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# WHAT PEOPLE THINK ABOUT THE RELIABILITY OF MEDICAL INFORMATION ON THE INTERNET

By Anton Vedder

What people think about the reliability of medical information on the Internet. In: Alvarez, I., T. Ward Bynum, J. Alvaro de Assis Lopes, S. Rogerson, (eds.), *The transformation of organisations in the information age: Social and ethical implications*. Lisboa: Universidade Lusiana, 2002, pp. 281-292.

## Abstract

Is the quality of medical information on the Internet a matter of concern to people? How do they assess the reliability of medical information on the Internet? In this paper, I present the first results of an enquiry (through semi-structured in-depth interviews held in the spring and early summer of 2002) among a group of patients/consumers and physicians in the Netherlands in order to answer these questions. The paper describes the respondents' views on the reliability of information on the Internet when compared to other media, on the factors that cause the (un-) reliability, on markers of reliability of information, experiences of possibly negative consequences of unreliable information on the Internet, possible remedies, and the possible conflicts between these solutions and commonly accepted principles of freedom of speech, privacy, tolerance, and the informational freedoms.

## 1. Introduction

In 1997, an article in the British Medical Journal drew attention to the wide variation in terms of accuracy, completeness and consistency of public oriented health information on the Internet (Impicciatore et al. 1997). The findings were alarming, but should not have come as a surprise. The Internet has quickly become one of the most consulted sources of information about diseases and medical treatment. Important characteristics of the Internet are the easy accessibility of the medium for people who look for information and for people who provide information. One can easily seek and find an abundance of information through the Internet. It is also almost equally easy to diffuse information through the Internet. For the same reasons, it is also relatively easy to disperse incorrect information, or to diffuse manipulated information, or to manipulate the presentation of, in other respects, correct information, intentionally or unintentionally. Conversely, the seeker of information can relatively easily be misled, misinformed, or be tempted to misinterpret information that, in other respects, is correct. Both from an epistemological and from a moral point of view, this situation gives rise to complicated questions (Vedder, 2001, 125-132). The epistemological issues have to do with the ways in which people assess the quality of information from traditional sources and from the Internet. Because we are dealing here with people who are no experts, the focus is more on, what I have called elsewhere, secondary epistemic criteria than on primary epistemic criteria. Primary epistemic criteria have to do with consistency, coherence, and accordance with observations. Secondary epistemic criteria have to do with the authority and credibility of the source or the intermediary of the information. Secondary epistemic criteria and their application are to a high degree socially and institutionally embedded. From a moral point of view the following questions arise: How should the situation of medical information on the

Internet be evaluated in moral terms from a general point of view? Is it at all bad that medical information on the Internet is not always reliable? In what way could answers to this question in any respect amount to collective actions aimed at warranting or enhancing reliability of medical information on the Internet? Is it not, for instance, the responsibility of the users of the information to check its reliability? What can or should be done eventually in order to warrant the reliability of medical information on the Internet? Who or what institution can be considered to be responsible for guaranteeing the reliability of medical information on the net? In this paper, I will deal with some preliminaries to these questions. Central to it are two questions: How do people assess the quality of medical information on the Internet? Is the quality of medical information on the Internet a matter of concern to people? I will, first, give a critical overview of relevant previous research. The main part of the paper will be dedicated to the results of an enquiry among a group of patients/consumers and physicians in the Netherlands in order to investigate what people actually think about the problems indicated. I will conclude by confronting the main points of our findings with the initial epistemological and moral questions. Throughout this paper, I will use the term medical information to refer to health information on sites of the World Wide Web that can be consulted by patients and consumers or, simply, the general public. This can be information that is primarily intended to be consulted by the general public, but also information that is primarily intended to reach doctors and medical experts but can also be accessed by persons who are not medical experts. Excluded are: Information through newsgroups and email-distribution lists aiming at the communication to or among patients, electronically enhanced transactions for ordering and selling and buying products, making appointments et cetera, and online consulting of cyber doctors or traditional health care professionals. Furthermore, sites (predominantly) aiming at obtaining information *from* the public, e.g., for purposes of trials and monitoring, and at telemedicine are excluded.

## **2. Previous Research**

The Pew Internet & American Life Project (Fox, Rainie, 2002) reports on the basis of national surveys conducted in March 2002, and June-August, 2001, that 62% of American Internet users, or 73 million people, have accessed the Internet in search of health information. Per day 6 million Americans seek health information on the Internet. People think that information is reliable when it matches with what they already know about a condition and when they find it on more than one site. People have a tendency to turn away from sites that seem to be selling something or do not clearly identify the source of the information. Approximately one third of those who find relevant information bring it to their doctors to assess its quality. Not more than 25% of the people seeking medical information on the Internet thoroughly check the source and the timeliness of the information every time they look for information. Another quarter check it most of the time. Half of them check it only sometimes, hardly ever, or never. Women who access the Internet look more often for medical information than men (72% of the women, 51% of the men). Of the Internet users between 50 and 64 years old 71% have looked for health information, while 53% of those between 18 and 29 did so. People with more education and more Internet experience are more likely to search for medical information online. These findings are more or less in line with recent studies about the use of the Internet with regard to medical information in the USA by Harris Interactive (2001a, 2001b). In the Netherlands, the situation is not very different, according to surveys carried out in October, 2000, and November, 2001, among 500 and 1000 Internet users, respectively (Van Rijen, De Lint, Ottes, 2002: 18-21). About 70% of Dutch Internet users have searched for medical information on the Internet. (For European standards this is a high percentage. In Belgium, for instance, 50% of the Internet users seeks medical information on the Internet

(Insites Consulting, 2002).) Women do so more often than men, and elder people more often than younger people. People tend to trust websites of patients' and doctors' organizations more than, for instance, sites of insurance companies and pharmaceutical enterprises. Two thirds of the users felt better informed after consulting the Internet. Doctors almost never advise their patients to visit the Internet in order to obtain information about their condition. Almost half of the Internet users consult the Internet after a visit to the doctor. Approximately 40% of the Internet users bring the information that they found on the Internet to their doctors. Patients with chronic diseases are more likely to do so than others. According to the patients that bring Internet information to their doctor, three out of four doctors react positively to the fact that they bring the information. One third of these people think that talking about this information with their doctors influences the choice of their therapy. Interestingly, both in the USA and in the Netherlands, tendencies among doctors differ slightly from those among the general public. According to a report from March 2001, 37 % of the doctors in the USA use the Internet in relation to their profession. About 85% of these doctors use the Internet for obtaining medical information; 57% use it for communication with professional organizations. According to a report dating back from summer, 2001, however, 89% of the doctors use the Internet. The typical doctor is 8 hours on line per week, spending three hours on medical things (reading about therapies, medical news, articles from medical journals, communicating with colleagues et cetera) (Van Rijen, De Lint, Ottes, 2002: 24-25). According to a survey carried out in March 2000, large part of the doctors in the Netherlands has access to the Internet: 65% of the general practitioners and 84% of the others (KNMG, 2000). Male doctors are more online than female doctors (70% and 54% respectively). Internet access is not equally divided among the ages: 64% of the doctors younger than 30, 74% of those younger than 60, and 32% of those of 60 years of age or older have access to the Internet. A study dating from February 2002 (Van Rijen, De Lint, Ottes, 2002: 30-31) shows that 95% of the doctors in the Netherlands has been confronted with patients bringing medical information obtained on the Internet. 15% meets one or more of these patients. 24% meets one or more of these patients per week. 56% meets one or two of these patients per month. Three out of four doctors say that they appreciate this. Only 6% say that they do not appreciate it that their patients bring information from the Internet. According to 63% of the doctors said that talking about the information that the patient brought influences the treatment; 29% says it does not. Although in the Netherlands research has been done on the subject of the use of the Internet by people who seek medical information (for overviews: Van Rijen, De Lint, Ottes, 2001 and 2002) and on the subject of the quality of the information as such (Consumentenbond, 1999), no attention has been given to people's perception of the quality of medical information on the Internet, nor on the ways in which people actually assess the quality of medical information on the Internet. On the latter issue some work has been done in Germany. Eysenbach and Koehler (2002) found in a group of 17 Internet users that, although these users' search technique was often sub-optimal, they successfully found health information to answer questions, such as: if you want to travel to Australia, do you need Malaria prophylaxis? What is the definition of being overweight? They said that when assessing the credibility of a website they primarily looked for the source, a professional design, a scientific or official touch, language and ease of use. However, in the observational study, no participants appeared to check the "about us" sections of websites. This latter finding is more or less confirmed by Meric et al. (2002) who found that popularity of websites is associated with type rather than quality of content when quality of content is measured according to the so-called JAMA benchmarks: the display of authorship, source, currency, disclosure of ownership, sponsorship, advertising policies, or conflicts of interest, and the presence of the email address of the webmaster and/or an official quality seal or certificate.

### **3. Design and Method**

Our research was qualitative. A full report can be found in Vedder and Schellekens (2002). Our objective was a better understanding of the general public's and doctors' perceptions of the quality of medical information on the Internet and the ways in which they assessed the quality of that information. We included patients/consumers, their representatives, and doctors in the research because the initial questions presuppose that there will be important differences between the ways in which experts and non-experts in the fields of medicine and health care assess and appraise the quality of medical information on the Internet. The issue of the quality of medical information on the Internet is new and complicated, in the Netherlands and elsewhere (Eysenbach, 2002; Purcell et al., 2002). More extensive qualitative and quantitative research was, therefore, not yet possible. The results of this study carry with them no pretence of being representative. Our enquiry was based on the so-called grounded theory approach with ten semi-standardized in depth interviews with individuals at its core (Punch, 1998). Methodically, the interviews resembled so-called expert interviews (Flick, 1998). In order to avoid misunderstandings – most of the interviewed persons were not experts in the field of medicine – I prefer not to call them expert interviews. The interviews took place in the early summer of 2002 (May-July). The interviewed people can be divided in two groups: a group of four medical doctors (henceforth: MDs) and a group of six end users who are not medical professionals but are closely connected to health care by a membership or a position in an organization for patients/consumers (henceforth: PCs). The MDs were recruited with help of friends and colleagues. The PCs were recruited with generous help of the Netherlands Patients and Consumers Federation. The MDs were all male; the group of PCs consisted of four women and two men. The MDs had, of course, all an academic education. Two PCs had secondary school; four PCs had academic education. The mean age of the interviewed was 44. The typical female member of the group was 35 years of age. The male members of the group were on average 50 years of age, the eldest being 74, the youngest 29 years of age. The MDs were 45 years of age on average. The oldest doctor was 65, the youngest 29 years of age. The MDs were general practitioner (2), pediatrician (1) and orthopedist (1). The PCs were connected as members or functionaries to associations for various kinds of diseases, such as, muscular diseases, metabolic diseases, cancer, arthritis, and to the Netherlands Patients and Consumers federation.

### **4. The results**

#### **4.1 Actual use**

The time that people spend on the Internet varies largely from one person to another. Among PCs the time spent for professional purposes varies from one to 20 hours a week. For private purposes the minimum score was one hour a week; the maximum 15 hours a week. Among MDs the time spent for professional purposes varies from approximately one to ten hours a week. For private purposes, one MD was never and two MDs were one hour per week on line. One MD had permanent access to the Internet. When people actually seek medical information they visit various web sites. None of the persons interviewed seeks information in news groups. One MD and one PC have subscribed to mailing lists through which they obtain part of their information. Half of the PCs seeks and finds medical information with the help of search engines and links on the site of the own association or federation. One of the MDs only seeks medical information on the Internet when patients bring information from the Internet. The other MDs look for information mostly by visiting various sites. One of them regularly uses the portal of the own association as a starting point.

## 4.2 General appraisal

The quality of information is a multidimensional issue. Many factors contribute to it: correctness (doing justice to the facts, conforming to the common opinion in the scientific community), consistency, completeness, precision, presentation, position in context, coherence and/or comparability with other information about the same subject, transparency of authors, intermediaries, sources, references, currency, and accessibility. No wonder that most of the people interviewed found it difficult to give a general judgment on the quality of medical information on the Internet. One MD shows concern about the fact that everyone can access every kind of information on the Internet, including information meant for experts. This information can be difficult to understand or interpreted. Many MDs are also worried about the fact that many sites have a commercial background. Sometimes a content provider is a pharmaceutical enterprise while this is not explicitly mentioned on the site. PCs generally want to know who the author or content provider is. They are, however, less worried in this respect. MDs and PCs both are concerned about the difficulties of interpreting the information on the net. Some of the PCs complain about an overflow of too much and multifarious information. Many MDs and PCs are worried about information originating from quacks. Sometimes this is rather innocent information; sometimes the information involves serious financial or medical risks. One of the PCs points out that it is very difficult to do something about this with legal instruments. Another PC thinks that the general public is almost always able to distinguish serious medical information from information by quacks. The general appraisal by individuals of medical information on the Internet seems to depend in part on the kind of disease in which one is interested. People interested in the different types of relatively rare muscular diseases, for instance, are almost jubilant about the medical information on the Internet. Only ten years ago it was still very difficult to obtain information about these diseases. In addition, for people suffering from these diseases it is often easier to handle computers than books and journals. Finally, it is easier for them to collect information at home than, for instance, in libraries. One of the PCs pointed out that for people with certain diseases it is – at least for the time being – difficult to seek information on the Internet. Arthritis, for instance, is mainly prevailing among elderly and female persons, exactly a group which is not much online. One of the MDs compares the Internet with an encyclopedia. Both are media in which you must actively seek for information. According to him, another MD, and a PC, the Internet is more interesting because of the possibilities to update information. Generally, however, both MDs and PCs find it very difficult to compare the Internet with traditional media. There are so many different types of medical information that such a comparison is almost impossible. Only one PC thinks that traditional media are generally more reliable, because of the traditionally built in possibilities of reviewing and supervising that are lacking on the Internet and the fact that traditional media have a much clearer identity than content providers on the Internet.

## 4.3 Criteria

What is it exactly that makes people perceive of certain information as reliable? Which criteria are applied in order to assess the quality of medical information on the Internet? Each of the PCs and MDs uses two or more (maximum four) criteria. The author or provider (her authority or the authority of her background) of the information is the one criterion mentioned by all MDs and PCs. People prefer information from well-known institutions, (semi-) governmental services, medical doctors and organizations of patients. As was mentioned earlier, PCs and MDs worry about the provision of medical information on the Internet by

pharmaceutical or other commercial companies. One of the PCs is especially worried about the continuity when commercial institutions provide medical information because activities of commercial parties are often motivated by the short-term desire to make a profit and not by the needs of those who seek the information. Most of the MDs think that the general public is not very careful about the authors of information. Two MDs and one PC point to the cultural differences between the authors of North-American sites and those of European sites, and between the authors of different European sites. Symptomatic of these differences are differences in standard medical treatment. When a Dutch patient reads much about his disease on North-American sites he might think that a certain treatment is appropriate for him, which may be very uncommon in Holland. One of the MDs thinks that it is exactly medical information on the Internet that will gradually make these differences disappear. All PCs and no MD mention the presentation (a professional appearance, consistency, clarity). Two PCs and one MD mention fitting in with specifically medical information and general background knowledge that one already possesses. Three PCs and no MD insist on currency. Only one of the PCs mentions comparability with information on other sites. This person also mentions conformity with the opinions of a medical expert.

Partially, MDs use different criteria. These seem to be more appropriate for scientific medical literature. For instance, three MDs mention references. One MD refers to the presence of editorial boards and to the absence of sponsors. One other MD mentions fitting in with the line of development in medicine. According to some of the PCs and MDs, the criteria (and the required degree of satisfaction) can vary according to the specific type or the subject of the medical information and the purpose for which one seeks the information. Four of the PCs and one MD expressly state that they consider individual narratives on personal homepages as completely different, authenticity being more important than conformity to professional consensus. Nevertheless, one PC thinks that such narratives should not contain any factual inaccuracies or generalizations of individual experiences. Three MDs and three PCs think, *prima facie*, that different criteria should be applied to information aimed at medical experts and information intended for the general public. Upon reflection, however, they think that things are more complicated. The information must be presented differently for different groups. The criteria to be applied are probably partially the same and partially different. Important is for instance that information for the general public does justice to the patients' perspective, according to one PC. One MD and one PC expressly state that the same criteria should be applied. According to the PC, this is so because the general public can only use marginal criteria, such as: author, currency, et cetera. According to most PCs and MDs there are no essential differences between the criteria that are used for assessing the quality of medical information on the Internet and the criteria used for information from traditional media. Some of them, however, point to the fact that because of differences in presentation of the information, the same criteria must sometimes be applied differently.

#### **4.4 Harms and benefits**

Two of the PCs mention cases in which a patient after having read medical information on the Internet and having brought this to her doctor received a new and better diagnosis and treatment than before. Three PCs say that the Internet facilitates the social contacts between people affected by the same disease. One MD says that he once had to revise a diagnosis after his patient brought information from the Internet under his attention. All MDs say that the Internet contributes significantly to the empowerment of the patient. Three PCs mention cases of deception by quacks and crooks that ask considerable amounts of money for diagnostic services and treatments. This is especially troubling with regard to rare diseases, because the common medical knowledge about these is often so delimited, that it is often even very

difficult to prove that certain plainly nonsensical statements are false. The MDs do not mention cases of significant harm occurring as the result of unreliable information.

#### **4.5 Personal narratives**

Many of the interviewed persons mention the special status of individual narratives on personal homepages. Personal homepages are often hard to find with the help of search engines. Most search engines do not indicate them because the frequency of visits is so low that they are considered to be less relevant. On some web sites of patient organizations there are links to personal homepages. This is done rather for social purposes than for purely medical ones. One of the PCs warns that there is a certain tendency on these homepages to generalize personal experiences. This can be dangerous. When authors, for instance, make illegitimate generalizations from their personal life or survival expectancy, visitors may wrongly come to share these beliefs. As was already mentioned, a PC and a MD mention the differences in cultural backgrounds of content providers as a ground for misconceptions and wrong opinions. This problem is also at issue with personal homepages. One of the PCs points to the fact that personal narratives on personal homepages can facilitate the communication between doctors and (parents of young) patients. This PC is regularly confronted with parents who are angry with their pediatrician because she had to bring them very bad news. As a consequence, very often the communication between the doctor and the parents gets stuck for a while. The PC thinks that both parents and pediatricians may benefit from reading the personal narratives of people with similar experiences. On the other hand, she also knows of people who just do not want to visit personal homepages because they do not want to be confronted with the problems of others. Most PCs think that authenticity of the narratives is more important than their “truth”. One MD is also very enthusiastic about personal homepages. He thinks that. Exactly because there can be incorrect statements in the narratives, it is very important that patients can talk about the things they find on the Internet.

#### **4.6 Empowering the patient**

Most of the PCs and all of the MDs are positive about the ways in which medical information on the Internet contributes to the empowerment of the patient. Some of the PCs are a little concerned about the abilities of doctors to adjust themselves to the better-informed patient. Although all MDs say that they have been confronted with patients bringing medical information from the Internet, only one of them is able to quantify this experience: it happens to him approximately ten times a year. One of the MDs thinks that better information of the patient is on principle a good thing. Nevertheless, he is afraid that the Internet may further narrow the focus of people on their health condition. One PC thinks that medical information on the Internet may cause more people to think (wrongly) that they suffer from all kinds of diseases. One of the MDs, however, thinks that this is not so, because the people who are apt to think of themselves as suffering from all diseases about which they read something, are of a special kind, not influenced by the media from which they obtain their information.

#### **4.7 Enhancing quality**

All MDs are in favor of special measures intended to enhance the quality of medical information on the Internet – such as seals or certificates of reliability, trusted third parties, codes of conduct for content providers, government control, et cetera (see, for an overview of such measures: Wilson, 2002). All of them think that medical and health care organizations, associations of patients and consumers, and the government have responsibilities in this



respect. One MD says that these measures are especially important for information aiming at the general public. Interestingly, most PCs are skeptics regarding the specific quality enhancing measures. They think that these are highly impractical and unrealistic. Maintenance is important in this respect. But people are also scared that these measures will undermine the spontaneity and the currency of the information. Many PCs wonder who is going to assess the quality of the information and who will be deciding on the specific criteria that are to be used. One PC thinks that such measures are outright paternalistic. Another PC explains that his association has tried to create a kind of informational context for its members – consisting of brochures, information evenings and weekends and a special website – in order to provide them with the basic knowledge which they need to approach further medical information on the Internet. One PC thinks that it is important that content providers protect their funding. She is very scared by the idea that organizations may no longer have money to maintain their websites and keep their information up to date. One of the PCs proposes the creation of a database for the Dutch speaking communities in Holland and Belgium in which individuals can leave notes in which they give evaluations of the quality of the sites that they visited. She thinks that in this way it is possible to deliver a statement about the quality of certain information without running the drawbacks connected to the measures mentioned earlier. The other PCs and MDs doubt whether this proposal makes any sense. People wonder what value there is in individual opinions of the general public about a certain site. In addition people are afraid that such a database may narrow the search behavior of people. Remarkably, none of the PCs or of the MDs proposes the creation of critical attitudes in the Internet user.

#### **4.8 The future**

Three of the MDs think that medical information on the Internet will become more reliable in the future. The quality or quality enhancing measures will automatically increase or come into being with the increase of the use of the Internet. One of the doctors seems to think that this will be mainly a matter of self-regulation and private initiative by patients and consumers. Two other doctors think that the government has the biggest responsibility in this respect. Two PCs think that the quality will improve, also. One of them is not able to give any reasons for this “feeling”. The other thinks that this must be so, because, for instance, the Dutch Council for Public Health and Health Care has indicated that the quality of medical information on the Internet is a point of concern. One of the PCs was plainly negative about the future. According to her the quality of information on the Internet will suffer from the recently bad economic climate and the lesser willingness to invest in the Internet. Because of lack of money content providers will not keep their sites up to date, so that the quality of the information will diminish. Another PC thinks that in the future people will concentrate more and more on large websites. It may be easier to maintain these and to keep them in tune with standards of quality.

### **5. Conclusion**

To sum up, according to what we found in our interviews, most people – medical experts as well as patients/consumers – are generally happy with the quality of the medical information on the Internet. Both doctors and patients/consumers had certain worries about the information provided by commercial organizations, such as pharmaceutical industries. Patient/consumers were most worried about information provided by quacks. Almost all doctors and some patients/consumers, however, had doubts about the capacities of the general public to interpret and understand medical information on the Internet correctly. Doctors worried most on this point. Nevertheless, both doctors and patients/consumers were of the

opinion that the Internet was a big help for the empowerment of the patient. The people we interviewed use two to four criteria for assessing the quality of medical information on the Internet. Each of them looks for the (authority of the) author. Both patients/consumers and doctors point out that the cultural background of the author is of importance to the ways in which the information should be perceived. None of the doctors, but all patients/consumers mention the presentation of the information as a criterion. Half of the patients/consumers and none of the doctors mention currency. Some patients/consumers and one doctor use fitting in with medical knowledge and general background knowledge that one already has as a criterion. Doctors tend to apply criteria that are often used in the scientific world: references, the presence of an editorial board and the absence of commercial sponsors. Both doctors and patients/consumers tend to approach individual narratives on personal homepages in another way than purely medical information. Here the question is not so much: Is this true? Rather, the question is: Is the story authentic? Generally, both patients/consumers and doctors think that the criteria used for information on the Internet do not differ from those used for information from traditional media. Nasty consequences of unreliable medical information on the Internet are only reported by some patients/consumers. They refer to quacks that try to sell diagnostics and medicine. Doctors say without exception that they appreciate it when their patients bring them information from the Internet. In some cases doctors had to revise their first diagnosis on the basis of information from the Internet brought by the patient. Interestingly, the patients/consumers are rather skeptic about the introduction of specific measures to enhance the quality of information on the Internet, whereas all doctors are very much in favor of such measures. Our findings indicate that the initial epistemological and moral questions are legitimate, although the general judgment on the reliability of information and the answers to the question about the negative consequences of unreliable information do not suggest that the situation is alarming. Remarkably, doctors seem to have more worries than patients/consumers. They think that the general public might not be able to interpret and understand all information correctly. Doctors also seem to be more in favor of specific quality enhancing measures. Here the patients/consumers seem to be more pragmatic. Their doubts about the effectiveness of these measures are at least partially underpinned by a study by Gagliardi and Jadad (2002). They found that many instruments used to rate quality of health information on the Internet, while still appearing on websites, are no longer functioning because the organization that gave rise to those instruments does not exist anymore. Kunst (2002) found that features of website credibility or markers of reliability, such as stating source, currency, and evidence hierarchy, have only a slight or moderate correlation with accuracy of information in five common health topics. From this, lessons can be drawn by all those organizations that are currently busy developing and introducing such instruments, e.g., the World Health Organization (calls for health domain name to help consumers), UK Government/NHS (policy on website quality), EC (code of good practice for websites, TNO, Netherlands (trust mark based on a quality management system) German Federal Ministry of Health (Health Information System Action Forum, website which certifies quality of information), French Ministry of Health (planning to produce a code of ethics for health sites). Our findings suggest that if any extra measures have to be taken, the initiating organizations have to take care of the continuity of those measures and of the awareness and involvement of the general public.

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