

COMMUNICATION TECHNOLOGY: OPPORTUNITIES & IMPLICATIONS FOR HEALTHCARE SECTOR

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ABSTRACT

Presently, there are a lot of changes and development in healthcare sector; the terminology electronic patient for people using email, text messaging, social media and other communication technologies to communicate to take advices to doctors. This short research will explores potential uses of technology to seek solution in healthcare for such challenges as modifying behaviors related to chronic condition, improving efficiency and decreasing costs. Effective use of communication technology by healthcare professionals can bring good change of patient-and public-centered health information and services. Now a day's communication technology is an effective tool to improve professional and personal knowledge, it's very general to use social sites, mobile health apps, and online appointments, taking guidance online or over calls regarding any disease or problem.

M-health now becomes a sector, which deals with online services related to health care sector. As we are too busy with our life style, we don't have time to see doctor all the time communication technology provides various options to deal with this situation. In my research I will discussion and find out the advantages of communication technology such as e-mail, social media, M-devices, texting messaging and electronic health records to enhance patient-provider e-communications in health sector. I will analyse the effectiveness of e-communication in healthcare sector.

KEYWORDS: Healthcare, Communication Technology, Social Media, M-Health.

INTRODUCTION

In this virtual world, health is also becoming dependent on communication technology, yes people do believe in social media apps, they takes advise from doctor's by online and on calls, which makes our day to day life easier. Electronic patient education and communications such as email, texting messaging and social media, are on rise in health sector today. In this virtual world there are potential uses of technology to seek

solutions in healthcare sector for such challenges as modifying behaviors related to chronic conditions, improving efficiency and decreasing costs of care. Health sector and health professionals are reluctant to accept and utilize information and communication technology and this concern is growing within health informatics research too.

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The eHealth patient portal allows patients web access to their health data and enables them to actively participate in their treatment. It allows patients to organize their own health record based on authorization rights. Help them to access their own data; they can easily interact with their physicians online whenever they feel like. Communication technology provides a large number of apps, website where patient can find out the solutions regarding their all kind of health issues.

Today Information communication technology not only means the call you make to relatives, friends or on the other side of the world or the quick email you send someone through your cell phone or desktop. Information communication technology is now something much more deeply woven into the fabric of our lives: it allows everyone to remotely connect to their well-wishers. Now a day the use of ICT is not only to make calls to relatives but to get connected, to learn, to teach, to receive all kind of knowledge and emotions. It was a time when people used to be dependent on black and white of hard copy but due to development in ICT things changed. Voice message, text, and video all kind of information is valid to believe in. Communication technology not only changed our day to day life but it has big impact in our health care sector too. There are around 73 m-health portals in India like- National Health portal India, AIIMS-WHO CC ENBC, mHealth Basics, HealthyYou HER, HealthyYou Card etc. Communication technology has changed whole picture of health sector by providing it more space and faith, not only in urban India but in rural world too.

EMERGING TECHNOLOGIES

MHEALTH IN INDIA

In a very simple way mHealth is related to mobile phone, which delivers healthcare services or information to public and the services available in global market is very satisfactory. There are

specific apps providing information related to one disease, and there are fitness apps too. Traditionally, healthcare systems are viewed as the iron triangle of access, quality and cost. In India mHealth becomes the most disruptive technology that can serve the iron triangle by increasing access, improving quality of medical services with low cost and without consultation fee. (India) 15

A primary research study by Wipro and Internet and mobile Association of India found good market of mHealth, it is creating consumer's demand. As per data provided by Wipro- one in four is using mHealth services, one in seven receiving care over the mobile phone, which is a big data. There are number of mHealth apps by government of India which provides all kind of information within.

1. National Health Portal India- This app is comes under Mobile Harvest acts and developed by National Health Portal of Government of India (GOI), which connects semi-literate people, more helpful to rural population of India.
2. Safe Pregnancy and Birth: This app contains a wealth of information on:
 - How to stay healthy during pregnancy
 - How to recognize danger signs during pregnancy, birth and after birth
 - What to do when a danger sign arises
 - When to refer a woman to emergency care
 - Instructions for community health workers with step-by step explanations such as "How to take blood pressure", "How to treat someone in shock", "How to stop bleeding" (India) 15
3. mTikka: This is an electronic, cloud-based system for infant registration, vaccination record keeping, incentivization, and survey of vaccination beliefs. (India) 15
4. ContinuousCare- ContinuousCare is a health app available on both Android and iOS

platform. This app allows users to stay connected and communicate with their doctors between hospital visits; while sharing their health records. His app allows users to save their health information in a single secure location and share them with their doctors/specialists when required-enabling direct communication with healthcare providers. This app has the following features-

- Ask a question
- Video consultations
- Remote health monitoring
- Personal Health records
- Appointment booking
- In-app payments and billing
- Push notifications about appointments and health updates from doctors.

5MINTUECONSULT.COM

5Minuteconsult.com is the fastest resource for healthcare professional to obtain the most likely diagnosis, treatment and management for thousands of diseases and conditions in 3 seconds or less. It supports best practices in decision support and evidence based care with:

- Quick and easy search, bulleted answers
- Over 1,000 customized patient teaching handouts
- 180+ diagnostic and treatment algorithms
- 200+ procedure and therapy videos
- 1000+ images covering dermatology, radiology and more
- Drugs including interaction tools and calculators
- Diagnostic tests

MOBILE-FAMILY PLANNING TOOL

This mobile app is informing family planning through mobile phones. This app is a SMS-based mobile health product, and the first and only family planning method available directly to a woman via her mobile phone.

MSWASTHYA-CDAC

This Mobile app provides; Medical emergency, consult a doctor, diabetes monitor, vaccination alert, medicine monitoring, hospital search, patient monitoring, BMI calculator, blood pressure monitoring, calorie counter, nutrition facts, OPD schedule, mSwasthya walking, mSwasthya cycling, Indian Health stats, mDestination India, fitness track, feel safeAnd many more mHealth tools by government of India. This provides all kind of health support, information consumer. Communication technology is providing cost-effective service in health care sector. (India) 15

TELEMEDICINE

Telemedicine is very new field in India, which is a way out to deliver clinical health care to patients. Yes communication technology has given power to medical profession be knock on door to door, telemedicine solving two way professional discussions-medical problem and patient seeking advice, with help of telephone and interactive medical video conference. As we all are aware of the Indian scenario, 70% population still belongs to rural area which is a big change for government to provide them good medical facilities there. To setup proper hospital is a way out but everywhere it's not possible. Telemedicine is a facility for rural masses in a wonderful way.

Telemedicine in India has grown in last two decades, with effort of both private and government healthcare institutions, private hospitals, NGOs are managing it well, ISRO, Apollo hospitals, state governments are supporting telemedicine to reach at the door of rural mass. 1100 telemedicine centers are working in India. In Indi, telemedicine services are majorly classified under the following areas-

- Tele-ICU
- Tele-ophthalmology

- Tele-radiology
- Tele-surgery
- Tele-pathology
- Tele-psychiatry
- Tele-consultation

BAR CODE AND RFID TECHNOLOGY

Bar code actually is very specific technology to manage and improve the quality and safety of healthcare products. And RFI refers-Radio-frequency identification, which is used to track the radio waves to identify a product, animal or person (Wikipedia). Over the past few years, medical field started using RFID technology for advance data collection. For the same purpose we are using bar code technology too. Bar code is the old technology of tracking and many companies still have fate on this system. In this communication technology medical profession is getting better to track the salt of medicine, quality and other relevant things, though we can't ignore the fact that RFID is better technology than to bar code.

CLINICAL DECISION SUPPORT SYSTEM (CDSS)

"Clinical decision support systems link health observations with health knowledge to influence health choices by clinicians for improved health care". Robert Hayward (Centre of Health Evidence).

CDSS is an expert system which provides patient data to generate medical advice. The Purpose of this modern system to assist clinicians at the point of care, which means that clinicians interact with a CDSS to help to analyse, and reach a diagnosis based on patient data. We have two types of CDSS:

- Knowledge based CDSS
- Non- Knowledge-based CDSS (Wikipedia) 14

PICTURE ARCHIVING AND COMMUNICATION SYSTEM (PACS)

PACS technologies have been widely used in healthcare- basically in hospitals and health system; this is an electronic filmless information based system for acquiring, sorting, transporting, storing and electronically displaying medical images. (e.g., xray, MRI, computed tomography scan).PACS technologies have also started to incorporate images produced by other departments, such as cardiology, pathology, oncology, and dermatology. The universal format for PACS image storage and transfer is DICOM (digital imaging and communication in medicine).Non-image data, such as scanned documents may use industry standard formats like PDF (Portable document format).

This technology reduces the physical time and provides better image quality than the regular traditional images. (communication technology and social media: Opportunities and Implications for healthcare systems, 2012) 6

BARRIERS OF MHEALTH IN INDIA

As we know mHealth is a mobile based service related to health sector. And we are very much clear about health issues too, which can't be ignored in any case. mHealth can provide information and connect with doctors but there is something we can't act on reading or take an advice only like heart-diseases. Though we can't ignore the fact that mHealth is a valuable service. As per my finding mHealth services are convenient way to access high-quality information. Yes we can't ignore that we are getting cricket updates more than health updates in our mobile phone. Poor network coverage concerns are another example.

Security and privacy of healthcare information are always a concern. The most cited barrier is

illiteracy, unawareness, reach and access of content and device. With literacy issues and over 120 widely-spoken languages makes things complicated. As we found people are not willing to pay on mHealth apps also though it's very much cost-effective way out where we are saving all advisory money. But for sure in India we have good scope of mHealth. Understanding of communication technology in healthcare requires focus on changes of work practice-the uses of technology needs more user handling understanding.

CONCLUSION

In the developing countries like India telemedicine, mHealth apps, health websites are improving health care sector a lot. In India communication technology is everywhere. India has big potential in healthcare sector as we all know thousands of doctors are working in US are Indians. And now communication technology is helping to improve this sector. Out of 10-7 person are using communication technologies for any kind of medical advice. In Indian health care market we found a lot of scope of communication technology, mHealth can potentially changing the regular image and enhancing patient care for urban consumers. India's health care problems are exacerbated by its high non-communicable disease burden and communication technology is one of the solutions for rural masses. In India every 3 out of 5 is suffering with diabetic problem, in this chronic condition it's impossible to provide medical facility to everyone; mHealth is one solution for the same where people can get connected in easy way. As per my research data doctors all very much active in medical portals and they are giving online advices too. As a result-Telcos is playing unique role in healthcare sector in India. Current rural and urban market has adopted mHealth services as an opportunity.

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