

THE INTERNET – MEANS OF COMMUNICATION AND PROMOTION OF THE VIRTUAL MEDICAL WORLD

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Abstract: : In the world of health care, most specialists appreciate information and communication as a major component in this area. Thus, the Internet becomes also in health - the main source of information and communication of professionals in the system, facilitating access to databases, electronic publications and medical journals, information and expertise, to sites of medicine based on evidence. If there are millions of medical websites worldwide, the specialist in the health system in search of a drug, a procedure, of a product or therapy, can replace the entire medical library shelves with a computer connected to the Internet. By accessing the pages of the medical clinics, discussion forums on various diseases, websites of groups of individuals with severe diseases, physical disability or great psychological impact, patients can obtain important medical information. But there is a risk in this medical information explosion that requires the recipient a very great deal of discretion in its use. The commercial assault of excessive promotion of drugs brings also the risk of self-medication and self-treatment so that competent and authorized medical decision is excluded. If in the case of doctors the facility for accessing digital information eliminates many time-consuming cases, for patients the quality of the medical information on the Internet can become downright dramatic. If a Romanian patient calls to health services available on the Internet without regard for his history, family history, and collateral data included in the health care file, the risk of erroneous medical decision is imminent. To guide the community of consumers and providers of health services, growing by the WWW environment to find reliable information and medical expertise can be a challenge for policy makers in the health system contributing to a better and more efficient health care process.

JEL classification: I19, O3, O31, D8, D83, L86, L15

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1. INTRODUCTION

The health system in Romania is in a "state of distress" for a very long time [2] because it is unable to provide adequate healthcare services to ensure a healthy population. In health care - industry where health professionals representing the human face of health care systems: its values, training is completely neglected, continuous information and communication of workers in the system. The improvement of the medical service depends

on the skills of health workers. It is shown that the health of the population is directly related to the quality of the medical staff [31].

If in 2006, WHO (World Health Organization) reported an estimated deficit of nearly 4.3 million health workers, requiring the global concept "Working together for health" [32] by focusing on training health workers based on the concept of long-term career and for life based on training since the entry into the system until retirement, in 2008 the same international organization addresses health inequalities and poor health outcomes, so that access to health care is inequitable, health continues to be treated as a commodity driven by profitability [33].

2. OBJECTIVES

But to improve healthcare quality and health information systems we need to identify opportunities for innovation skills [5].

And for skills it is necessary to access information, continuous communication between professionals in the system. It is a common and well known matter, that the interrelations between people take place in a continuous process of transmitting information, ideas, events, attitudes, from one individual to another and thus we find, says Berger, "that things exist only if they are part of the communication process" [3].

Words are essential for communication, but insufficient to maintain an effective and a two-way working relationship in the health system and for the Romanian health system professionals is necessary to learn a genuine communication with benefits perspective for the patient using modern means for the transformation of quality health information sent to all concerned in order to achieve quality care.

I can say that information and communication technologies become a necessary attribute of health strategy and survival of humanity, and their combination makes possible the establishment and interconnection of advanced networks that allow fast processing and transmission, in real time, of the medical information.

The health system is subject to qualitative and quantitative increase of communication and information means, of investigative capacity, of the flow and use of scientific medical information necessary to specialists, of the medical knowledge accumulated in the system, supra-national cooperation to be established between universities, research laboratories, health organizations, bringing together in a joint effort experts from the four corners of the world.

A nationalist conception of science and technology development goes against science and threatens to perpetuate the dangerous imbalance that exists between „those who have everything” and „those who have nothing” [23].

3. THE INTERNET - INFORMATION AND NETWORKING TOOL FOR HEALTH CARE PROFESSIONALS

IN THE VIRTUAL WORLD

In today's world where the media increases every day, scientists must be heard at any price, unless they want to become accomplices of a morally unacceptable situation.

The Internet has a huge impact in increasing the amount of information available to health professionals, improving access to electronic medical information from around the world [11] and medical success is impossible without cooperation between all health system participants [20] without sharing the results of health and medical information.

As a priority of global and interconnected Europe, eHealth facilitates this concept of communication so necessary in the Romanian medical service efficiency.

EHealth - concept of the European Commission is a set of electronic health services available to all individuals who use technologies such as the Internet or mobile services to come into contact with professionals and organizations in the healthcare system [27]. These technologies enable makers of health to provide “old” information but also to introduce some new, custom ones [24]. To meet the needs of patients and professionals in the system, facilitating access to medical services, allowing them to communicate interactively with all participants in the healthcare system.

World Wide Web, the virtual universe of electronic knowledge and information available is always open, which means that information sharing can be done electronically at any time.

Romania's national health strategy should be aimed at developing health information infrastructures to improve safety, quality and efficiency of patient care through access to electronic medical records, facilitating the exchange of information, knowledge and clinical information between researchers, doctors, specialists.

And to do this requires policies and standards for interoperability and security of data on a single eHealth platform [7]. Making this European approach available also in Romania is particularly urgent. This implies that primary physicians to be connected to the Internet, to use the Internet during consultations, to have networks that unite all component parts of the health system in which the patient should be connected to his medical information [2].

EHealth involves collaboration through information and communication technologies. Using a collaborative environment, health professionals can provide remote medical consultations and receive standardized real-time information from other participants in the system using chat and video conferencing. All over the Internet can be shared medical devices integrated audio and video files loaded with medical data of patients and their content can be communicated in real time to another participant, thus speeding up and simplifying the information flow facilitated by an electronic single standard system for doctors and a network connection for sharing medical data, so that the rural doctor and specialist to use a single network to connect to the global flow of medical data.

Medical data acquired from devices can describe previous examinations and the electronic health file.

But this type of communication requires a standard form of messages and data [28], for any scenario, so it needs an architecture to enable data exchange in the future, access to information from the medical history, examinations and laboratory tests by digital signature [18] and login to upload various medical data files.

So that patient-related information to be shared between electronic filing systems one network is required to connect all physicians to the patients' medical information.

Collaboration and internal, inter-regional, external and world communication of system professionals through collaborative networks [34] may solidify information, support health services research. But in Romania, "the prognosis is reserved" because only 20 percent of individuals are regular users of the Internet against 16 countries where over half the population regularly used the Internet.

An Online collaboration center in the heart of Europe could facilitate information exchange between networks, working groups, associations, health organizations, NGOs, professional associations or foundations. But some features of collaboration involve the exchange of information: the collection, collation and dissemination of information,

standardization of medical terminology, technologies and procedures, planning, conducting, monitoring and evaluation research.

Collaboration between health organizations, patients, policy makers, practitioners is an important cooperation mechanism and the global network will enable improved exchange of information to mobilize all resources for health information systems. (Figure no. 1).

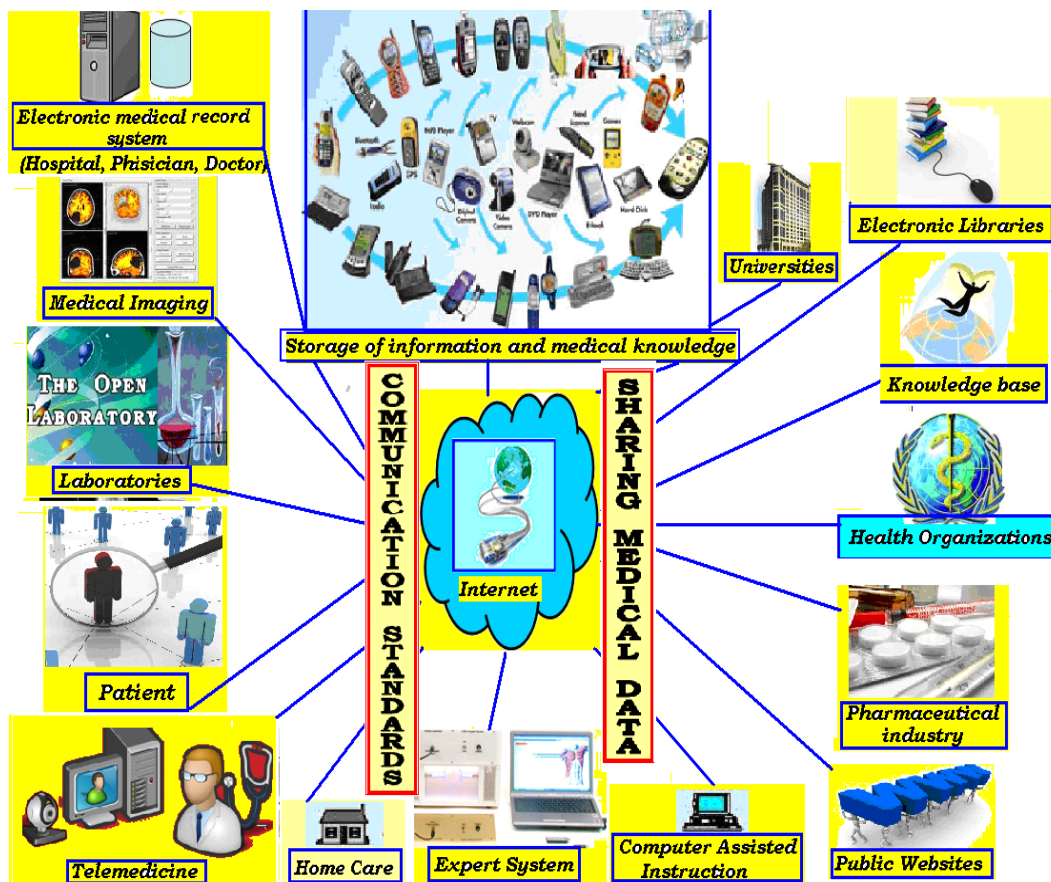


Figure no. 1 Global network of communication, collaboration, exchange and sharing of medical data

Everywhere, the virtual world quickly became part of the technology landscape in the health and medical services, electronic communication between scientists, between doctors and patients is now easy, and fast information can be found online on the websites of university clinics, in discussion forums. But in Romania, accessibility to sources of medical information remains rather low. The leading position in accessing information resources is occupied by books, medical journals, presentations made by representatives of drug companies, congresses and symposia, opinion leaders, Intrenet occupying the last position. And what could be more useful than access to the latest medical information?

As statistics show, access to international medical databases of Romanian doctors is minimal. EHealth technologies should also provide Romania portals with access to health news, alerts, magazines, drug interactions, information on clinical trials, patient information materials.

Romania has the lowest percentage of all the European Union in access to communications technologies for doctors: two percent of the primary physicians in Romania communicate over the Internet with labs, one percent in hospitals, clinics and pharmacies and 0.3 percent with patients.

If the most developed countries in terms of Internet use and infrastructure are Denmark, Finland, Iceland, Netherlands, Norway, Sweden, Austria, Belgium and Germany, the least developed countries are Bulgaria, Cyprus, Greece, Poland and Romania [36].

The medical field is one area where changes occur rapidly and where the last-minute medical information offer is increasing, particularly those relating to new medicines, information about their features and benefits, comparative studies carried out, the experience of other physicians in administration of the drug are arguments for the acceptance and the use of the Internet and all communication and rapid means for Romania.

If there are millions of medical websites in the world, the specialist in the health system in search of a drug, a procedure of a product or therapy could replace the entire medical library shelves with a computer connected to the Internet.

The best example for doctors is **MEDLINE** – the largest electronic library of medical databases of the U.S. National Library of Medicine, in which there are more than 20 million medical articles from more than 5,000 publications and medical evidence, being freely available on the Internet through the **PubMed** page at <http://pubmed.gov>.

In this huge medical database, there is also a manual, and PubMed includes over 20 million citations from MEDLINE biomedical literature, all scientific journals and books online. Citations include links to the full content of articles in PubMed Central and websites.

Furthermore, PubMed is a free resource developed by the National Center for Biotechnology Information (NCBI), U.S. National Library of Medicine (NLM), located at the National Institutes of Health (NIH). The first page contains a guide to effective use of search engines, FAQs, tutorials, full texts of all outstanding news articles, search instruments in all online specialist magazines, even searches after clinical queries, after clinical categories (diagnosis, etiology, therapy, prognosis, prediction) and the repertoire of the most frequent searches.

Any search consults the most important resources: **National Library of Medicine (NLM), National Institutes of Health (NIH), US Department of Health & Human Services (HHS), Other Federal Government Resources, Associations & Foundations, EU eHealth website, Publications.**

Romanian doctors' share contribution to this database is small and access is neglected at a high enough rate.

A simple Internet search of scientific publications on PubMed site - the largest database of medical journals, after the search word Romania, we found 12.492 articles, of which only 900 articles were published in 2009, articles with at least two authors. According to the 2008 statistical yearbook [25] the number of physicians in Romania is 48.199. Thus, in one year, 10 doctors from Romania take part in one specialty scientific study and that is because the authors are academics. One solution would be to determine the health workers to use new information and communication technologies to increase awareness and competence of those concerned.

In America, editors of the scientific publications department at the University of Texas MD Anderson Cancer Center have created a training program to support

investigator skills needed to write research papers. Here attended 300 junior doctors in 22 workshops. Based on these results, the authors concluded that health researchers need training in scientific writing [4]. In Romania, the health system needs connectivity and developing a national network of medical informations related to medical libraries, hospitals, doctors. In addition, all professionals need training for Internet usage, equipment and facilities for access to information in electronic form.

There is also a trap of the Internet: provides physicians the opportunity to be self-promoted, which raises important ethical issues. Certainly the Internet is fundamental to life and health business, nobody wants to go back to the times achieved in medical literature by fraud, but we cannot ignore its traps. This problem should be dealt with by the Romanian medical world.

As I said above all family doctors are now informed up to date about decisions affecting their business, but what about the doctors not connected to the Internet? How will they access this information as required in clinical decision making? Because if doctors from Denmark penetrate broadband Internet at a rate of 90%, in Romania the percentage of family physicians who are connected to the Internet is 5%, being the last place away from other countries in the bottom of the table [36]. Thus, over 87% of physicians use computers in the EU and 66% use them every day during the consultations. Almost 70% of primary physicians use the Internet, although only half of them have broadband internet connections. [36].

Electronic information resources are used by medical profile professionals in the stand-alone system in a small proportion, and a significant percentage claim that in the process of retrieving medical information they succeed only through specialized personnel.

In recent years, thousands of books of medical resources published online available on the internet are meant for the information of professionals in the health system of sharing the collective knowledge and expertise across the Web research, education for patients, but lack of access to information knowledge in countries such as Romania remains a major obstacle [16].

There is also another shortcoming of this explosion of information: some treaties and books have overlapping or duplicated information, yet the resource is well organized, comprehensive, being a very useful tool for new users to search the Internet. All these observations suggest the need for continuous training of doctors in the field of electronic information resources.

The virtual world can provide interaction opportunities for students in medicine, constructive learning simulations. Using an avatar for each user can lead to greater interaction between individuals in the virtual world positively influencing cohesion and commitment. A free platform in the virtual world platform would serve medical education and training of future health professionals and could prepare for the delivery of health services online.

In Romania also there should be an increased interest of policy makers in the health system in formation and training of medical students to use the virtual platform.

4. THE INTERNET – SUPPORT OR TRAP FOR THE PATIENT?

If until recently the only one in charge of keeping scientific information was the doctor, today also the patient can get them for making the best decisions. Doctor-patient communication should not be restricted only to visits [21]. It also involves exchanging e-mails, telephone calls, recommendations of web sites, group meetings for patients who suffer from the same disease or other kind of support groups, etc.

Doctors, with their patient monitoring can provide educational materials: brochures, written materials, magazines, videotapes, CDs, books. We do not know exactly if the Internet can complicate physician-patient relationship, but a concern about the accuracy of medical information must be spread over the Internet.

If for doctors the facility for accessing digital information eliminates many time-consuming cases, for patients the medical information quality on the Internet can become downright dramatic. If a patient calls to Romanian health services available on the Internet without regard for his history, family history, and collateral data included in the health care file, the risk of erroneous medical decision is imminent.

The Internet - easy and effective tool for improving communication, sharing medical information [26] for the patient can be the cornerstone of a strong network of health among patients and physicians based on a real-time data feedback.

For a Safer Internet, the European Union (EU) has launched MedCERTAIN for certification and evaluation of health information on the Internet in the plan: "Action Plan for Safer Use of the Internet" and allocated funds to build a network of NGOs to promote information on the risks of accessing information online.

By accessing the pages of medical clinics, discussion forums on various diseases, websites of groups of individuals with severe diseases, with psychological impact, patients can obtain important medical information [7].

But there is a risk in this medical information explosion that requires the recipient a great deal of discretion in its use. The commercial assault brings of excessive promotion of drugs brings the risk of self-medication and self-treatment so that competent and authorized medical decision is excluded. A significant step for this purpose is the creation in Geneva of the HON Foundation - Health on the Net.

Promoting the benefits resulting from the use of electronic information resources, and legislating compulsory certification of digital skills for all workers in the system would improve the quality of health care.

Ongoing assessment of information sources can make us the best guardian of our health. Medical information on the Internet can be a valuable tool in the professional and intellectual development of each of the doctors, and in this way looking on the net for medical information will not be a waste of time.

Medical information and an objective evaluation system are needed to provide users with useful information [30].

To guide the consumers' community and providers of health services, growing by WWW environment to find reliable information and medical expertise [13] can be a challenge for policy makers in the health system contributing to a better and more effective health care process.

In Romania, the Health Info-network, the most extensive network of information and promotion of healthcare in hospitals and clinics in Romania enables communication between physicians in urban and rural areas and colleagues from other specialties, the makers of the medical system, with patients.

Another way to cancel distances and facilitate data transmission and communication of health outcomes among all health professionals is real-time communication (Messenger), teleconferences, using mail services (e-mail), chat, various lists on specialty discussions, and interactive forums between experts [19].

From the standpoint of patients, the Internet can be harmful to seek medical information for the inexperienced, so that with electronic medical management should be

educating consumers and assisting in the efficient and effective mode of information search on the Internet.

One solution would be the existence of a governmental organization ***Reliable Health on the Net*** made up of specialist teams that have a role in screening all medical resources and redirecting Internet users to searchers to reliable meta- or mega-sites compiled and evaluated by qualified professionals, which can be recommended to start a search for medical information.

Scoring sites or Web pages with additional tips for using search engines, providing explanations about medical databases and advice to formulate a search strategy, this organization could label each page open in your browser with the phrase “*This page gives you trusted information*”, it was evaluated by the professional organization.

Because electronic journals are primary sources of information in the medical literature [29], some information here use concepts familiar to system professionals, but they can be confusing to the public.

Each medical site should give consumers the possibility for accessing medical information and by type of user from a dropdown list (**wide and specialized audience**).

And here we have made a recommendation so that non-specialized readers to consult the help files and try an advanced search allowing them access to the largest medical databases MEDLINE and PubMed.

But different types of systems will be able to communicate with each other. Therefore, eHealth solutions will be designed in accordance with standards and internationally recognized open interfaces [1].

The most important resource for consumers of healthcare and most powerful search engine, PubMed provides information about consumer health, alternative medicine, government resources, and statistical information about health on the Internet. PubMed page contains three sections: Using PubMed, PubMed, Tools and More resources.

In PubMed are indicated the most trusted Web sites, health information from other countries, electronic journals available on the Internet, Internet professional associations and the World Health Organization. Here we find the addresses of Web sites to connect to medical schools around the world and to international pharmaceutical companies.

The Internet will continue to have a profound impact on how people seek information about their health. If all medical resources will be directed to a filter which will categorize information as “reliable”, the resource will provide a starting point.

If for the simple search it will display valuable information from trusted sites, health information seekers will be able to explore the Internet in a much more informed manner. Adding value and targeting search engines to trusted sites will bring new values in the virtual healthcare world.

It takes virtual communication projects, which are promoted by interactive health-related issues hosted by blogs to provide urban and rural patients a virtual communication experience.

Here patients can change health information to assess similarities and differences between different clinical episodes, interact by posting comments, whenever they think fit.

And because health systems must respond better and faster to all the challenges of a changing world, it is necessary that primary care - the Primary Health Care (PHC) to become the approach of the whole system which requires continuous care throughout the treatment life of an individual.

5. THE INTERNET AND A NEW VISION: ONLINE MEDICAL CARE

Today removing distances is also a new challenge for medical services. And for the health services in the system the future is online care, which can coordinate the care of a patient at home using new communication technologies. Online Care enables patients to come into contact with doctors online to receive immediate medical health services using the latest web technologies. Clinical information exchange between doctor and patient and care and among team members leads to a new medical service based on collaborative care [2].

The health system in Romania is under increasing pressure, chronic diseases and aging, the need for new treatments, ongoing monitoring of chronically ill patients determines the increased need for coordination of care, new policies and specialities for the continuous management majors of treatment plans.

Increased error rates in the inefficient coordination of the medical service raises many issues to the performance level of health care providers [2]. Numerous studies show that a significant number of patients with chronic conditions received different diagnoses from health providers and contradictory information from doctors [17]. It requires a partnership of dialogue between patients and their physicians so that each patient to build a relationship with his family physician for continuous care to extend throughout his life.

Also, online medical service at home will benefit the health potential and health system participants: providers, physicians, patients will increase the health of a country if they will form part of a comprehensive and interconnected network of health.

According to a study published in the **Healthcare Intelligence Network** website, “over 3%” of adults surveyed, aged 18-64 had used an online discussion group to learn about health topics in the last 12 months, and women used the Internet more often than men to seek medical information (58.0% vs. 43.4%) and had a higher probability of using online chat discussion groups about health issues (4.1% versus 2.5%) [6].

Internet and home care may include further efforts to expand the work program of physicians [14], so this can complete the programs, systems and existing processes so that workflows including documentation, medical recording, programming plan will not be disturbed.

For the first time, patients can have access simultaneously to a whole team of doctors who will be able to obtain new information and tools for managing the health of the patient.

Online medical service infrastructure unites the whole team of doctors who will work centrally and consistently, and if a patient has no family doctor, he can find one easily online using the search engine and view the profile details of the doctor including identity, experience, and specialty.

The patient is placed in the care system with all his data (personal history, all interactions with other doctors before the virtual consultation, history), giving the doctor a complete picture. The online service can show the doctor from a single visibility point to all aspects of the patient (personal data, medical history data, biometric data, and previous interactions with doctors) and connectivity between healthcare providers in real time, eliminating communication gaps.

Online medical service provides access to health care, defeats traditional planning and delays at the cabinet door of the hospital, often experienced by patients [15] very useful to patients living far away or delayed patients or patients that postpone needed care.

Online medical service allows the patient to build his own team of doctors in his health care and open more channels of communication between doctors and patients using

video conferencing, secure chat, asynchronous messaging and offering treatment suggestions generated by the assessments of health generating system alerts when gaps in care are found.

All these previous observations suggest the need for continuous training for workers in the health system.

A site with simulations of medical care for the medical students can be achieved with virtual equipment, procedures or laboratory results using a game based on medical simulation [22] for students who can form new skills.

Virtual platforms to be implemented in the professional development of health workers, to be used and incorporated into training curricula of medical faculty students so that they can be integrated into the virtual medical world to achieve a continuous professional development. One such pilot postgraduate program would facilitate:

- continuing medical education
- continuing care
- understanding solutions and barriers found between doctors and patients

The attitude of those using the medical virtual environment will be an optimist one, and these platforms are environments that can provide medical education also to the patient.

Although the potential for health education of the population of Romania is very low, this virtual platform could provide continuous and uninterrupted health to patients by using simulations on a network of high information level from a three-dimensional environment.

Filtering the quality of health data must be standardized and made reliable by web evaluators identifying together with practitioners high quality information on the Internet and filtering out those harmful to health [8]. MedCERTAIN proposes and identifies standards for interoperability of services [9] and proposes a worldwide collaboration to guide consumers to high quality information on the web [8], for libraries or national health portals (Figure no. 2).

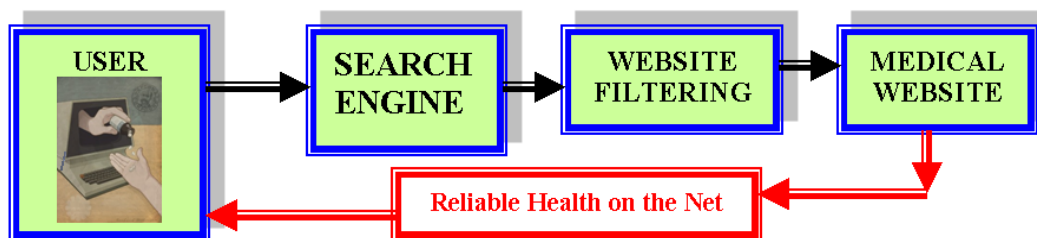


Figure no. 2 Searching, screening medical resources and redirecting users towards reliable sites.

It is a great risk to patients who directly apply the information they read on the Internet in their own lives [10]. Patients may undergo ineffective therapies, and misinformation can be life-threatening, self-medication may interact adversely with drugs already prescribed by specialists.

If these risks are present in most media, on the World-Wide-Web this problem reaches a new dimension [8].

Quality management of health information on the Internet is imperative and can be achieved by developing distributed applications that help consumers to assess and filter health information automatically according to their needs [11] in a global project funded

by the European Union designed for academics, professional organizations to establish a complete quality management system on the Internet, including regulatory and filtering measures.

But to allow searching and filtering information on the Internet, the filtering software should use a standard of medical terms.

Another requirement in this project is global cooperation and interoperability by which all health services over the Internet to be using common, standardized data, which can be exchanged between the communication and consumer services.

The advantages of using electronic information resources with medical profile are:

- efficiency of selecting and copying information
- maximum speed of information retrieval
- value and volume of information
- pleasant interface
- optimal organization of information
- opportunity to contact authors to obtain additional information
- access to medical news
- links to other medical sources
- use of current medical literature
- access to recent scientific research in the field internationally
- online discussion
- instant access to information that has been released.

But lack of experience in seeking information, insufficient time and overloaded traffic are some of the existing barriers in accessing information resources with health profile. Without proper targeting professionals from specialized web sites and search engines without using the trusted search engines, health care specialists are likely to access less valid and relevant information for daily practice.

Taking into account the disastrous statistics (Figure no. 3) regarding the connectivity degree of the professionals from the health system through the Internet and through other types of electronic networks that allow connections for the data exchange between laboratories, specialists and hospitals, pharmacies, patients, clinics, health care centers, insurance companies [12], in Romania imperative policies for the development of an **interconnected medical data and information infrastructure** are imposed.

The connection of the health actors facilitates the access of general practitioners to clinic and laboratory results commonly shared with specialist physicians, and the administration of the proper recommendations and of the best practices in a hospital, the communication with patients improve the medical service.

A connection to the health authorities and insurance companies is imposed. In this field Romania has the poorest representation from all the countries in Europe.

The communication with patients and health care centers is practically non-existent (0.3%). If the general practitioners from Europe register an average of 40% at the connection with laboratories, in Romania this indicator has a value of 2%.

The way it is noticed in the graphic representation of the indicators which characterize the connectivity degree of the pieces of the Romanian health system, Romania, confronted with the European average, occupies the last places.

The communication through the Internet and through other types of networks between all participants to the Romanian health system is a necessity in order to increase the quality of the Romanian medical service.

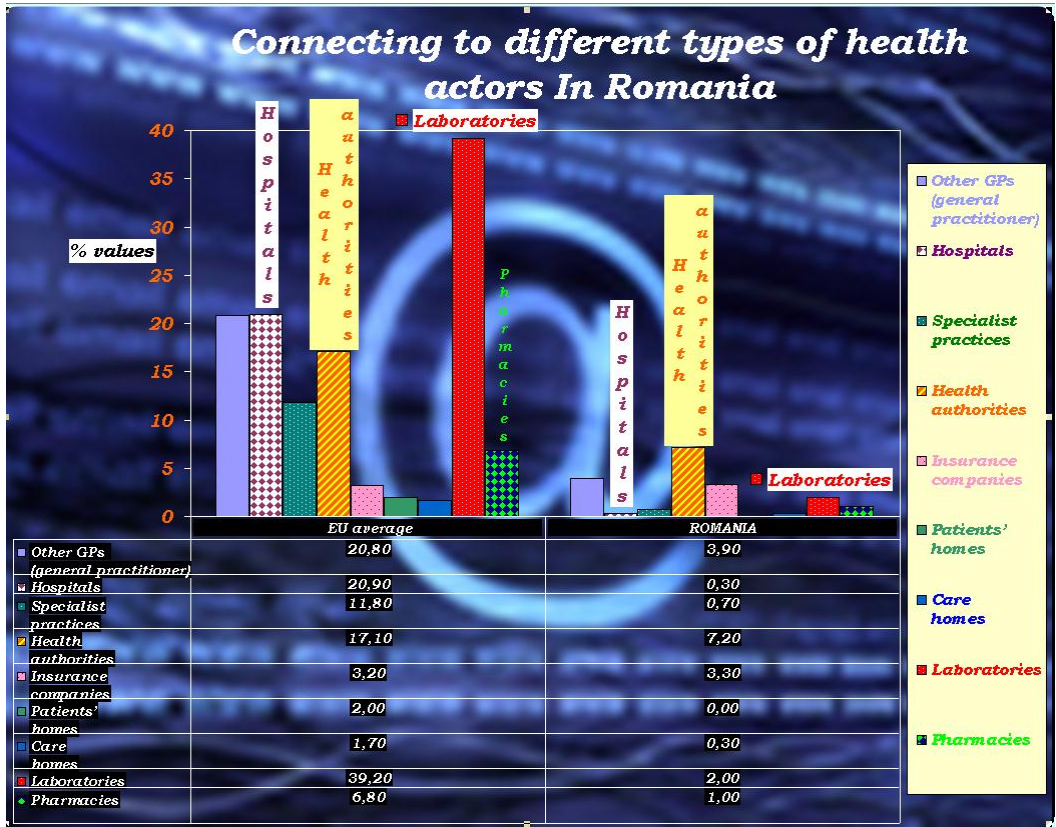


Figure no. 3 Connecting to different types of health actors

The quality of medical services provided to patients is measured in several assessment indicators: time required to provide the service, diversity of means by which the service is provided, the ease with which the service is identified and the confidence in using electronic information services.

6. CONCLUSIONS

Tomorrow's engineering needs not millions of people qualified, able to conduct operations in unison which repeat endlessly, but people who are able to cut a road through a new environment, ready to identify new relationship in a rapidly changing reality. Although many unanswered questions will not be solved within a period more or less long, I recommend immediate action to inform all courts involved and to ensure that they act accordingly. Man can not know what he is unless he opens to communication and knowledge. If human communication processes are essential in developing nations, coordination outside information and communications technologies is not possible, communication and conscious co-existing of individuals. This technology continues to transform society and contribute to shaping human evolution towards greater complexity. Only global collaboration of organizations interested in increasing the quality of information, involving the creation of standards for providing health information on the net can create a communication infrastructure to extract and evaluate health information on the Internet provided to the public in the real world.

For health workers a certain number of online continuing medical education hours should be required each year, as a condition for maintaining medical practice license. In Romania, few doctors talk on the phone with their patients, very few uses the e-mail and almost none uses video chats in order to provide a diagnostic.

In Romania as a form of information and documentation, physicians opt for magazines, and very few for Web sites, databases, electronic libraries and catalogs, and accreditation, recommendation and approval of health information system sites will provide trust Medical Information to the consumer. Accessibility to online health services through open systems enables communication between doctors and patients, so that teams of trained medical providers online will help improve patient outcomes at a lower cost.

REFERENCES

1. Anastasiou, A., Quarrie, P., Boulos, M.K. Personal Location Aware Health Care In Europe--The Challenges From Prototype To Product: The CAALYX Experience, *Ehealth International Journal*, Vol. 5, Issue 1, pp. 18-29, 2009, <http://www.ehealthinternational.org/vol5num1/Vol5Num1p18.pdf>
2. Bălan, A. Health services management in the Information Society, p. 41, Editura Universitaria, Craiova, ISBN 978-606-510-723-6, 2009.
3. Berger, R. Arts and Communication, București, Publisher Meridiane, p. 29, 1978.
4. Cameron, C., Deming, S., Notzon, B., Cantor, S., Broglio, K., Pagel, W. Scientific Writing Training for Academic Physicians of Diverse Language Backgrounds, *Academic Medicine*, Vol. 84, Issue 4, pp 505-510, April 2009.
5. Chassin, M.R., Galvin, R.W., National Roundtable on Health Care Quality The Journal of the American Medical Association, Vol. 280, No. 11, 16 September, 1998.
6. CDC/National Center for Health Statistics Majority of U.S. Adults Use Internet to Search for Health Information", http://www.hin.com/sw/Hindustry_MC20810_health_information_technology_United_States_Internet_PHR_ehealth.html, 2 February 2010.
7. European Communities, Information Society & Media DG Connected Health: Quality and Safety for European Citizens, Luxembourg: Office of Official Publications of the European Communities, 2006.
8. Eysenbach, G., Yihune, G., Lampe, K., Cross, P., Brickley, D. Quality Management, Certification and Rating of Health Information on the Net with MedCERTAIN: Using a medPICS/RDF/XML metadata structure for implementing eHealth ethics and creating trust globally, *Journal of Medical Internet Research*, Articles from Proceedings of the AMIA Symposium are provided here courtesy of American Medical Informatics Association, Vol. 2 (suppl2):e1, URL: <http://www.jmir.org/2000/suppl2/e1/>, 2000.
9. Eysenbach, G., Yihune, G., Lampe, K., Cross, P., Brickley, D. MedCERTAIN: quality management, certification and rating of health information on the Net, *Proceedings / AMIA, Annual Symposium*. AMIA, Publisher: Hanley & Belfus, ISSN: 1531-605X (Print), American Medical

- Informatics Associations, Vol. 230, Issue 4, 2000.
10. Eysenbach, G., Diepgen, T.L. Patients looking for information on the Internet and seeking teleadvice: motivation, expectations, and misconceptions as expressed in e-mails sent to physicians, Archives of Dermatology, Vol. 135, No. 2, pp. 151-156, February 1999, online <http://archderm.ama-assn.org/cgi/content/full/135/2/151>
 11. Eysenbach, G., Diepgen, T.L. Towards quality management of medical information on the internet: evaluation, labelling, and filtering of information, British Medical Journal, Vol. 317, pp. 1496-1502, 28 November 1998.
 12. European Commission, Information Society and Media Directorate General Pilot on eHealth Indicators. Benchmarking ICT use among General Practitioners in Europe - Final Report, April 2008.
 13. Fernandez, J. E-Health Europe: Finding reliable health information online, 13 February 2008, <http://www.ehealththeurope.net>
 14. Gerber, B.S., Eiser, A.R. The Patient-Physician Relationship in the Internet Age: Future Prospects and the Research Agenda, Journal of Medical Internet Research, Vol. 3, Issue 2, pp: e15, April–June 2001.
 15. Glouberman, S. Towards a New Perspective on Health Policy, Renouf Publishing, ISBN: 1-896703-52-61, <http://www.cprn.com/en/doc.cfm?doc=133#>, 2001.
 16. Godlee, F., Pakenham-Walsh, N., Ncayiyana D., Cohen B., Packer A. Can we achieve health information for all by 2015?, The Journal-Lancet, Vol. 364, Issue 9430, Elsevier, pp. 295-300, 17-23 July 2004.
 17. Horvath, J. Chronic Conditions in the U.S.: Implications for Service Delivery and Financing, Slide Presentation at Web-Assisted Audioconference, "Causes of and Potential Solutions to the High Cost of Health Care.", Agency for Healthcare Research and Quality, Rockville, <http://www.ahrq.gov/news/ulp/hicosttele/sess2/horvathtxt.htm>, 10 october 2003.
 18. Kaihara, S. Realisation of the computerised patient record; relevance and unsolved problems, International Journal of Medical Informatics, Vol. 49, Issue 1, Publisher: Elsevier Science Ireland Ltd., Place of Publication: Ireland, pp. 1-8, March 1998.
 19. Kolatkar, A., Kennedy, K., Halabuk, D., Kunken, J., Marrinucci, D., Bethel, K., Guzman, R., Huckaby, T., Kuhn, P. C-ME: A 3D Community-Based, Real-Time Collaboration Tool for Scientific Research and Trening, Journal PLoS ONE, Vol. 3, Issue 2, pp. e1621, Published online 20 February 2008.
 20. Kreps, G.L., Neuhauser, L. New directions in eHealth communication: opportunities and challenges, Journal Patient education and counseling, Volume 78, Issue 3, Pages 329-336, published online 04 March 2010.
 21. Lambert, B.L., Street, R.L., Cegala, D.J., Smith, D.H., Kurtz, S., Schofield, T. Provider-Patient Communication, Patient-Centered Care, and the Mangle of Practice, Health Communication, Vol. 9, Issue 1, Publisher: Routledge, pp. 27 – 43, January 1997.
 22. Mantovani, F.,Castelnuovo, G., Gaggioli, A., Riva, G. Virtual Reality Training for Health-Care Professionals, CyberPsychology & Behavior, Mary Ann Liebert Inc., Vol.

- 6, Issue 4, pp. 389-395, August 2003.
23. Mayor, F. Future Memories, București, Publisher Romanian Cultural Foundation, p. 80-81, 1995.
 24. MCSI eRomania V1 – Iunie, 2009, www.romania.gov.ro
 25. National Institute of Statistics Romanian Statistical Yearbook - Health, <http://www.insse.ro/cms/files/pdf/ro/cap7.pdf>, 2008.
 26. Ortiz, E., Clancy, C.M. Use of Information Technology to Improve the Quality of Health Care in the United States, Health Services Research, Vol. 38, Issue 2, pp. xi-xxii, April 2003.
 27. Reid, P., Compton, W.D., Grossman, J.H., Fanjiang, G. Building a better delivery system: a new engineering/health care partnership, The National Academies Press, Washington DC, 2005.
 28. Rutt, T.E. Work of IEEE P1157 Medical Data Interchange committee, International Journal of clinical monitoring and computing, Vol. 6 Issue 1, Place of Publication: Netherlands, Publisher: Kluwer Academic, pp. 45-57, January 1989.
 29. Sherwill-Navarro, P.J., Wallace, A.L. Research on the value of medical library services: does it make an impact in the health care literature?, Journal of the Medical Library Association: JMLA Links, ISSN: 1558-9439 (Electronic), Vol. 92, Issue 1, Publisher: Medical Library Association, pp. 34-45, January 2004.
 30. Tatsumi, H., Mitani, H., Haruki, Y., Ogushi, Y. Internet Medical Usage in Japan: Current Situation and Issues, Journal of Medical Internet Research, Vol. 3, Issue 1, pp. e12, Published online March 2001.
 31. WHO The World Health Report 2000—Health Systems: Improving Performance, Geneva, 2000.
 32. WHO The World Health Report 2006, <http://www.who.int/whr/2006/en/>
 33. WHO The world health report 2008 : primary health care now more than ever, ISBN 978 92 4 156373 4, <http://www.who.int/whr/2008/en/index.html>.
 34. Wilson, L.S., Stevenson, D.R., Cregan, P. Telehealth on advanced networks, Telemedicine Journal and E-Health: the official journal of the American Telemedicine Association, Vol. 16, Issue 1, January/February 2010.
 35. Wood, S. Health care resources on the internet: a guide for librarians and health, The Howorth Information Press, New York, 2000, online http://www.amazon.com/Health-Care-Resources-Internet-Librarians/dp/0789006324#reader_0789006324.
 36. *** Romanians use the Internet less, according to a European Commission report ”, 22 aprilie 2008. <http://www.underclick.ro/articol-865-utilizare-internet-%7C-raport-comisia-europeana.html>,