationship/Bedside Manner.*

WHAT INFORMATION ABOUT PHYSICIANS IS ON THE INTERNET?

There are thousands of sources of information about physicians currently on the Internet. These include both commercial and public sites. Hospitals, insurers, many group practices, and many state boards of licensure maintain online physician directories. The Massachusetts Health Data Consortium found a variety of data elements in one or more of 40 websites with information about physicians that were reviewed for this report.[9] These included:

1. Accepting New Patients
2. Age/Date of Birth
3. Board Certification
4. Disciplinary Actions
5. Ease of Access
6. E-mail Communication with Patients
7. Faculty Appointment/Academic Affiliation
8. Gender

9. Geography: Office Location(s)
10. Honors/Awards
11. Hospital Affiliation(s)
12. Insurance Accepted
13. Languages Spoken
14. Malpractice Suits
15. Managed Care Affiliations
16. Medical School
17. Mortality Rates
18. Name of Physician
19. Office Hours
20. Online Questions/Frequently Asked Questions (FAQ) Section
21. Practice Philosophy
22. Photographs
23. Publications
24. Race/Ethnicity
25. Residency Training
26. Specialty/Clinical Interests
27. Volume of Procedures Performed
28. Years in Practice/Year of Medical School Graduation

Clearly, there are already websites that include at least some information in each of the four categories that consumers want. No single website, however, has all of the content and structure features needed by consumers. Across websites, there are deficiencies in both quantity and quality of the information as well as the choice of content.

EASE OF ACCESS

Any website with information on health and health care, including those with information about physicians and physician performance, must meet appropriate national standards of disclosure and privacy.[10] In addition to standards of disclosure and privacy, there are important issues about the accessibility and accuracy of information.[11]

Accessibility of information about physicians and their performance is related to whether the site contains "viewable" or "searchable" data elements. On a website with only viewable physician information, a user may be able to learn the gender of a physician. If the field is not searchable, the user will be unable to search for all female or all male physicians. However, if the user finds that specialty is searchable, he or she would be able

to choose a specialty and look at *all* physicians within that specialty who are listed on the website.

The Massachusetts Health Data Consortium's review of 40 websites with information about physicians found considerable variation in which elements were viewable. For example, across the 40 sites, name and specialty were viewable on at least 85 percent; hospital affiliation was present on over 60 percent; gender was present on 45 percent; years of practice was present on 25 percent; and date of birth/age was present on only one site (see Appendices B and C).

Searchable elements are highly desirable for sites about physicians and physician performance. Assuming that there is content in the fields, the more fields one can search the more the website can help the user customize or filter the availability and choice of physicians. Much information on physician websites is not currently searchable. For example, while name and specialty were searchable on over 85 percent of the sites where this information was viewable, board certification was searchable on only 27 percent of the sites where it was viewable. Medical school attended was not searchable on any of the sites where it was viewable (see Appendix B).

THE NATURE AND ACCURACY OF INTERNET INFORMATION

It is useful to examine the issues surrounding the nature and accuracy of information in terms of the categories described earlier.

Descriptors/Characteristics and *Convenience/Logistics*

Even in the two simplest categories, *Descriptors/Characteristics* and *Convenience/Logistics,* the accuracy and timeliness of information fall short. For example, although health plan sites routinely include such data as telephone number and whether the physician is accepting new patients, this information may not be current. In our review of existing sites, no national directory offered extensive nationwide *Convenience/Logistics* information, although regional websites maintained by hospitals and health plans did. There have been reports of "phantom networks" of physicians listed on the sites of insurers. In such circumstances, a user requesting a physician with certain descriptors or convenience features may be given a list of several physicians and discover, upon checking with their offices, that none is taking new patients. The problem is reportedly significant for networks of mental health providers.[12]

Expertise/Knowledge **and** *Relationship/Bedside Manner*

Expertise/Knowledge and *Bedside Manner* are critical pieces of information often requested by those searching for a physician. Because this information has multiple dimensions, several of the components, though theoretically quantifiable, have not been quantified in most parts of the country.

There are many barriers to quantification and reporting of *Expertise/Knowledge.* First, there are very few standardized databases of individual physician outcomes. Second, owing to the relatively small numbers of patients with a specific condition that even an experienced physician may have managed, there are serious issues about the accuracy of some types of outcomes information when aggregated at the level of the individual doctor.[13] Third, physicians historically have been sensitive to public reporting about the details of the care they dispense. Nevertheless, at least one professional organization, the Massachusetts Medical Society, has anticipated the need to provide explanatory information about doctors to consumers and has set out principles central to physician profiling.[14]

Measurement of *Relationship* can be viewed from the physicians' or patients' perspectives. Websites about physicians can provide information, supplied in a standard format by the physician, about his/her medical philosophy, and style of relationship. Obtaining similar information from patients would be considerably more difficult, requiring periodic surveys of patient samples for each physician. This approach is likely to be expensive and raises questions about how the patient samples could be obtained and who would pay for the collection and analysis of the data.[15]

The Internet could serve as a forum for recommendations and for an interchange among medical professionals about the expertise of individual physicians with specific conditions and procedures. A website could also be a means of sharing perspectives on whether a physician would be sensitive to the patient's emotional needs. The question to an evaluating physician might be, Which physician(s) would you recommend to a member of your own family (for specific procedures or in certain circumstances)?

There already are physician websites that report some information related to expertise and relationship. For example, there is a site that reports on the volumes of various procedures performed by individual physicians in New York State.[16] In New York, New Jersey, and Pennsylvania, consumers also have been able to obtain some information on coronary bypass surgery mortality results categorized by individual surgeon.[17] The American Diabetes Association maintains on its website a listing of

physicians who have submitted data to the Association on their management of diabetic patients and have met the Association's standards.[18] Some commercial sites, such as HealthGrades.com and TheHealthPages.com, include information on aspects of *Relationship/Bedside Manner.* On both sites, information provided by patient responses to online surveys is viewable when present, but not searchable.[19]

There also are websites maintained by state physician licensing boards—for example, the Massachusetts Board of Registration in Medicine—that report information on doctors, including completed malpractice or disciplinary actions.[20] Even government-maintained sites, however, can have problems with quality and accuracy. A recent newspaper article, for example, questioned the accuracy of the Commonwealth of Virginia's new physician website, www.vahealthprovider.com. Most of the information on that site is self-reported by physicians and not independently verified. The reporter found that some important information about doctors licensed in Virginia who had been disciplined in other states was present on other states' sites, but not on the Virginia site.[21] A similar problem of incomplete data has been reported in California.[22]

BestDoctors.com is an example of a website that offers physician recommendations.[23] The recommendations, available to the public for a fee, are based on anonymous evaluations by physicians who are board certified in the same specialty as the doctors being recommended. This model has the potential for providing significant value to consumers, but it is critically important for consumers to know the basis for the assessment and the qualifications and experience of the assessing physicians. Have the evaluating physicians already recommended this doctor to their own patients? Have they practiced with this physician (who is/is not in the same specialty as the assessing physician)? Have they read papers or articles or attended lectures by this doctor? Do they know this physician only by reputation?

Quality and Quantity of Information About Physicians

The information on the web related to physician descriptors and performance measures reflects wide variation in quality and quantity. The websites reviewed here include several with information based on only a few individual physicians or small groups rather than on all physicians who might have been covered. To illustrate the range, one national commercial website has a database that includes fewer than 30 of the more than 27,000 physicians licensed in Massachusetts. In contrast, several states, including California, Florida, Massachusetts, Oregon, and Rhode Island have passed physician-profiling legislation. Sites maintained by these states display, at a minimum, the physician descriptors

of gender, medical school, and specialty board certification on all physicians licensed in their states.

The format established by websites can mislead the visitor into expecting that he or she will find comprehensive information for each physician included. However, on almost all commercial websites, there is a preponderance of empty fields. These websites usually do not offer explanations for why fields might be empty, nor do they disclose what it means if no data are available.

Most commercial and noncommercial websites examined did include information about the sources of data, but these statements were not always prominently featured. Generally, the most useful location for information about data sources is the section within commercial websites intended for physician visitors. Issues that emerge on review of national commercial websites include the following: physicians may be included on a website directory without their knowledge; physicians may be required to pay a fee to be included; physicians may not have had an opportunity to edit their records; there is no disclosure about whether the information has been verified/authenticated—for example, whether physicians were required to fax copies of their medical licenses or other credentials to the directory compilers.

The following summarizes the more salient limitations on accuracy for many websites with physician directories:

- Databases do not include all physicians (often very low in volume).

- Many desired variables are missing, the framework or template being inadequate.

- Data are incomplete for included physicians (empty fields).

- No evidence exists that the information was verified (incorrect fields).

- The timeliness of information is poorly documented (outdated fields).

CONCLUSIONS AND RECOMMENDATIONS

There is considerable demand by consumers for more and better information about physicians and physician performance. The Internet, which is increasingly accessible to consumers, is a convenient medium for supplying this information, but there are pervasive problems with the quality, quantity, and accuracy of information on physician directory websites. Improving these sites should become a priority for those responsible for them and for physicians themselves. Indeed, promoting the availability, accessibility, and

accuracy of information about physicians and physician performance should be an essential component of any organization's health care quality improvement program.

In considering how to improve websites about doctors, it must be recognized that there are no national or local standards for format, content, or documentation. A minimum data set for any such site should be specified and, once there is consensus on a minimum data set, most elements in the database should be searchable to enhance their usefulness. In addition to a minimum set of variables, standards should apply to inclusion of explanatory text that should be displayed and on the sources of data for each included element.

The extent to which physician information has been obtained and verified directly from listed physicians is generally not disclosed. This deficiency should be of concern not only to the general public, but also to physicians themselves. Doctors are likely not to be aware of the existence of all the online directory websites where they are or could be listed.

In developing standards for websites with physician information, these caveats and disclosures should be considered. Each site should include:

1. Disclosure statements about sources of data; what, if any, fees physicians are required to pay to be included; whether physicians may edit their profiles; and whether there is any independent verification of information.

2. Information about the accuracy of each data element (date last updated/verified).

3. A statement about the limitations of physician performance measures.

4. The size of the database and what percentage of the active physician population it comprises.

5. An explanation for why data fields may be empty.

6. A description of the recommendation process and its limitations, if doctor recommendations are included.

7. Data on the number of participants in patient satisfaction or experience surveys and how information was obtained from them.

Given the open structure of health care in the United States, no single party can be expected to improve all websites providing health information or even information limited to physicians and physician performance. Multiple parties, including accreditors,

health plans, hospitals, physician and hospital associations, and state licensing boards, should assume leadership roles because of the public's trust in them. Standards for physician directory websites should be set nationally or regionally. The following are roles that each party might play:

- Accreditation organizations could take the lead in setting standards for the websites. They should be able to promote accreditation of the websites to physicians, the health care industry, and the public to ensure the relevance, appropriateness, accuracy, and credibility of information on the sites.

- State licensing boards could provide validated, electronic information about all physicians licensed within their states, including information about disciplinary actions and malpractice suits.

- Hospitals and managed care organizations have extensive, verified information on each physician affiliated with their organization and could provide these data on their own websites and those of others.

- Industry associations and organizations (e.g., local, state, and national hospital associations or groups) should encourage high-quality physician information on websites maintained by their members.

- The federal government could expedite regulations for National Provider Identifiers required by the administrative simplification provisions of the Health Insurance Portability and Accountability Act (HIPAA). A unique physician identifier would make it easier to find doctors across organizations and websites.

- Regional organizations, such as the Massachusetts Health Data Consortium, can convene hospitals, insurers, licensing officials, and the state medical society in order to collaborate on improving the quality of physician information provided by their regional sites. When participants in the regional process are satisfied with the quality of physician information on their sites, then linkage among these complementary sites would be a convenient way for consumers to access comprehensive information about physicians.

- Organizations that sponsor research, such as government agencies and foundations, need to encourage improvement of the methods for acquiring, processing, and disseminating information about individual physicians. Such information might include patient experiences with the physician or with the physician's office and patient outcomes.

- Most important, physician organizations, such as medical societies and professional associations, need to work with individual doctors, hospitals, insurers, and websites to provide better information on physicians for the public.

Collaboration of all relevant parties is a prerequisite for improvement of online physician directories. It should begin with setting website standards. As the Internet in general, and individual sites with physician information in particular, continue to evolve and improve, all users will benefit. The best sites will become essential tools in educating and empowering consumers and enabling medical professionals to improve health care.

APPENDIX A. LIST OF WEBSITES REVIEWED

Accessible Doctorlinks	www.doctorlinks.com	Commercial
Administrators in Medicine (AIM): Association of State Medical Board Executive Directors	www.docboard.org	Government
Allina Health System	www.allina.com	Hospital System
American Medical Association	www.ama-assn.org	Physician Organization
Baystate Health System	www.baystatehealth.com	Hospital System
Best Doctors	www.bestdoctors.com	Commercial
Beth Israel Deaconess Medical Center, Boston	www.bidmc.harvard.edu	Hospital
Blue Cross Blue Shield of Massachusetts	www.bcbsma.com	Health Plan
Boston Medical Center	www.bmc.org	Hospital
CareGroup Health Care System	www.caregroup.org	Hospital System
Caritas Christi Health Care System	www.caritaschristi.org/docfind.asp	Hospital System
Children's Hospital, Boston	www.tch.harvard.edu	Hospital
CIGNA Health Care Company	www.cigna.com	Health Plan
Condell Health Network	www.condell.org	Hospital System
DoctorPage	www.doctorpage.com	Commercial
DoctorQuality	www.doctorquality.com	Commercial
Emerson Hospital	www.emersonhospital.org	Hospital
Fallon Community Health Plan	www.fchp.org	Health Plan, Hospital System
Harvard Pilgrim Health Care	www.harvardpilgrim.org	Health Plan
Harvard University Health Services	www.uhs.harvard.edu	Hospital
Health New England	www.healthnewengland.com	Health Plan
HealthGrades	www.healthgrades.com	Commercial
HealthLinkUSA	www.healthlinkUSA.com	Commercial
HealthPages	www.thehealthpages.com	Commercial
HealthScope	www.healthscope.org	Business Coalition
HealthStreet	www.nyt.com	Commercial
Healthwide	www.healthwide.com	Commercial
Lahey Clinic	www.lahey.org	Hospital System
Massachusetts Board of Registration in Medicine	www.massmedboard.org	Government
Massachusetts Medical Society	www.massmed.org	Physician Organization
MedNA (Doctors' Yellow Pages)	www.medna.com	Commercial
Mydoctor.com	www.mydoctor.com	Commercial
Neighborhood Health Plan	www.nhp.org	Health Plan
Pacificare Health Systems	www.pacificare.com	Health Plan
Partners HealthCare System	www.partners.org	Hospital System
Swedish Medical Center	www.swedish.org	Hospital System
Tufts Health Plan	www.tuftshealth.com	Health Plan
UMass Memorial Health Care	www.umassmed.edu	Hospital System
WebMD	www.webmd.com	Commercial
WellPoint Health Networks	www.wellpoint.com	Commercial

APPENDIX B. WEBSITE COMPARISONS OF VIEWABLE VS. SEARCHABLE FIELDS

This table shows the numbers of sites that contain data in any of the categories below as well as specific information about whether the data are searchable or just viewable. The last list (Other Website Characteristics) includes information tracked for which the viewable versus searchable designation is not relevant.

Fields	Viewable (# of sites)	Percentage of Total Sites Where Field Is Viewable	Searchable (# of sites)	Percentage of Total Sites Where Field Is Searchable	Percentage of Sites Where Field Is Viewable and Searchable ("Searchable" column ÷ "Viewable" column)
A. Characteristics of Site					
Online Questions/FAQs	1	3%	0	0%	0%
Source of Information	8	20	0	0	0
B. Physician Descriptors/ Characteristics					
Name*	35	88	30	75	86
Specialty	34	85	30	75	88
Hospital Affiliations(s)	27	68	17	43	63
Gender	18	45	16	40	89
Language	17	43	13	33	76
Managed Care Affiliation	12	30	12	30	100
Years in Practice	10	25	5	13	50
Insurance Accepted	8	20	4	10	50
Date of Birth/Age	1	3	1	3	100
Medical School	25	63	0	0	0
Academic Affiliations/ Faculty Appointments	6	15	0	0	0
Photo	6	15	0	0	0
Race/Ethnicity	0	0	0	0	0
Residency	17	43	0	0	0

* Name is not viewable on portal sites.

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Fields	Viewable (# of sites)	Percentage of Total Sites Where Field Is Viewable	Searchable (# of sites)	Percentage of Total Sites Where Field Is Searchable	Percentage of Sites Where Field Is Viewable and Searchable ("Searchable" column ÷ "Viewable" column)
C. Physician Expertise/ Knowledge					
Board Certification	22	55%	6	15%	27%
Disciplinary Actions	7	18	1	3	14
Malpractice	8	20	1	3	13
Honors/Awards	2	5	0	0	0
Mortality	0	0	0	0	0
Publications	1	3	0	0	0
Volume	1	3	0	0	0
D. Relationship/ Bedside Manner					
E-mail to Patients	8	20	0	0	0
Philosophy	3	8	0	0	0
E. Convenience/ Logistics					
Geography/Location	37	93	32	80	86
Office Hours	7	18	2	5	29
Accepting New Patients	10	25	1	3	10
Ease of Access	5	13	0	0	0
TOTAL	**336**		**171**		

Total number of fields in which searching desirable = 29.
Total number of sites tabulated = 40.

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Other Website Characteristics

This list includes information tracked where the viewable versus searchable designation is not relevant.

Characteristic	Number of Websites	Percentage of Total Websites
Doctor Submits Info	4	10%
Glossary of Terms	0	0
How to Read This	2	5
Information on Individual Physicians	35	88
Limitations of Measures	3	8
User Charged Money to Access Website	2	5
Public Website	40	100

APPENDIX C. WEBSITE DESCRIPTIONS

Below are descriptions of 40 websites and the information they contain as of May 2001. The descriptions cover commercial sites, hospital systems, health plans, physician organizations, and government sites.

Data Presentation
The data are presented in the following format:

Site Name
URL
Type of Site
Description
Data Fields
Source(s) of Data
Comments/Notes

Site Name is the official name of the site or of the organization producing the site if there is no distinct name for the site. It is sometimes also the URL.

URL is the Internet address that links to the site from the browser.

Type of Site is categorized as follows: **Commercial** designates for-profit sites. Typically, their URLs have the .com suffix and the sites are not affiliated with a hospital system, HMO, or government agency. **Health Plan** refers to managed care, HMO, or insurance company websites. The organizations may be for-profit or not-for-profit. **Hospital** and **Hospital System** refer to websites that are sponsored either by an individual hospital or by an integrated delivery system, without regard to their profit or not-for-profit status. **Government** applies to a taxpayer-funded federal or state government agency. It often has the .gov extension but may also have the .org extension. **Physician Organization** is the category for a national, state, or local organization of physicians and group practices and usually has the .org URL extension. **Business Coalition** designates a collaborative group of business entities working to achieve a shared goal, but not a physician group, a health plan, a hospital or hospital system, or any other commercial organization. **Portal Sites** lead to a variety of websites that can be searched for physician information. Because they do not contain data in and of themselves, there are no field descriptions in the profiles for these sites. Such sites have been included because consumers might access them expecting to find physicians, having heard about them either through publicity or through search engines. A decision was made to include some in this review because they do ultimately lead the consumer to individual physician information.

Description presents the major features of the website and may include a reference to any statement about the mission or goal of the website, if any is given on the website.

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The **Data Fields** section is broken down into categories and subcategories corresponding to the five broad classes of information that might be included, then to 36 specific data elements found in this study. Annotations about whether each of these fields is Viewable (V) or Searchable (S) appear next to each data element (see below for definitions of viewable versus searchable). If a data element is not present in any record of a website, either as a viewable or as a searchable data element, that variable will not appear in the website profile.

The following is a list of all the possible data fields:

Characteristics of Site
    Doctor Submits Info
    Glossary of Terms
    How to Read this Report
    Information on Individual Physicians
    Limitations of Measures
    Money Charged to Use Website
    Online Questions/FAQs
    Public Site
    Source of Information Disclosed

Physician Descriptors/Characteristics
    Name of Physician
    Age/Date of Birth
    Faculty Appointment/Academic Affiliation
    Gender
    Hospital Affiliation
    Insurance Accepted
    Language Spoken
    Managed Care Affiliations
    Medical School
    Photographs
    Race/Ethnicity
    Residency Training
    Specialty/Clinical Interests
    Years in Practice/Year of Medical School Graduation

Physician Expertise/Knowledge
    Board Certification
    Disciplinary Actions
    Honors/Awards
    Malpractice Suits
    Mortality Rates
    Publications
    Volume of Procedures Performed

Relationship/Bedside Manner
E-Mail Communication with Patients
Practice Philosophy

Convenience/Logistics
Accepting New Patients
Office Hours
Geography/Location
Ease of Access

Within a site, data fields are either **Viewable (V)** or **Searchable (S)**. A Viewable (V) field refers to one piece of information about the physician. For example, if the site visitor chooses "gender" and it is only a Viewable field, it would be possible to see if a doctor is male or female. A Searchable (S) field can be used to filter information. For example, if "gender" is also a Searchable (S) field, it would be possible to view gender for ALL female physicians on the website who have that specialty.

Source(s) of Data is described only if it was readily apparent. No attempt was made to verify the source of the data beyond what was disclosed on the site. If no disclosure was made, then Source of Data is not included in the profile. Source of Data was available for 16 of the 40 websites (at least partial disclosure).

Comments/Notes includes information about any unique features of the website, especially any that add significant value for the consumer. These features might help consumers find doctors more easily (unique search capabilities) or might provide supplemental data in the record (unique viewable information) beyond those outlined by our standard data fields, as described in the paragraphs above. The Comments/Notes section also contains any clarifications, explanations, or limitations about website features. Thirty-five of the 40 profiles include a Comments/Notes field.

ACCESSIBLE DOCTORLINKS
URL: www.doctorlinks.com
Type of Site: Commercial
Description: A site with limited information supplied solely by physicians
Data Fields:
   Characteristics of Site: Doctor Submits Info (V); Information on Individual Physicians (V); Public Site (V)
   Physician Descriptors/Characteristics: Name (V); Specialty (V)
   Physician Expertise/Knowledge: None
   Relationship/Bedside Manner: Philosophy (V)
   Convenience/Logistics: Office Hours (V); Geography/Location (S)(V)
Source(s) of Data: Physicians

Comments/Notes: No charge to physicians to be listed. Physicians are able to link to their practice websites. Can search outside the United States. Small database size. Eight physicians listed for entire state of Massachusetts; eight for Pennsylvania. Only one from each of these states has more than address, phone number, specialty. Practice "philosophy," which is sometimes included in longer listings, appears to follow a set format, i.e., the same philosophy (word for word) is presented for two physicians who do not appear to have any connection with one another.

ADMINISTRATORS IN MEDICINE (AIM): ASSOCIATION OF STATE MEDICAL BOARD EXECUTIVE DIRECTORS

URL: www.docboard.org
Type of Site: Government, Portal
Description: A portal site that provides links to state licensing authority sites within 18 states
Data Fields:

    Characteristics of Site: Public Site (V)

    Convenience/Logistics: Geography/Location (S)(V)

    Varies with each site, but generally includes the following categories at a minimum: Name, Education, Specialty, Medical License Information. As an example of a destination site, refer to the Massachusetts Board of Registration in Medicine website described later in this Appendix (www.massmedboard.org).

Source(s) of Data: State boards of registration in medicine
Comments/Notes: Consolidated portal to a large number of sites, but data available at each site often limited. Data are reviewed by state licensing boards. Useful for verifying accuracy of information provided by other sources.

ALLINA HEALTH SYSTEM

URL: www.allina.com
Type of Site: Hospital System
Description: A well-organized, easy-to-use provider directory that is a part of the multifaceted website of a large Minnesota health system
Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (S)(V) (hospitals within Allina system only); Insurance (V); Language (S)(V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Office Hours (V); Geography/Location (S)(V)

Source(s) of Data: Physicians
Comments/Notes: Named one of the top three provider websites by CSC Corp. and Modern Health Care magazine. Includes only Allina Health System affiliated physicians. Physician search operates under the brand "Medformation.com" but it is still under the Allina umbrella.

AMERICAN MEDICAL ASSOCIATION

URL: www.ama-assn.org

Type of Site: Physician Organization

Description: The AMA has provided a nationwide directory of physicians to help consumers choose a doctor for personal care (the directory bars any kind of marketing or other commercial use). The site has simple, easy-to-follow instructions. Searching is by physician name and specialty crossed with geographic area. Includes disclaimer and advice on how to interpret the information as well as links to state medical boards.

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V); Source of Information Disclosed (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (S)(V)

Source(s) of Data: Physician data verified by accrediting agencies, medical schools, residency training programs, licensing and certifying bodies.

Comments/Notes: Physicians may pay extra for an "expanded profile" that may include a photograph and such information as office hours, practice philosophy, and achievements. Physicians may also create their own practice website from the AMA site, in collaboration with Medem. Physicians do not pay for inclusion in the general directory. "Sounds like" search capability for doctor and city names. Searchable by extensive list of medical specialties and subspecialties.

BAYSTATE HEALTH SYSTEM

URL: www.baystatehealth.com

Type of Site: Hospital System

Description: A website for a hospital chain in Western Massachusetts that includes information on physicians working within the system

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V) (indicates physician affiliation with Baystate system, but not with specific hospitals within system); Faculty Appointments (V); Medical School (V); Residency (V); Specialty (S)(V)

    Physician Expertise/Knowledge: Board Certification (V)

    Relationship/Bedside Manner: E-Mail (V)

    Convenience/Logistics: Geography/Location (V)

Comments/Notes: Includes "special interests" for some physicians

BEST DOCTORS

URL: www.bestdoctors.com

Type of Site: Commercial

Description: BestDoc Finder is described as an "Internet tool" to help the consumer find a physician within any of 40 specialties. The database includes only physicians that have been confidentially recommended by other physicians within the same specialty. Users pay $25 for names and contact information for two physicians who most closely match the criteria submitted.

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Limitations of Measures (V); Money Charged to Use Website (V); Public Site (V); Source of Information Disclosed (V)

    Physician Descriptors/Characteristics: Name (V); Gender (S)(V); Specialty (S)(V)

    Physician Expertise/Knowledge: Board Certification (V); Disciplinary Actions (V); Malpractice (V)

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (S)(V)

Source(s) of Data: Other physicians (peer reviews)

Comments/Notes: If a BestDoc Finder search does not provide actionable referrals, the patient can request a higher-level, customized AccuSearch where the patient's requirements, diagnoses, medical condition, and case complexity are evaluated by a Medical Case Manager. The Manager then makes a referral. The AccuSearch has a fee of $975. Only board-certified physicians may be included in the database, and doctors are prohibited from paying any fee to be included. The database includes the "top 30,000 doctors" based on more than one million evaluations submitted by "tens of thousands" of physicians. The physicians who make the referrals are "leading specialists who recommend, by an anonymous process, other physicians within the same specialty."

BETH ISRAEL DEACONESS MEDICAL CENTER, BOSTON

URL: www.bidmc.harvard.edu

Type of Site: Hospital

Description: Website for large Boston teaching hospital

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (S)(V); Medical School (V); Photo (V); Residency (V); Specialty (S)(V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (S)(V)

Comments/Notes: More detailed information, such as medical school, residency, photo, available only when searching via the department specialty page.

BLUE CROSS BLUE SHIELD OF MASSACHUSETTS

URL: www.bcbsma.com

Type of Site: Health Plan

Description: A site designed specifically to help health plan enrollees select a doctor participating in the Blue Cross Blue Shield of Massachusetts network, one of the largest in the region

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (V); Gender (S)(V); Hospital Affiliation (S)(V); Language(S)(V); Managed Care Affiliation (S)(V); Medical School (V); Specialty (S)(V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: None

Convenience/Logistics: Accepting New Patients (S)(V); Geography/Location (S)(V); Ease of Access (V)

Comments/Notes: Link to Massachusetts Board of Registration Physician Profiles; powered by GeoAccess software, so users can search within x mile radius of an address (2, 5, 10, 20, or 50 miles). Includes disabled access information, access to public transportation, TTY availability (text telephone for the deaf/hard of hearing).

BOSTON MEDICAL CENTER

URL: www.bmc.org

Type of Site: Hospital

Description: The website for a major Boston acute care hospital. Provides data on physicians with practice privileges at the hospital

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Faculty Appointments (V); Hospital Affiliation (S)(V); Language (S)(V); Medical School (V); Photo (V); Specialty (S)(V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: E-Mail (V)

Convenience/Logistics: Office Hours (V); Geography/Location (V)

Comments/Notes: Includes "clinical interests" of the physicians.

CAREGROUP HEALTH CARE SYSTEM

URL: www.caregroup.org

Type of Site: Hospital System

Description: Coordinated site for a large system of Boston area teaching hospitals, including the flagship Beth Israel Deaconess Medical Center. Includes links to the other individual hospital sites

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (S)(V); Specialty (S)(V)

Physician Expertise/Knowledge: None

Relationship/Bedside Manner: None

Convenience/Logistics: Geography/Location (S)(V)

CARITAS CHRISTI HEALTH CARE SYSTEM

URL: www.caritaschristi.org/docfind.asp

Type of Site: Hospital System

Description: Website for a network of more than 2,000 physicians, a number of health centers, and six acute care hospitals in Massachusetts

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Medical School (V); Specialty (S)(V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (V)

Comments/Notes: Physician search is down several levels from homepage. Searching is by looking under "faculty" heading, then by "department," and only then are physician names displayed. Visitors can see clinical interests for doctors. For primary care physicians, can only display a list of names by town and phone numbers.

CHILDREN'S HOSPITAL, BOSTON

URL: www.tch.harvard.edu

Type of Site: Hospital

Description: Information site for Boston's largest pediatric hospital includes a directory of doctors with privileges to practice at the hospital

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Faculty Appointments (V); Hospital Affiliation (S)(V); Medical School (V); Residency (V); Specialty (S)(V)

    Physician Expertise/Knowledge: Board Certification (V)

    Relationship/Bedside Manner: E-Mail (V)

    Convenience/Logistics: Geography/Location (S)(V)

Comments/Notes: Includes clinical expertise.

CIGNA HEALTH CARE COMPANY

URL: www.cigna.com

Type of Site: Health Plan

Description: Directory of doctors who accept CIGNA insurance or who participate in CIGNA's managed care plans

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Language (V); Managed Care Affiliation (S)(V); Medical School (V); Specialty (S)(V)

Physician Expertise/Knowledge: None
Relationship/Bedside Manner: None
Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

CONDELL HEALTH NETWORK

URL: www.condell.org
Type of Site: Hospital System
Description: A directory of physicians practicing at Condell Health Network, Lake County, IL
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Specialty (S)(V)
    Physician Expertise/Knowledge: None
    Relationship/Bedside Manner: None
    Convenience/Logistics: Geography/Location (S)(V)
Comments/Notes: No additional information to help users choose a physician, but consumers can request a referral online. Counselors will make referrals based on an internal database listing specialty, gender, personality, and managed care affiliation. Links to websites of member physicians.

DOCTORPAGE

URL: www.doctorpage.com
Type of Site: Commercial, Portal
Description: A reference site with links to seven physician directory websites and to individual physician or practice group homepages in all 50 states
Data Fields:
    Characteristics of Site: Public Site (V)
    Physician Descriptors/Characteristics: None
    Physician Expertise/Knowledge: None
    Relationship/Bedside Manner: None
    Convenience/Logistics: Geography/Location (S)(V)
Source(s) of Data: No physician data, only links
Comments/Notes: There do not appear to be many physician website links at this time: 1 for Massachusetts, 23 for New York, 23 for Pennsylvania (11/2000). Most hypertext links are not "live" and users must cut and paste into a browser to move to sites. Name searching links to www.referadoctor.com, but this page cannot be displayed.

DOCTORQUALITY

URL: www.doctorquality.com
Type of Site: Commercial
Description: Facilitates the sharing of evaluations about physicians
Data Fields:
    Characteristics of Site: Money Charged to Use Website (V); Public Site (V); Source of Information Disclosed (V)

Physician Descriptors/Characteristics: Years in Practice (V)

Physician Expertise/Knowledge: Board Certification (V); Disciplinary Actions (V); Malpractice (V); Volume (V)

Relationship/Bedside Manner: None

Convenience/Logistics: None

Source(s) of Data: Public data from boards of registration and/or specialty boards; reported performance data from physicians, hospitals, managed care plans, other third-party sources, and federal and state entities; consumer satisfaction ratings

Comments/Notes: As of February and May 2001, visitors could search for physicians under the quality ratings section. As of September 2001, the physician profiles can be accessed only by their partner companies, typically health plans or third-party payers. Consumers, physicians, and medical professionals may submit ratings of physicians.

EMERSON HOSPITAL

URL: www.emersonhospital.org

Type of Site: Hospital

Description: Website for a west suburban Boston community hospital includes a directory of physicians practicing at the hospital

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Medical School (V); Photo (V); Residency (V); Specialty (S)(V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: None

Convenience/Logistics: Geography/Location (S)(V)

Comments/Notes: Each profile includes a notation about doctor's areas of clinical interest.

FALLON COMMUNITY HEALTH PLAN

URL: www.fchp.org

Type of Site: Hospital System, Health Plan

Description: Listing of physicians who participate in Fallon network or who practice at the Fallon Clinic

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V); Insurance (S)(V) (Fallon only); Language (S)(V); Managed Care Affiliation (S)(V) (Fallon only); Specialty (S)(V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: None

Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V); Ease of Access (V)

HARVARD PILGRIM HEALTH CARE

URL: www.harvardpilgrim.org

Type of Site: Health Plan

Description: Informational website maintained by one of the largest managed care organizations in the region. Online directory provides information on physicians participating in provider network, whether in individual practices, small medical groups, or large multi-specialty groups

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Managed Care Affiliation (S)(V); Specialty (S)(V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

Comments/Notes: Site is "updated weekly." Links to docboard.org and massmedboard.org. Powered by "GeoAccess" software. Option to create personalized provider directory. Group practice information included. Can also search pharmacies near a given geographic point.

HARVARD UNIVERSITY HEALTH SERVICES

URL: www.uhs.harvard.edu

Type of Site: Hospital

Description: Designed to serve the needs of students, faculty, and staff of Harvard University. Includes a listing of doctors who serve the University via Harvard University Health Services

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Faculty Appointments (V); Language (V); Medical School (V); Photo (V); Residency (V); Specialty (V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: None

Comments/Notes: No search by name because all physician names are grouped by specialty and the list is short enough to scan quickly. The site included high-quality photos in May 2001, but these appear to have been removed from the site by September 2001. Includes descriptions of clinical interests.

HEALTH NEW ENGLAND

URL: www.healthnewengland.com

Type of Site: Health Plan

Description: Website of a managed care organization serving western Massachusetts and several counties in Connecticut. Includes a directory of physicians affiliated with the HMO

Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Managed Care Affiliation (S)(V); Specialty (S)(V)

Physician Expertise/Knowledge: None
Relationship/Bedside Manner: None
Convenience/Logistics: Geography/Location (S)(V)

HEALTHGRADES

URL: www.healthgrades.com
Type of Site: Commercial
Description: A website experimenting with exchanging evaluative information about physicians via the Internet
Data Fields:

    Characteristics of Site: Information on Individual Physicians (V); Online Questions/FAQs (V); Public Site (V)

    Physician Descriptors/Characteristics: Name (S)(V); Gender (V); Hospital Affiliation (V); Language (V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (S)(V)

    Physician Expertise/Knowledge: Board Certification (S)(V); Disciplinary Actions (S)(V); Malpractice (S)(V)

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (S)(V)

Source(s) of Data: State licensing boards, other public sources, physicians, patient surveys
Comments/Notes: Well-developed search capabilities can narrow search to doctors who practice in either a 5-star hospital (Best) or 3-star hospital (Average). Ratings of hospitals are by HealthGrades. Physicians can update their own profile online and link to their practice website. Expanded physician profiles may include office hours, e-mail address, special interests, teaching positions, streaming video clips. Patients can fill out patient satisfaction survey that is verified by e-mail. Opinion database does not appear to be well populated at this time. The site is responsible for timely merges and updates from state licensing boards.

HEALTHLINKUSA

URL: www.healthlinkUSA.com
Type of Site: Commercial, Portal
Description: Links to other sites, including four physician directory sites: the AMA website (see above); a general nationwide business directory called QwestDex that can be searched by physician specialty and geography; a link to MedNA (see below); and, fourth, a broken link
Data Fields:

    Characteristics of Site: Public Site (V)

    Physician Descriptors/Characteristics: Name (V); Gender (S)(V); Specialty (S)(V)

    Physician Expertise/Knowledge: None

    Relationship/Bedside Manner: None

    Convenience/Logistics: Geography/Location (S)(V)

Source(s) of Data: Different for each site to which HealthlinkUSA links
Comments/Notes: Navigation and instructions are not easy to follow. Searchers must scroll down each page to see the links, and often must click through three or four levels before reaching

the final link out to a directory. Links to the directories work as "pop-up" windows that must be closed before continuing on original site. Advertising present on this commercial site.

HEALTHPAGES

URL: www.thehealthpages.com

Type of Site: Commercial

Description: Directory site has many links from other sites. Ability to submit and review opinions about physicians, from both patients and doctors. Large, robust database of 500,000 physicians. Easy-to-use, clear instructions

Data Fields:

  Characteristics of Site: Information on Individual Physicians (V); Public Site (V); Source of Information Disclosed (V)

  Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Managed Care Affiliation (S)(V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (S)(V)

  Physician Expertise/Knowledge: Board Certification (S)(V); Disciplinary Actions (V - link to state medical board websites); Malpractice (V - link to state medical board websites);

  Relationship/Bedside Manner: None

  Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

Source(s) of Data: State departments of health and insurance, state and federal health data organizations, professional licensing boards, 300+ managed care organizations

Comments/Notes: Basic directory information comes from public sources as outlined above. However, physicians can also fill out extensive surveys to add information to profiles. Physicians can respond, in 200 words or less, to patient ratings that appear on their profile page. Responses appear just below the patient ratings. There is no fee charged to doctors for inclusion in the database. Searching by Medical Group Affiliation is coming soon.

HEALTHSCOPE

URL: www.healthscope.org

Type of Site: Business Coalition, Portal

Description: Portal of the Pacific Business Group on Health, also known as the PBGH California Consumer Healthscope. Directory is actually a link out to the HealthPages site where users can search for California physicians

Data Fields:

  Characteristics of Site: Information on Individual Physicians (V); Public Site (V); Source of Information Disclosed (V)

  Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Managed Care Affiliation (S)(V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (S)(V)

  Physician Expertise/Knowledge: Board Certification (S)(V); Disciplinary Actions (V - (links to state medical board websites); Malpractice (V - links to state medical board websites)

  Relationship/Bedside Manner: None

  Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

Source(s) of Data: State departments of health and insurance, state and federal health data organizations, professional licensing boards
Comments/Notes: See HealthPages summary

HEALTHSTREET
URL: FORMERLY available on www.healthstreet.com, www.nyt.com, www.aol.com, www.NBC.com, and "dozens of online sites" via partnership arrangements. HealthStreet appears to be no longer available as of September 2001
(Note: This currently inaccessible website is included because of its prominence at the time of the site review in May 2001. The site's withdrawal is indicative of the volatility of electronic access to physician information)
Type of Site: Commercial
Description: This directory is available through several mainstream portals. Offers many search parameters, but many physician profiles are incomplete. Narrow searches often yield no results when there actually may be appropriate physicians in the system. Appears to be a large database
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Medical School (V); Specialty (S)(V); Years in Practice (V)
    Physician Expertise/Knowledge: Board Certification (V)
    Relationship/Bedside Manner: None
    Convenience/Logistics: Geography/Location (S)(V); Ease of Access (V)
Source(s) of Data: Physicians (some), unknown (publicly available directories?)
Comments/Notes: Structure of directory is a strength (37 specialties, each with subspecialties, 5 for internal medicine, 28 for pediatrics). No charge to physicians for basic profile but doctors may pay a $300 annual fee for an expanded profile that can include a photo or practice logo, more information on experience and expertise, treated conditions, practice philosophy, and other information. The expanded service also offers online appointment scheduling.

HEALTHWIDE
URL: www.healthwide.com
Type of Site: Commercial
Description: A health information portal that includes the HealthPages physician directory. Ability to submit opinions about a physician, from both patients and physicians, and to review these opinions via the site is a strength. Large database and easy to follow instructions
Data Fields:
    Characteristics of Site: Doctor Submits Info (V); Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Insurance (V); Language (V); Managed Care Affiliation (S)(V); Medical School (V); Specialty (S)(V); Years in Practice (S)(V)

Physician Expertise/Knowledge: Board Certification (S)(V); Disciplinary Actions (V - via links); Honors/Awards (V); Malpractice (V - via links)

Relationship/Bedside Manner: E-Mail (V)

Convenience/Logistics: Geography/Location (S)(V); Ease of Access (V)

Source(s) of Data: State departments of health and insurance, state and federal health data organizations, professional licensing boards

Comments/Notes: Links to state licensing boards for disciplinary actions and malpractice information. Search by medical group affiliation coming soon.

LAHEY CLINIC

URL: www.lahey.org

Type of Site: Hospital System

Description: Information on physicians practicing at Lahey Clinics in suburban Boston

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V) (indicates physician affiliation with Lahey); Medical School (V); Photo (V); Residency (V); Specialty (S)(V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: None

Convenience/Logistics: Geography/Location (S)(V)

Comments/Notes: Includes special interests of physicians.

MASSACHUSETTS BOARD OF REGISTRATION IN MEDICINE

URL: www.massmedboard.org

Type of Site: Government

Description: Site run by the Commonwealth's Board of Registration in Medicine to ensure the safety of citizens by informing them of any censures, disciplinary actions, or license revocations

Data Fields:

Characteristics of Site: Doctor Submits Info (V); How to Read this Report (V); Information on Individual Physicians (V); Limitations of Measures (V); Public Site (V); Source of Information Disclosed (V)

Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (V); Insurance (V); Medical School (V); Residency (V); Specialty (V)

Physician Expertise/Knowledge: Board Certification (V); Disciplinary Actions (V); Honors/Awards (V); Malpractice (V); Publications (V)

Relationship/Bedside Manner: None

Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

Source(s) of Data: Physicians, board of registration records

Comments/Notes: Includes separate disciplinary action list linked from the homepage. The list is in PDF format, thus data elements are searchable with binoculars icon on Acrobat toolbar. Also

includes information on the number of physicians practicing within a particular specialty in Massachusetts and typical malpractice rates for that specialty.

MASSACHUSETTS MEDICAL SOCIETY

URL: www.massmed.org
Type of Site: Physician Organization
Description: The Massachusetts Medical Society is the professional association for physicians within Massachusetts. The physician directory section of the site is offered as a service to its members as well as to the general public
Data Fields:

  Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
  Physician Descriptors/Characteristics: Name (S)(V); Specialty (S)(V)
  Physician Expertise/Knowledge: None
  Relationship/Bedside Manner: None
  Convenience/Logistics: Geography/Location (S)(V)

MEDNA (MEDICAL NETWORKED APPLICATIONS), ALSO KNOWN AS "DOCTORS' YELLOW PAGES"

URL: www.medna.com
Type of Site: Commercial
Description: Site focuses on providing Internet services to physicians (web hosting, appointment scheduling) and offers the physician directory component as a supplementary service
Data Fields:

  Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
  Physician Descriptors/Characteristics: Name (V); Gender (S)(V - only on updated profiles); Hospital Affiliation (V - only on updated profiles); Insurance (S)(V - only on updated profiles); Language (S)(V - only on updated profiles); Medical School (V - only on updated profiles); Residency (V - only on updated profiles); Specialty (S)(V - only on updated profiles); Years in Practice (V - only on updated profiles)
  Physician Expertise/Knowledge: Board Certification (V - only on updated profiles)
  Relationship/Bedside Manner: E-Mail (V - only on updated profiles); Philosophy (V - only on updated profiles)
  Convenience/Logistics: Accepting New Patients (V - only on updated profiles); Office Hours (S)(V - only on updated profiles); Geography/Location (S)(V)

Source(s) of Data: Not disclosed, physicians (full profiles)
Comments/Notes: The template for the full record is detailed compared with other sites, but may not yet be well populated. Only two of three known physicians were found when searched by last name, geography, and specialty. Only a few records have more than office location and specialty as viewable information.

MYDOCTOR.COM
URL: www.mydoctor.com
Type of Site: Commercial
Description: The "patient community portal" of MediConsult, an established (founded 1992) medical Internet company. MediConsult is targeted primarily at its 215,000 member physicians. The physician interface, under the name Physicians' Online, is described as an "online community of physicians" and offers doctors the technology to conduct online discussions with colleagues and exchange "clinical transactions" with health plans, as well as research the medical literature via access to Medline. There are links to some physician websites and the ability to e-mail specific physicians from the site
Data Fields:
    Characteristics of Site: Doctor Submits Info (V); Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (V); Insurance (S)(V); Medical School (V); Specialty (S)(V)
    Physician Expertise/Knowledge: Board Certification (V)
    Relationship/Bedside Manner: E-Mail (V); Philosophy (V)
    Convenience/Logistics: Office Hours (V); Geography/Location (S)(V)
Source(s) of Data: Physicians (authenticated by MediConsult)
Comments/Notes: The directory is not inclusive, i.e., only a subset of Physicians' Online members have submitted data for inclusion in the directory and their geographic distribution is uneven (28 physicians for Boston; 173 for New York City, but 1,038 for New York State; 436 for Pennsylvania; 948 for California; 62 for Minnesota). Because there may not be many physicians listed, it is more effective to search broadly by geographic area rather than to further narrow by specialty. Practice philosophy and specialty information are useful but unfortunately are not included in many listings. Can e-mail specific physicians from the site.

NEIGHBORHOOD HEALTH PLAN
URL: www.nhp.org
Type of Site: Health Plan
Description: An informational site for a health plan of community health centers, primary care centers, and a network of primary care and specialty physicians.
Data Fields:
    Characteristics of Site: Public Site (V)
    Physician Descriptors/Characteristics: None
    Physician Expertise/Knowledge: None
    Relationship/Bedside Manner: None
    Convenience/Logistics: None
Comments/Notes: Data fields are not shown above because physician search capability was added to the site after the original evaluation in May 2001. At that time, search was limited to neighborhood affiliated health centers.

PACIFICARE HEALTH SYSTEMS
URL: www.pacificare.com
Type of Site: Health Plan
Description: Site of one of the largest managed care organizations in the West. Basic information about member physicians and medical groups in an easy-to-use format. Not all states in network have online physician directory on website. Arizona, California, Colorado, Nevada, Oklahoma, Texas, and Washington have online directories
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V); Source of Information Disclosed (V)
    Physician Descriptors/Characteristics: Name (S)(V); Insurance (S)(V); Language (S)(V); Managed Care Affiliation (S)(V); Specialty (S)(V)
    Physician Expertise/Knowledge: None
    Relationship/Bedside Manner: None
    Convenience/Logistics: Geography/Location (S)(V)
Source(s) of Data: Physicians, practice groups
Comments/Notes: There are three search tabs: HMO physicians; PPO physicians; and medical group physicians. Users can search for a particular practice group and then for the specialist within that practice group. Pacificare calculates a "quality index" for practice groups, IPAs, etc. (It does not compile such data on individual physician level.) Index is based on 28 clinical, administrative, and service quality measures. Sources include the medical groups, Pacificare members, telephone calls, surveys, and "correspondence."

PARTNERS HEALTHCARE SYSTEM
URL: www.partners.org
Type of Site: Hospital System
Description: Website of an integrated health care delivery system operating in Boston and the parent organization of Massachusetts General Hospital, Brigham & Women's Hospital, and several community hospitals. Directory includes information about physicians in the network
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Faculty Appointments (V); Hospital Affiliation (S)(V); Language (S)(V); Medical School (V); Photo (V); Residency (V)
    Physician Expertise/Knowledge: Board Certification (S)(V)
    Relationship/Bedside Manner: E-Mail (V)
    Convenience/Logistics: Geography/Location (S)(V)
Comments/Notes: Must start by choosing hospital; can search by city and neighborhood, e.g., Brookline, Jamaica Plain, etc., or by "title" such as chairman, chief, director, president; includes clinical interests.

SWEDISH MEDICAL CENTER
URL: www.swedish.org
Type of Site: Hospital System
Description: Website includes a directory of physicians affiliated with Swedish Medical Center in Seattle
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V) (indicates affiliation with Swedish system, but not with particular hospitals within system); Insurance (V); Medical School (V); Residency (V); Specialty (S)(V)
    Physician Expertise/Knowledge: Board Certification (V)
    Relationship/Bedside Manner: None
    Convenience/Logistics: Office Hours (V); Geography/Location (V)
Comments/Notes: Named one of the top three provider websites by CSC and Modern Health Care magazine. Instructions are easy to follow and use. Content is available consistently across all profiles. Includes a separate "clinical interest" section.

TUFTS HEALTH PLAN
URL: www.tuftshealth.com
Type of Site: Health Plan
Description: A well-developed, consumer-oriented website that includes a directory of physicians practicing within the Tufts Health Plan network, one of the largest in the region
Data Fields:
    Characteristics of Site: How to Read this Report (V); Information on Individual Physicians (V); Limitations of Measures (V); Public Site (V)
    Physician Descriptors/Characteristics: Name (S)(V); Age (S)(V); Gender (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Managed Care Affiliation (S)(V); Medical School (V)
    Physician Expertise/Knowledge: Board Certification (V)
    Relationship/Bedside Manner: None
    Convenience/Logistics: Accepting New Patients (V); Office Hours (S)(V); Geography/Location (S)(V); Ease of Access (V)
Comments/Notes: Includes links to board of registration in medicine. Also IPA name/provider unit. Handicapped accessible. Can search by availability of extended hours.

UMASS MEMORIAL HEALTH CARE
URL: www.umassmed.edu
Type of Site: Hospital System
Description: Website of the hospital system affiliated with the University of Massachusetts Medical School, based in Worcester, provides general health information to members as well as listings of physicians active in various academic departments
Data Fields:
    Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Faculty Appointments (V); Medical School (V); Residency (V); Specialty (V)

Physician Expertise/Knowledge: Board Certification (V)

Relationship/Bedside Manner: E-Mail (V)

Convenience/Logistics: Geography/Location (V)

Comments/Notes: Physician directory is six levels from the homepage. For example, user must first select "Education" from left bar, then "School of Medicine," "Academic Department," "Department of Emergency Medicine," "Attending Physician Faculty," and "University Campus" to ultimately find those physicians with university appointments. Profiles include academic positions of the physicians, as well as research interests. It is not clear whether all physicians practicing at UMass Memorial are included, or only those with university appointments.

WEBMD

URL: www.webmd.com

Type of Site: Commercial

Description: "Database of 500,000 physicians," the physician directory is one part of this extensive health information portal. Large nationwide database. Complete disclosure of sources of information

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V); Source of Information Disclosed (V)

Physician Descriptors/Characteristics: Name (S)(V); Gender (S)(V); Hospital Affiliation (V); Managed Care Affiliation (S)(V); Medical School (V); Residency (V); Specialty (S)(V); Years in Practice (S)(V)

Physician Expertise/Knowledge: Board Certification (S)(V); Malpractice (V - link to state medical board websites)

Relationship/Bedside Manner: None

Convenience/Logistics: Accepting New Patients (V); Geography/Location (S)(V)

Source(s) of Data: State departments of health and insurance, federal and state health data organizations, licensing boards, provider directories, physicians, and hospitals

Comments/Notes: Compiled by HealthPages (see page 28 of this report), will soon offer search by medical group affiliation. Physicians can submit photos.

WELLPOINT HEALTH NETWORKS

URL: www.wellpoint.com

Type of Site: Commercial

Description: Website of one of the largest publicly traded health care companies. Customers through Blue Cross of California, Blue Cross and Blue Shield of Georgia (as of March 2001), and UNICARE in other parts of the country

Data Fields:

Characteristics of Site: Information on Individual Physicians (V); Public Site (V)

Physician Descriptors/Characteristics: Name (S)(V); Hospital Affiliation (S)(V); Language (S)(V); Managed Care Affiliation (S)(V); Specialty (S)(V)

Physician Expertise/Knowledge: None

Relationship/Bedside Manner: None

Convenience/Logistics: Geography/Location (S)(V)

Comments/Notes: Physician directories are actually at bluecrossca.com site (Blue Cross Blue Shield of California), bluecrossga.com site (Blue Cross Blue Shield of Georgia), and unicare.com (UNICARE). Wellpoint links to these sites.

NOTES

[1] The Consortium's final report to The Commonwealth Fund also describes the development of a prototype website for consumers, providers, and researchers. See www.mahealthdata.org.

[2] Consumer Information & Education Committee, *How We Choose Doctors—What Is and What Could Be* (Chicago, Ill.: The Midwest Business Group on Health, 2000). Available at www.mbgh.org.

[3] A. Tumlinson et al., "Choosing a Health Plan: What Information Will Consumers Use?" *Health Affairs* 16 (May/June 1997): 229–238.

[4] Peter D. Hart Research Associates, *California Consumers Talk About Health Care Quality: Findings from Focus Group Discussions* (Oakland, Calif.: California Healthcare Foundation, 1999). Available at www.chcf.org.

[5] K. D. Mandl et al., "Growth and Determinants of Access in Patient E-mail and Internet Use," *Archives of Pediatrics and Adolescent Medicine* 154 (2000): 508–511.

[6] T. R. Eng, *The eHealth Landscape: A Terrain Map of Emerging Information and Communication Technologies in Health and Health Care* (Princeton, N.J.: The Robert Wood Johnson Foundation, 2001). Available at www.rwjf.org.

[7] Harris Interactive, "eHealth Traffic Critically Dependent on Search Engines and Portals," Harris Interactive Health Care News 1 (April 23, 2001): 1–3. Available at: www.Harrisinteractive.com.

[8] G. K. Berland et al., "Health Information on the Internet: Accessibility, Quality, and Readability in English and Spanish," *Journal of the American Medical Association* 285 (2001): 2612–2621.

[9] See Appendix A (List of Websites Reviewed) and Appendix C (Website Descriptions).

[10] An initial set of such standards has been developed by URAC, the American Accreditation Health Care Commission. These standards cover not only disclosure and privacy, but also such issues as health content and service delivery, linking, security, and accountability.

[11] URAC, American Accreditation Health Care Commission, *Health Website Standards, version 1.0.* 2001. Available at www.urac.com.

[12] L. Kowalczyk, "HMO Subscribers Often Find Provider is Only a 'Phantom'," *Boston Globe,* June 17, 2001, A1.

[13] For example, the average internist in the United States can be expected to have 30-50 active patients with diabetes mellitus in his/her practice. This may be a sufficient number for overall statistics on the diabetic patients in this practice, such as the percentage referred for an eye examination in the past year. If, however, the person seeking information on the physician wants to know about that physician's management of diabetic patients with peripheral neuropathy or renal failure, the numbers will be much smaller and below a reasonable threshold for accurate measurement.

[14] B. S. Auerbach et al., *Principles for Profiling Physician Performance,* ed. W. B. Stason (Waltham, Mass.: Massachusetts Medical Society, 1999).

[15] This subject is under investigation in a project being performed by Massachusetts Health Quality Partners under grants from The Commonwealth Fund (July 2001) and The Robert Wood Johnson Foundation (August 2001).

[16] www.medicalconsumers.org.

[17] Some cardiac surgery data from New York, New Jersey, and Pennsylvania can be found at the following sites: www.health.state.ny.us/nysdoh/healthinfo/cs.htm, www.state.nj.us/health/hcsa/cabmenu.htm, and www.phc4.org/reports/cabg9495/default.htm. The New Jersey report available at this site in 2001 does not contain data by surgeon, owing to a change in the reporting system, and consists of 1998 data. The New York report available at this site in 2001 reflects 1996–1998 data. The Pennsylvania report available at this site in 2001 reflects 1994–1995 data on surgeons.

[18] A list of physicians recognized by the American Diabetes Association can be found at www.diabetes.org/main/professional/recognition/default2.jsp and click on "Listing of Recognized Providers"; the criteria for the recognition can be found at www.diabetes.org/ada/prpqa.asp#measures.

[19] www.healthgrades.com and www.thehealthpages.com both allow visitors to fill in a survey about an individual physician, and the results are then included under the physician's listing. In August 2001, the authors tested the availability of patient survey information in the following way: A random sample was chosen of 15 internists included in a published guide to the "best doctors" in New York City that is based on physician recommendations [*How to Find the Best New York Metro Area Doctors* (New York: Castle Connolly Medical Ltd., 2000)]. On healthgrades.com, four of the 15 were not listed, and there were patient survey results for three of the 11 listed physicians. Two of the three had a single patient response; one had two patient responses. At thehealthpages.com, all 15 were listed and there was patient survey information for five of 15. Three had one patient response, one had two, and one had eight responses. Two of the physicians not listed in healthgrades.com had patient survey results on thehealthpages.com. One physician had patient survey results on both websites.

[20] www.massmedboard.org. Also see Appendices A and C: Administrators in Medicine (www.docboard.org). Note that according to the Annual Report of the Massachusetts Board of Registration in Medicine, website hits on the physician profiles section totaled 2,573,439 in the year 2000. The report is available at: www.massmedboard.org/20016mo.pdf.

[21] S. G. Boodman, "Sins of Omission: Virginia's Online Doctor Profiles Are Missing Vital Information That Is Often Available Elsewhere on the Web," *Washington Post,* September 25, 2001 (available at www.washingtonpost.com). The article reports that the Virginia site states that "assessing the accuracy and validity of this information is the sole responsibility of the consumer." In addition, a new law in Virginia as of July 2001 barred the posting of disciplinary orders on the website. Following publication of the newspaper article, a compromise between the Virginia medical board and the attorney general's office led to posting of disciplinary orders and "notices" online – S.G. Boodman, "Va. Doc Site Adds Key Info," *Washington Post,* October 16, 2001. However, as of late November 2001, incomplete information about the physicians cited in the original article still appeared on the website – S.G. Boodman, "Accuracy: Please Wait: Misleading Physician Profiles Remain Uncorrected for Months on Virginia Web Site," *Washington Post,* November 26, 2001. Another article from the Richmond, Virginia, *Times–Dispatch* reports that "about 10 physicians who have 'misrepresented or omitted crucial facts' about their credentials and disciplinary histories on Virginia's health provider Web site" are being investigated and that disciplinary action may be taken – Tammie Smith, "10 Doctors May Face Action for Data Errors," *Richmond Times-Dispatch,* November 27, 2001 (available at www.timesdispatch.com).

[22] Todd Wallack, "Patients Don't Get Full Story on Doctors: Many Malpractice Verdicts Not on State Board's Web Site," *San Francisco Chronicle,* January 6, 2002, p. A1. Available at www.sfgate.com.

[23] www.bestdoctors.com.