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Use of Internet in Healthcare

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Technology plays an important role in the healthcare industry, from the cutting edge medical imaging technology to the latest clinical laboratory diagnosis or even surgical robots, healthcare has been continuously embracing technology in its quest to provide quality patient care. The most significant impact so far is no doubt the integration of Internet technologies into the healthcare industry.

Impact of the Internet in Healthcare

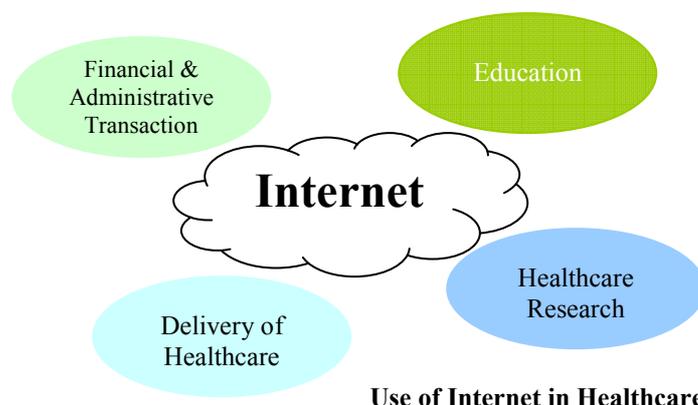
The rapid proliferation of the Internet has transformed many aspects of society and various industries by enabling the widespread sharing of information and the creation of new business relationships, enabling direct interaction with customers as opposed to having work through traditional communication channels.

Being a public, cooperative and self-sustaining facility, the Internet is utilized as a highly functional yet cost effective communication medium given that it spans across geographies, connecting billions of people worldwide almost instantly. The integration of the Internet in the business model of the banking and telecommunications industry has proven to be beneficial with the apparent increase in efficiency and effectiveness in delivering their services while lowering operating cost.

Traditionally, the Internet has been used principally as a tool for commerce and as a cost-effective communication medium by the healthcare industry; this is set to change as with the steady adoption of the technology is changing the traditional paradigm between doctors and patients as well as healthcare delivery at the patient level.

Technology Trends

The move towards the electronic hospital in Asia Pacific has fuel the need to transform traditional healthcare delivery, in addition to the use of email for communication purposes, healthcare facilities have utilized the Internet in the following areas;



1. Healthcare Research

With more than a billion users, the Internet connects not only researchers and healthcare providers all over the world, but also serves as an effective medium of research through academic literature, conducting online interviews and gathering feedback from special focus groups.

2. Education

The use of internet in the education industry is not something new; e-learning platform has been deployed successfully by training providers for adult education for more than a decade, since then, the target audience of e-learning has expanded to include professionals in the healthcare industry like doctors, nursing and paramedical sciences as part of mandatory continuing professional development without the hassle of traveling to a classroom.

In addition to professional education for medical professionals, there are also emerging online communities (e.g. self-help groups and information portals) created by patients to search for medical information and share their experiences. The ability to remain anonymous also gives courage for patients with embarrassing conditions (STD, Aids etc) to open up and contribute in the knowledge exchange.

3. Delivery of Healthcare via Internet

Telemedicine or the delivery of healthcare services at a distance has seen tremendous growth due to the advancement of Internet technologies. The penetration of broadband Internet technologies in remote or rural areas can mean access to healthcare where little had been available before, in situation where fast medical response time and specialty care are needed, the availability of telemedicine can mean the difference between life and death.

Many medical specialties can use the Internet to provide virtual consultations in areas with poor access to conventional services. The deployment of web base electronic records also ease the access to relevant patient records needed to make an accurate diagnosis. In addition, home care for the chronically ill and remote monitoring during pandemic outbreak can also benefit from the use of the Internet

4. Financial and Administrative Transaction

E-procurement or the use of the Internet as a medium for the procurement of goods and services is not new. E-procurement is fast gaining popularity in healthcare due to increasing pressure lower cost. Advantages of e-procurement include;

- The ability to submit tenders in real time, taking advantage of falling prices in the markets
- In markets for high-volume repeat purchases, such as surgical disposables market, orders can be placed only with suppliers that have stock for immediate dispatch.

Drivers and Barriers

The internet has the potential to improve the quality of care, expand access to it as well as reduce cost, in addition to providing low cost dissemination of information and remote delivery of health services, the Internet has empower patients in this era with knowledge necessary to help him partake in the decision making process of their own treatment.

While the benefits of integrating the Internet into healthcare practices are numerous, there are technical, organizational as well as policy issues that needs to be address

1. Security & Privacy Issues

Uncertainty over privacy and security regulations for using electronic health information can deter organizations from sharing health records or administrative and financial information over the internet.

Security breaches are not just a technical problem but also problems pertaining to the lack of laws on the detection of violations and enforcement of punishment. It is important to maintain the balance between actual and realistic needs, risks, costs and potential losses.

2. Physician's resistance to change

Implementation of new technology represents a change in workflows, hierarchy, authority and politics. In addition to issues pertaining to cost; there is also a tedious process of assessing the needs to determine the right solution is purchased.

Decision makers in healthcare facility are usually senior physicians whose interest lie in clinical aspect of healthcare and may resist changing existing systems that has been proven to work.

Impact in Asia

Telemedicine is one of the key areas in healthcare that benefited significantly from the Internet. The advancements in Internet technologies have enable the outsourcing of medical services with radiology leading the way.

Tele-radiology is relatively common adopted by healthcare facilities in the United States of America where medical images are read by radiologist residing in other states or overseas like India, Australia and even Switzerland. This practice holds several advantages including lower cost while enjoying a faster turnaround time due to the time zone differences as the images are read 'overnight'.

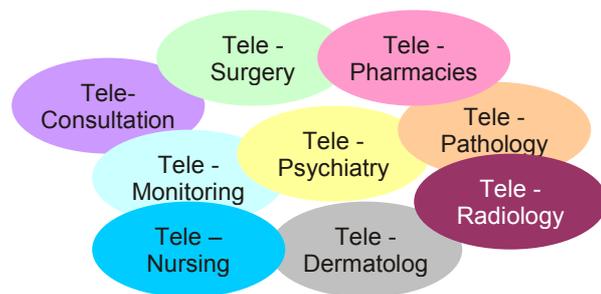
Similarly in Asia, the National Healthcare Group (NHG), a major public healthcare provider in Singapore started a tele-radiology project in early 2006 where X-rays are sent digitally to radiologists in India for reporting. Telemedicine initiatives are also blooming in India, Malaysia and Thailand and holds great potential once broadband Internet technologies penetrate countries like Indonesia, Vietnam and Cambodia.

Outsourcing of healthcare services is not restricted to just clinical disciplines like radiology, medical transcription services, billing services and medical coding services too holds great potential in utilizing the Internet as a medium for outsourcing.

However, despite the rapid adoption of Internet technologies in the healthcare industry, many uncertainties remain;

- Will the use of Internet in healthcare continue growing so quickly?
- Will new applications / technologies be developed over the next few years?

The fast growing demand of the Internet will definitely result in unrealistic expectations about its impact on the healthcare industry but its impact looks promising in Asia.



Various sub-discipline of Telemedicine

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