

A Study on Role of ICT in Medical Sector

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ABSTRACT

Information and communication technology is a very broad terms. It refers to various gadgets that aid in communication such as mobile phones, radios and satellite communication. The term is also used to refer to various means of direct communication such as video conferencing. In short, information and communication technology, better known in its abbreviated form as ICT, is a tool that helps in improving communication among businesses and commerce activities in different parts of the world. In fact, ICT is so commonly used in commerce field to communicate various financial matters such as acceptance of money, producing receipts and transferring funds that ICT and ecommerce have become almost synonymous terms. ICT creates inroads for better accessibility of all sorts of information for people from all over the world.

1. HOW DOES ICT HELP IN IMPROVING MEDICAL SCIENCE AND HEALTH CARE?

- It is an established fact that information and communication technologies are the backbone of the current information system. Their scope is also extremely vast. Health care facilities have been largely benefited by the evolvement of ICT. Owing to information and communication technologies, the entire world has become a small global village with regard to medical and health care. Further, even within a particular state or country, data can easily be transmitted from one place to another within no time at all. This technology helps doctors, hospitals, the general public and all other medical care providers.
- Pharmaceutical industry is the industry that enjoys the biggest benefits of ICT. All the medical data available helps in assessing the medicine requirements, makes them aware of similar research being carried out in different parts of the world and in letting the world know about their developments. To put it in a nutshell, information and communication technology has contributed to a large extent in improving the quality of health care, as a whole, all over the world.
- ICT has made e-health possible. This is the concept in which doctors get better access to patient information even if they live states apart. They also get a faster access to medical records, case studies and laboratory results.
- The technology also helps in better communication between doctors and pharmacists. Patients can also be largely benefited as in becoming more self reliant and responsible for their health. Patients who suffer with chronic and serious ailments such as heart conditions can regularly monitor their health parameters and convey the results to doctors on a regular basis so that the doctor is never out of touch with such patients.

- In other words, ICT lets patients and doctors get on with their lives without the patient having to visit the doctor often but still keeping track of the latest developments in patients' health..

ICT FOR HEALTH

Information and communications technologies (ICTs) can play a critical role in improving health care for individuals and communities. By providing new and more efficient ways of accessing, communicating, and storing information, ICTs can help bridge the information divides that have emerged in the health sector in developing countries—between health professionals and the communities they serve and between the producers of health research and the practitioners who need it. Through the development of databases and other applications, ICTs also provide the capacity to improve health system efficiencies and prevent medical errors.

- A physician in a remote rural hospital is initially unable to diagnose a patient with a complex array of symptoms. However, using his MEDLINE search training and the hospital's Internet connection, he is able to diagnose and successfully treat the patient for a tropical disease the patient picked up while traveling abroad.
- Another physician looks at her hospital's prescription trends using the newly created electronic health record system and finds that other physicians are not using the post-surgical antibiotic that is shown to be most effective according to the current international guidelines. She speaks to the administration about advocating a switch in antibiotics that will improve patient recovery outcomes and thereby save the hospital money.
- A neonatologist, who transmits CT-scans and other medical images by e-mail to his network of personal contacts around the world to help in diagnosing and treating premature newborns, estimates that teleconsultations have helped him to save numerous lives during the past year.
- A young woman, too embarrassed to ask her physician about reproductive health issues and the risks of sexually transmitted infections, anonymously contacts physicians at a woman's health clinic, where they've set up e-mail accounts for staff in order to support these types of physician-patient interactions

2. ROLE OF ICT IN HEALTH SECTOR GLOBALIZATION ERA

Globalization is about the transformation of traditional systems, it is about innovations and competition in a global market, at intensified pace, facilitated very significantly by or through the use of Information and Communication Technologies (ICT). Several authors have argued that globalisation has been associated with a number of dialectical effects: On the one hand, globalisation has come from nowhere to be almost everywhere and this represents the thesis of the "global village" This thesis argues for homogenization of social life across the entire world. The other dialectical effect of globalisation concerns the knowledge economy and who has access to it. Wealth creation in the global village has now shifted from resource based to knowledge based. The global economy is increasingly dependent on brainpower and our ability to process knowledge. Goods and services of our brainpower will be marketed in an increasingly competitive global

village. However the dialectical effect here concerns who has access to the knowledge base and what possibilities exist to apply it to their problems. Communities and nations with historical disadvantages run the risk of further marginalization.

The 21st Century is the climax of revolution that of biotechnology and ICT. Many developing countries have embarked on strategies to utilize Information Communication and Technology (ICT) in generating and communication of data from one level to another. However, many of these countries have managed to modernize the Health Management Information System (HMIS) only at

the higher levels (national and provincial) because they do not possess technological, political and legal infrastructure to adequately respond to and manage ICT revolution for their benefit. The poor communication infrastructure in these countries has undermined efforts to spread Collaboration among developing countries.

Globalisation has brought about some conducive environment for sharing experience and collaboration that poor countries can take advantage of the fact that most of the African countries share similar problems in the use of ICT for the improvement of health information systems. Poor countries therefore need to develop policies and strategies that facilitate cooperation among them and need not compete in attracting international support for **ICT** to the rural areas where majority of the people resides.

WHY “ICT FOR HEALTH”?

As an effect of the ageing of the population in general, the number of citizens with chronic diseases is increasing, especially among elderly people throughout the Baltic Sea Region. This is a great challenge for both the well-being of the citizens and the public health care systems. Health care solutions provided by information and communication technology (ICT), also known as E -Health, offer one solution to this problem.

ENSURING TOP-QUALITY HEALTH

E-Health technologies empower patients to take more responsibility for their own health and quality of life, and they lead to better cost-efficiency in the health sector. The use of e-Health technologies allows a mutually beneficial collaboration and involvement of patients and medical professionals in the prevention and treatment of chronic diseases..

BETTER ACCEPTANCE OF ICT

Although basic E- health technology is widely available on the market, the absorption of new knowledge and acceptance to use ICT in health care is varying remarkably among citizens and medical professionals. The wider use of ICT in healthcare is a basic condition for the development, implementation and further generation of innovative health care technologies. Therefore social capacity, knowledge and acceptance to utilize in a better way. Even if everyone were to have access to basic IC technology, such as mobile phones and personal computers, the use of ICT in health care is not self-evident. The acceptance of eHealth is varying among both citizens and

medical professionals. Without general acceptance of eHealth, the continued generation of innovative health care technologies is not possible. Thus the overall objective of the ICT for Health project is to persuade citizens with chronic diseases and medical professionals in the partner regions to more readily accept eHealth, and to have the capacity and knowledge to use eHealth technologies in prevention and treatment by the end of the period.

TRANSNATIONAL EXCHANGE OF EXPERIENCES

During the project period, the participating countries and regions will compare and transfer their national, regional and local strategies on improving the social capacity of citizens and medical professionals to utilise eHealth technologies for better prevention and treatment in the framework population.

INCREASED AWARENESS ON EHEALTH AMONG MEDICAL PROFESSIONALS

Number of medical professionals and citizens with chronic diseases will be educated and trained to use eHealth technologies in the prevention and treatment of chronic diseases through an educational pilot programme that will take place in some of the participating regions.

INCREASED PATIENT RESPONSIBILITY

In pilot programme regions, citizens with chronic heart disease apply self-monitoring technologies for secondary prevention and treatment processes in collaboration with medical professionals. In addition to the self monitoring process, the citizens will test a web-based eLearning tool that provides lifelong learning material about the prevention and treatment of chronic diseases.

IMPROVING THE MOBILITY

A number of citizens with chronic heart disease will participate in a pilot programmed to test a multi-lingual electronic health record. The relevant data will be self-recorded by the citizens with chronic diseases. An electronic health record improves the mobility of citizens with chronic diseases by making it easier and safer to travel through neighboring European countries on business.

TRANSNATIONAL COOPERATION ON HEALTH

There are many solutions available to the problems facing the project regions. Different countries and regions have different approaches to the project themes, and therefore a transnational dialogue is essential in sharing the experiences and learning from each other.

THREE PILOT PROGRAMMES

The project has three pilot implementations with the following main outputs: a comprehensive self-monitoring system for chronic heart failure patients educational content for better utilisation of eHealth by medical professionals and citizens, and a multi-lingual personal health portal enabling citizens with chronic diseases to electronically document their health data, thereby supporting their

mobility abroad . All developed standardised solutions will be transferred and offered to health care providers and the general public.

ROLE OF PRIVATE SECTOR

- Increasing penetration of computer and information communication technology to the lower level is of primary importance if poor countries are to bridge the internal digital divide in their countries.
- Participation of the private sector has been of crucial importance in the establishment, investment and development of ICT when compared to other stakeholders.
- With the current economic situation the private sector will continue to play major role in the efforts to spread ICT technology.
- But currently, most investors shy away from investing in rural areas due to unfavourable conditions such as low purchasing power and high investment costs in areas with lack or erratic supply of electricity and shortage of telephone lines.
- ICT revolution will continue to ignore and marginalise poor countries and its people. The profit motive in the private sector cannot work unless deliberate efforts are taken to create conducive environment for investing through the establishment of favourable Government policies and infrastructure.
- There is therefore a need for poor countries to exercise strong commitment and political will to bring in favourable conditions for investment in the rural areas by encouraging the development of low cost access technologies that address the need of the rural majority.
- Reducing taxation for solar-power equipment that can be used to run computers in remote areas where there is no electricity.

3. CONCLUSION



FIG NO 1

- Each of these demonstrates how information and communications technologies (ICTs) can play a critical role in improving health care for individuals and communities.
- By providing new and more efficient ways of accessing, communicating, and storing information, ICTs can help bridge the information divides that have emerged in the health sector in developing countries—between health professionals and the communities they serve and between the producers of health research and the practitioners who need it.
- Through the development of databases and other applications, ICTs also provide the capacity to improve health system efficiencies and prevent medical errors
- ICT for health (or e-health) programs are often considered to be expensive, time-consuming, risky, and otherwise distracting from the primary focus and intent of health sector programs.

- In some cases these criticisms may be valid. There are, however, a wide range of low-cost and sustainable ICT for health program components that can augment capacity and improve the overall effectiveness of health development programs.
- These are the types of programs that HealthConnect International is specialized to help deliver.