

E HEALTH: THE INTERNET AS A HEALTH RESOURCE

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ABSTRACT

BACKGROUND: Technology is growing and there is internet use though expensive in Africa and other developing countries is a good resource tool for medical personnel. As it aids transfer of information between individuals no matter the distance.

DISCUSSION: There are numerous advantages of the internet use in health care with some adverse effects which usually come from its usually and inability to sieve information that may be harmful as some health information and resources available on the internet are not been scrutinised therefore may be giving wrong and false information to the populace.

CONCLUSION: A machinery should be put in place for scrutinizes all health information posted on the internet as some patients may develop complication or even die unnoticed by purchasing drugs online or using online prescription.

INTRODUCTION

The internet is a massive collection of networks connecting millions of computers, databases and software programs was introduced for public use in the early 1990s¹. The internet is defined as a massive collection of network that connects millions of computers soft wares programs, databases and files. The medical information on the internet is stored in specific sites called databases, accessed through many search engines. Thus, it could better serve the many roles of the doctors (clinician, educator, researcher, manager and life long learner)¹. The internet is a highly complex network that interconnects millions of computers and the world. It allows the rapid transfer of information from one computer to another. This information can take the form of textual data, graphic images, digitalized sound and video and other electronic data². Today millions of computers around the world are connected to the internet and the

number grows exponentially each year². Physicians of today should become acquainted with online technology to prepare themselves for the practice of medicine in the future.

This includes knowing the positive aspects of the technology as well as its potential dangers and pitfalls combined with a healthy scepticism, the internet can be a truly powerful tool for keeping up with the rapid advances in medicine, enabling doctors to provide the best possible care to patient². Although the internet has facilitated the transfer of information into the physicians' office, the use of these vast amounts of available information is still in its infancy³. Health information is one of the most frequently sought topics on the internet⁴. Public use of the internet for health information is increased but its effect on health is unclear. Several studies have reported an increasing proportion of the public using the internet for health information. Lack of access to the internet may be a barrier to a wider use of online sources of health information. Internet used and web based medical information is widely popular among health care professional⁵.

The internet promises to touch every aspect of a physician professional life from patient relations to access to clinical studies, from billing to patients records from marketing to email web based electronic medical records, services that electronically connect doctors with health plans, hospitals and other providers and online supply purchasing⁶. The information technology revolution is being described as the most important

development in the history of humankind since the industrial revolution. The computer, invented initially to process information, slowly grew into a storehouse of information. Health care is an area that generates a wealth of information in the form of journals, reports, conference proceedings etc. it is difficult for a health care professional to keep himself abreast of all the developments taking place in his field of interest despite the phenomenal growth of medical journals⁷. At present, the internet consists of over 20 million computers worldwide and is continuing to grow at a rapid rate. Along with the growth of the internet, higher speed access methods are offering a range of new services such as real-time video and voice communications. Medical education, teaching and research as well as clinical practice will be affected in numerous different ways by these advances⁸.

Advances in telecommunications technology in the last decade have fostered the development of computer networks that allows access to vast amounts of information and services of the many computer networks that have been developed, the most prominent is the internet. Most large medical centres have publicly accessible information and some large organizations⁹. Health information is one of the most frequently sought topics on the internet⁴. Electronic storage of and access to medical data is becoming increasingly common. Advances in computer technology and telecommunications have made it possible to store vast amounts of information in databases and transmit this information rapidly to any place on the globe. The internet is an unprecedented information resource. There are a large number of medical resources on the internet free. Of these sites including electronic journals, online databases and search services, teaching materials and methods for obtaining online continuing medical education credits¹⁰.

IMPORTANCE OF THE INTERNET TO THE PHYSICIAN

The importance of the internet to medical practitioners and other health care staff and paramedics is enormous. Each day, the number of online medical related documents grows and many can be accessed via the internet. This powerful free flow of information holds the promise of improving the standard of care in many ways important hazards, however this rapidly growing body of largely unorganized information². During recent years, the internet has evolved into the largely computer networks in the world, allowing access to vast amounts of information and services.

Medical information is increasing available to both patients and professionals. Biomedical resources are becoming available online to assist in research, clinical medicine, and education. The internet has always provided useful resources to doctors various disciplines, implemented at various academic departments and

national organizations or by specialists or specific medical specialists offering technical, scientific, and biomedical information¹¹. The benefits of using the internet to medical practitioners are growing rapidly as the internet becomes easier to use and ever more biomedical resources available on the net. The internet is the largest computer network in the world that connects millions of computer in a web and makes almost immediate communication possible, irrespective of the location of its users.

There are various ways to be connected with the internet and once connected it is easy to take advantage from this space of unlimited potentials. Several internet applications are available today that will bring more information to the doctors' desk¹². The internet is a very powerful tool. The national library of medicine has put Medline online for free¹³, which can be used for educational purposes, researches, literature reviews and to update general knowledge. The internet has had a profound impact on the practice of medicine and offers opportunities for improving the delivery and accessibility of health care. Studies show a growing number of physicians are utilizing the internet to some degree in their practices and patients want to receive certain medical services online¹⁴. The importance of the internet and some new generation services of the web are exponentially growing¹⁵.

Medical practitioners are encouraged in medical literature to use the internet and the web as sources of information and as means of access to an increasingly rich and useful source of clinical information and to promote the use of evidence based sources. Physicians are expected to make effective utilization of the internet because of their focus on research, training and clinical services. However, despite the phenomenal growth in the utilization of the internet over the years, evidence persists among practising physicians¹⁶. The use of the internet by medical practitioners is increasing both in developing and developed countries. The resources available on the World Wide Web can be developed countries. The resources available on the World Wide Web can be deployed as a very useful "information for health" tool bridging the information gap and reducing the number of accidents and risks due to misuse or improper use of drugs⁷.

CONTINUOUS MEDICAL EDUCATION

The internet is important to the physician in continuous medical education. Several hospital, medical organizations, medical schools have web sites that can be accessed with no charge. Some of these sites contain materials and books that can be downloaded or ordered for to improve the medical practice. The widespread availability of medical information on the internet and its effects on health care has exponentially increased over the past decade⁵. In the practice of evidenced based medical

physicians need to sift through increase quantities of information. The internet has been proposed as a possible tool to facilitate access to this information³. Several resource available on the world wide web include educational material, audiology sites, outcomes of researchers, discussion lists, research laboratories, publications, medical libraries, news and medical conferences, organizations, academic departments, medical and surgical equipment and suppliers and several miscellaneous sites of interest to physicians¹¹. The internet is a huge source of details on individual diseases no matter how obscure⁷.

Research and Scientific Studies

Internet use by physicians has grown from 89% in 2001 to 96% in 2002. Over 90% of physicians use the internet to research clinical issues, making it the most common professional internet activity for physician⁵. Several studies in the past-explored scientific platforms on patients' use of the internet for issues related to diseases and health care has exponentially increased over the past decade⁵. Internet utilization was mainly for research and for communicating via email by the need to get information for routine patient care and to update medical knowledge. Considerable attention has recently been focused on physicians' utilization of available medical databases on the internet. Physician worldwide in appreciation of the important role of the online resources in clinical decision making and medical research output has increased.

The frequency and duration of utilization of the internet have increased over the years. The utilization of internet based medical databases by family physicians in Nigeria is relatively high. Access and utilization of evidence based databases like the Hinari was significant in a study by Shabi IN and Shabi ON among family physicians in Nigeria. Majority if Nigerian family physicians affirmed that the online resources have significantly impacted on their clinical practice and research output¹⁶. One can search Medline free on the web fast and easy to use free Medline sites include NCBI, PubMed, Medline, Medscape Medline, Health World Medline, and physicians' online Medline².

Many medical journals including New England Journal of Medicine, Archives of Internal Medicine, Journal of the American Medical Journal, Annals of Internal Medicine, the Lancet and British Medical Journal have tables of contents and each article abstract available online for free². Some journals have additional features². Technology will undoubtedly continue to transform the ways in which we communicate and think about medical information if current trends continue; the practice of medicine in the 21st century will increasingly involve the flow of electronic information over intrahospital or worldwide computer networks². Physicians can search by authors name or other keywords¹³. One of the great advantages of the internet is its ease of use. The internet has been a

breakthrough for professional medical training. The scientific community at large is increasingly using Medline databases¹⁷. Literature reviews can be done on databases⁷.

Communication

The internet is essential to the physician for communication via emails and webcam between professionals and doctor-patient. A physician can search for other physicians in the same specialty and communicate with them through the internet. In addition, many journal submissions are done online. This is an advantage in developing countries where snail mail is very slow and some mails get missing in transit. Many researchers in developing and low income countries though limited by limited resources can have some of the outcome of their researchers viewed online by other researchers in other parts of the world. The internet stands at the forefront of telecommunications in medicine⁵. A physician can take a film of a patient x-ray, computed tomography scan, or magnetic resonance imaging and be sent to a radiologist for reporting.

Many medical associations and organizations have their own home pages where one can obtain information on conference schedules, participate in discussion groups, and obtain the latest developments in the field². Health care professionals can get information on health workers, societies, hospitals, health care companies and on health care management and policy on an exploratory browsing of the net they can query a database⁷. For known references or retrieve an exhaustive list of relevant material to review the available literature or pull up a list of recent references to answer a particular question. Increasingly the internet will be used to convey more 'real time' information.

A physician practising in a remote village can now consult a specialist sitting any distance by providing him all images and data online thus eliminating the risk involved in and save the time and money spent on travel. Some health sites are becoming interactive⁷. Doctors can key in their patients symptoms into a computer and retrieve an instant diagnosis⁷. The internet has become a new platform for telemedicine. It is possible to speak (transmit voice) in real time on the internet. Audio conferencing programme work by digitalizing speech and then sending the digital data over the internet. The internet can thus help in arranging teleconferences at an affordable cost⁷.

IMPORTANCE OF THE INTERNET TO PATIENTS

Internet use for medical information is not only limited to the physician. Patients also utilise the internet to gather medical information about illnesses they or relatives are suffering from. Also treatment modalities available and adverse effect of the various drugs and treatment options available. A large amount of information on patient care, education, and support is available. Most health sites have traditionally been information based and

the internet is for example the best way to find a self-help group for any disease⁷. Patients have started to use the internet as a source of information on their illnesses and look in the web for a second option¹⁷. Health professionals are responding to the more "internet informed" patient⁴. The use of the internet as a source of material information has become increasingly popular a more patient "go online". By 2005, an estimated 88.5 million adults will use the internet to research health information and/or health related products to communicate with providers. Access to large amounts of medical information is valuable through an estimated 20,000 to 100,000 health related web sites¹⁸. Although information is available on the use of the internet for health information, few studies have specifically examined internet use among patient populations¹⁹. It is important that health professional acknowledgement patients search for knowledge, that they discuss the information offered by patients and guide them to reliable and accurate health websites⁴. Everyday more and more patients turn to the internet for medical advice along with physicians for medical updating, making it an important and emerging mass medium with rapid changes in both technology and the institutions of healthcare, online informatics is becoming more central to health care services³.

DISADVANTAGE OF THE INTERNET ON MEDICAL PRACTICE

Patients safety concerns especially as related to providing medical services via the internet, including prescribing and dispensing medication, have created complex regulatory challenges for state medical boards in protecting the public¹⁴. The lack of standards and peer review for documents published on the internet poses significant risks for those seeking to use the medical information online. Medical professionals need to become acquainted with internet technology to exploit its powers while remaining fully aware of its limitations and danger.

CONCLUSION

The use of the internet for medical information is increasing worldwide. The internet is useful both to the medical professionals and to the patient. Control and regulatory measures should be put in place to regulate medical information place on the internet as some of them may be misleading especially to the patient usually purchasing of drugs online and issuance of prescription online should be strictly control because adverse effects of such mediations may result.

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