Telemedicine Keeping the Doctor Away

Posted on

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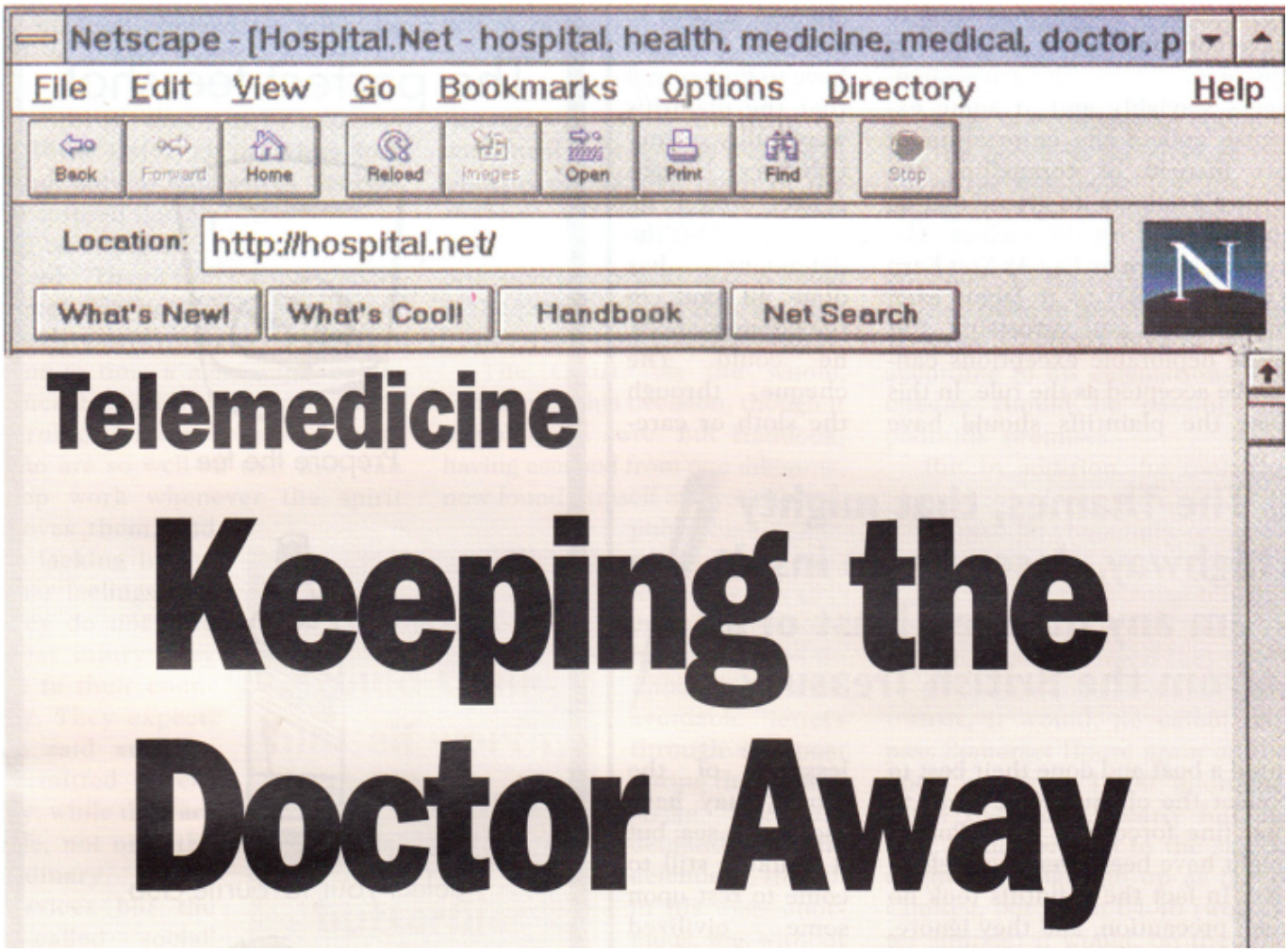


I remember reading a Russian short story called ‘A childbirth at Sakhalin island’ a few years ago. I can recollect neither the author nor the name of the anthology in which it appeared, but its plot had a distinct peculiarity, which one will find hard to forget. The story is based on, as the name itself suggests, a childbirth in the Russian island named ‘Sakhalin.’ This island is a small one with very few inhabitants, so only one general physician is there to look after the entire population. However, on a stormy night, when it becomes impossible to travel in a boat to the mainland, a pregnant lady starts having labor pains. It is not going to be a natural child birth. A cesarian operation needs to be performed. Unfortunately, the physician does not know how to perform one. Desperately, he tries to get a more experienced colleague to the phone. With a storm going on, it turns out to be a difficult exercise, but finally he makes contact with a surgeon. The story is all about. how he operated the lady, on the instructions given by the surgeon over the phone and successfully delivered another human being to the world.

I do not know whether this story is based on a true incident, but if so, there is nothing unusual about it. It is an early and very primitive example of ‘telemedicine.’ This sort of telemedicine, which was completely based on the Plain Old Telephone Systems (POTS) had been there ever since the POTS became commonplace. Some physicians in USA, it seems, had practiced it systematically. for more than half a century. Nevertheless, when we talk. about telemedicine today, obviously we do not mean such prehistoric techniques.

Some refer to telemedicine as ‘futuristic’ or ‘experimental.’ Not necessarily. Telemedicine has developed dramatically, subsequent to advancements in the digital communication systems. Novel developments in the fields of video conferencing, virtual reality, satellite communications etc., have changed the face of telemedicine beyond recognition. Though it is extremely difficult for us to imagine the day we are going to hear about ‘remote’ surgeons performing operations on patients, these techniques might be less than ten or twenty years away.

As far as the business world is concerned, telemedicine still remains an unexplored area. How ever, everyday the competition grows. A large number of health care providers, data communication service providers and software developers are in search of the new openings coming this way. You can see for yourself, how strenuously they struggle to exploit the situation by promoting their services through the world wide web. I used two popular search engines ‘Yahoo’ and ‘Infoseek.’ Yahoo presents the site addresses of twenty-nine telemedicine service providers, while Infoseek provides a list containing one hundred and seventy-seven names. GTE yellow pages, which you can access through the search engine,” ‘Lycos’ too gives a still higher number of sites, but they are categorized according to the states, for convenience. So you cannot get an idea about the grand total.

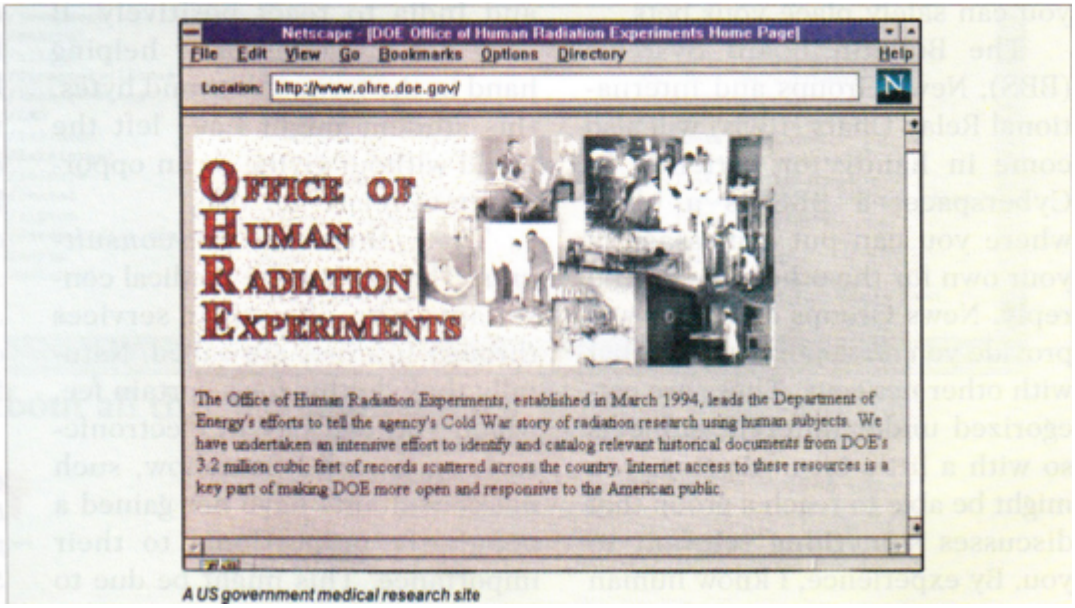
What had made telemedicine so popular is apparent. In the contemporary world, it is not always easy to arrange face-to-face doctor- patient meetings. A patient might encounter difficulties in traveling long distances to meet a doctor or, on the other hand a doctor may find it impossible to travel due to his heavy schedule. Thus a proper communication channel between a patient with his doctor and clinician can be beneficial for all the parties. True, it does involve considerable expenditure, but in most cases that amount will be less than the amount the patient has to spend if one were to opt for the alternative.

My knowledge in subjects related to health is next to nothing, so I had to surf the

Internet for some time to find out the background information I required. The world wide web, which is said to be the ideal place to find out information on almost anything, did not displease me.

The information I gathered clearly points that telemedicine is gradually emerging as a collection of practical applications; some of them have become surprisingly commonplace while some others are still in their infancy. On the more commonplace side, for example, there is Teleradiology. In fact, it is the most widely used and accepted application in telemedicine today in spite of many years worth of heated arguments over issues like reliability and image resolution. Teleradiology had first appeared in rural settings where full-time radiologists were not available, but now many medical centers have facilities to send and receive test results by wire.

The Internet also gets some real credit. It has provided a common communication platform for doctors, patients, health care providers and hospitals. In a way, it has also ravaged the barrier between medical professionals and the rest of us.



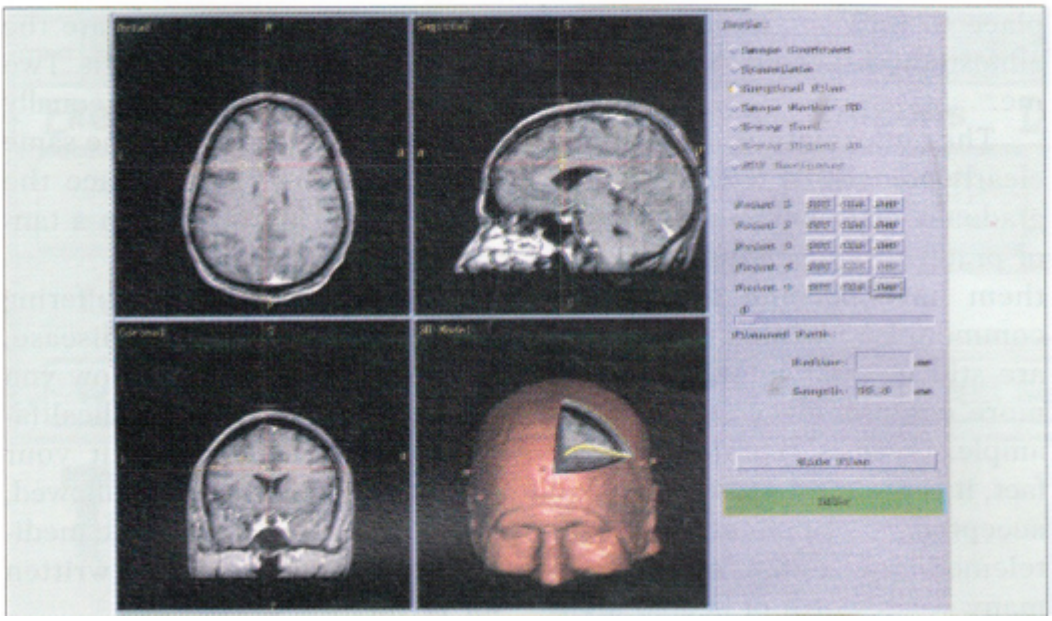
A US government medical research site

In the pre-Internet era, if one felt that one’s physician did not pay enough attention to the case or if one wanted to know more information about the condition, there was no option but to approach another specialist for a second opinion. Unfortunately, in some cases this can intricate the situation instead of solving it. Two different opinions from two equally reputed specialists about the same patient, can obviously place the patient and the relatives in a tangled position.

Just because you are suffering from a rare and serious disease, the authorities will not allow you to use the library of a medical faculty to learn more about your condition. Even if you are allowed, it will be of no use since the medical text books are rarely written for laymen.

So what can the Internet do for you? Plenty. However, only the Internauts (those who navigate the Internet with skill) will be able to get maximum gain. It might not be an easy task for a newbie because you should have an idea as to where to search for your data. Many search engines have medical and health categories. (Yahoo has around hundred categories varying from Acupuncture to Urology). They are the perfect places to start searching. A word of caution here – there is no guarantee that the information you retrieve via the Internet is correct. You have to be on your guard.

Dr Mala Bhargava, a psychologist working for All India Institute of Medical Sciences (AIMS), Delhi, suggests several ways to avoid medical quacks on the net, in the Indian computer magazine,



PCQuest. One such way is to depend only on the web sites which you know are published by reputed medical organizations. Hospital.net is one such site. This is an information network linking doctors, hospitals, patients and families. It intends to build collaborative environments for scientific research and improved patient care. Hospital.net provides access to information on more than hundred hospitals

worldwide too. If the future projects of it go according to plans, in the near future, relatives may be able to query hospital systems from any. where in the world to get instant updates on the condition of a patient. The Medical Web, the Physicians Online, the US National Library of Medicine, the Healthnet and the Interactive Patients are several other web sites on which you can safely place your bets.

The Bulletin Board Systems (BBS), News Groups and International Relay Chats (IRCs) will also come in handy for patients. In Cyberspace, a BBS is a place where you can put a message of your own for the others to see and reply. News Groups and IRCS will provide you an opportunity to chat with other netizens. These are categorized under different subjects so with a little bit of digging, you might be able to reach a group that discusses something relevant to you. By experience, I know human beings are more understanding, courteous and helpful on the net than in real life. It is quite possible that a specialist may agree to provide you with the necessary information free of charge, simply because both of you belong to the same community.

If you are still not convinced about the possibility of such an event taking place, March 1997 is sue of the ‘Readers Digest’ presents a real life case study. It is the story of Zhu Ling. Zhuj, a 21-year-old Chinese undergraduate, was suffering from a chronic disease, which none of the Chinese doctors could diagnose exactly. Her life was saved entirely due to the help received via the Internet. An electronic mail message put to the net by Zhu’s friends was the only initiation required for several medial specialists from USA, Germany and India to react positively. If they did not offer their helping hand in the form of bits and bytes, this student might have left the world without giving us an opportunity to relate her tale.

Then, there are net-consultants. That is how the medical consultants who offer their services through Internet are called. Naturally they do this for a certain fee, which you can pay in electronic- cash or ‘e-cash.’ Somehow, such net-consultants have not gained a popularity proportional to their importance. This might be due to conspicuous reasons. Even a nerd, let alone the rest of us, will feel uncomfortable in getting a prescription from a doctor without a face- to-face meeting. The other difficulties include the problems involved in making the payments in e-cash, obtaining various medical reports required without the supervision of a doctor and receiving the treatments. On the other hand, such a consultancy service can be very productive if a patient is assisted by a general physician at the receiving end. Then it will not be necessary for the patient to meet a specialist. The diagnosis can be made and the treatment can be given by the normal physician himself, with the

specialist guiding him.

For any telemedicine system to work perfectly, a good telecommunication infrastructure is a prerequisite. Here ‘good’ means two things: reliability and the speed. Ironically, these are the two things the telecommunications systems in the developing countries lack most. Perhaps, our case is slightly better than that of most of our close neighbors. I do not wish to elabo rate on this more for two reasons. One, because I have discussed the situation in detail in the previous articles and two, with the arrival of new communication technologies like the Wireless In Local Loop (WILL), Very Small Aperture Terminal (VSAT), Integrated System Digital Networks (ISDN) and Asynchronous Transfer Mode (ATM) the future most certainly appears brighter. The advancements of these technologies will solve many of the bandwidth and reliability bottlenecks we face today and you can practically expect a German or American surgeon to remove your appendix by stretching his dexterous hands along the net, in the near future.

Chanuka Wattegama is an electronic engineer and a regular contributor to the business and IT pages of local newspapers. He received the award for the ‘Best Science writer’ in the island in 1988.