



USEFULNESS OF ICT IN HEALTHCARE OF THE ELDERLY

K.L.Praphulla

Lecturer in English Sri Y N College(A) Narsapur W.G.Dt

ABSTRACT

Due to an ageing population and a shortage of hospital beds, it has become a challenge to find new ways to support and care for people with chronic illness living at home. E-Health has the potential to become a means of providing good care at home, which is especially challenging with regard to this emerging field. E-Health refers to information and communication technology (ICT) tools and services for health, whether the tools are used behind the scenes by healthcare professionals or directly by patients and their relatives.

In India, the use of ICT in healthcare has seen varying success across states, due to different levels of engagement with the latest technologies. An example where this has helped is in the use of Personal Digital Assistants (PDAs), albeit on a pilot basis, by auxiliary nurse midwives (ANMs) – crucial links in the primary health care system as envisaged by the NRHM. This has helped reduce time-consuming paperwork and increased data accuracy by ensuring the broader availability of data in electronic form, even in rural areas with limited broadband connectivity. These PDAs are being used to transmit data through wireless communication networks, which can be entered into a larger database using the Internet.

The increasing healthcare needs of an ageing population, expensive technologies, a shift toward community-based care, the use of ICT applications in home care is an expanding research area, with a variety of ICT applications used to increase access to home care. The result shows that ICT in home care is mostly used as a tool for communication between healthcare professionals and patients or family members. Healthcare professionals can, based on this result, advantageously use ICT applications in home care as a tool to support people living with chronic illnesses gaining control of their illness that promotes self-care.

KEYWORDS :**Introduction**

Due to an ageing population and a shortage of hospital beds, it has become a challenge to find new ways to support and care for people with chronic illness living at home. Living with chronic illness changes the lives of those affected, who are often in need of support and nursing care in their homes. E-Health has the potential to become a means of providing good care at home, which is especially challenging with regard to this emerging field. E-Health refers to information and communication technology (ICT) tools and services for health, whether the tools are used behind the scenes by healthcare professionals or directly by patients and their relatives. ICT tools can be used to access a wide variety of technological solutions for communication, including text messaging, gathering and monitoring data, diagnosis and treatment at distances, and retrieving electronic health records. According to the World Health Organization (WHO), e-health is used in the healthcare for transmission of digital data, including data stored and retrieved electronically to support healthcare, both at the local site and at a distance.

E-Health includes the interaction between patients and health service providers or peer-to-peer communication between patients and/or health professionals. Interest has primarily focused on the use of ICT tools in the care of older and severely chronically ill people. Although ICT has been increasingly used in healthcare in recent years, efforts across countries have been fragmented and could benefit from improved cross-border coordination. E-Health tools and services have been widely introduced and implemented, and the potential benefits ICT can bring people with chronic illness will increase significantly.

Importance of ICT in Health Sector:

Information and Communications Technology (ICT) has the potential to impact almost every aspect of the health sector. In public health, information management and communication processes are pivotal, and are facilitated or limited by the availability of information. In addition, beyond the formal health sector, the ability of impoverished communities to access services and demand a healthcare system that responds to their priorities and needs can be significantly influenced by broader information and communication processes, mediated by informed decision making.

It can help patients become more involved in their own care, which

is especially important in managing chronic conditions like diabetes, asthma, or heart disease. Primary healthcare costs can be cut, where remote access can be facilitated via innovation in telemedicine, cutting down the need for those in remote areas to forgo a day's work and wages in trying to get to a doctor for minor ailments. In addition, it can help streamline processes and reduce administrative overheads, as it has in other industries, while leading to the creation of new, high-tech markets and jobs.

Institutionalisation of ICT for better healthcare

The use of ICT has grown considerably in recent years and has triggered a great deal of interest in an age of rapidly-spreading epidemics that don't respect national boundaries, transforming the very nature of healthcare. In India, though, unlike the institutionalising of the use of IT for better delivery of public services via e-governance, the failure of policies to keep pace with technological progress has meant that the benefits of ICT in healthcare have not flowed down equally to all.

For instance, e governance has been institutionalised, via ways in which the use of ICT is becoming a norm for various government departments. Constant thinking about, and revision of, ICT policies have ensured that there is enough attention being given both to the benefits and challenges of the use of technology. Similarly, it is felt by many healthcare professionals that if the same is done for the health sector, it might help in enhancing the adoption of ICT in health care.

Examples of successes from across India

In India, the use of ICT in healthcare has seen varying success across states, due to different levels of engagement with the latest technologies. An example where this has helped is in the use of Personal Digital Assistants (PDAs), albeit on a pilot basis, by auxiliary nurse midwives (ANMs) – crucial links in the primary health care system as envisaged by the NRHM. This has helped reduce time-consuming paperwork and increased data accuracy by ensuring the broader availability of data in electronic form, even in rural areas with limited broadband connectivity. These PDAs are being used to transmit data through wireless communication networks, which can be entered into a larger database using the Internet.

In India's largest state Uttar Pradesh – which has its share of development problems – a health programme called 'Aarogyam'

was launched as an end-to-end community-based digital health mapping project. Through this, citizens anywhere in India on any existing telecom network, can access information with respect to their health profile. It also provides a health database for a future healthcare strategy. Then there is the Mother and Child Tracking System under the NRHM, where the focus of the project was to keep track of each pregnant woman from registration to postnatal care.

Another example is that of GVK EMRI, which handles medical emergencies through the "108 Emergency service". This is a free service delivered through state of art emergency call response centres. It has ambulances across the states of Andhra Pradesh, Gujarat, Uttarakhand, Goa, Tamil Nadu, Karnataka, Assam, Meghalaya, Madhya Pradesh, Himachal Pradesh and Chhattisgarh. As per records, response times, and cases treated, healthcare services in the above-mentioned states have improved, especially in some of the less accessible areas.

10 types of health technologies for hospitals and health systems to stay competitive

1. **A certified, efficient EHR system.** The one piece of health technology that has received more attention than any other over the past several years is the EHR. It's understandable, since the federal government is providing stimulus payments to hospitals and the ambulatory settings for providers implementing a certified EHR as quickly as possible.
2. **Surgical and service line technologies.** When it comes to surgical technologies within a hospital, the administration needs to work in conjunction with its physicians and nurses to determine the best strategy. It may be instinctive to purchase the latest and greatest technologies that hit the market, but surgical equipment has high upfront costs, so it must be properly utilized and have a productive reputation.
3. **Smartphones, tablets and applications.** "More importantly, we're seeing a variety of applications for these smartphones that will allow physicians more interaction in the patient care experience," Dr. Hitchcock says. There are several popular smartphone and tablet apps for physicians. The iPad, which has almost become a default tablet, has countless popular apps for physicians and executives, ranging from medical calculators and medical Spanish to clinical presentations and actual EHRs.
4. **Hybrid operating rooms.** While hybrid ORs may seem like a newer technology, the concept has actually been around for more than 20 years. "The hybrid OR is an environment that enables a surgeon or an interventional specialist to perform catheter-based minimally invasive interventions as well as open surgery," Mr. McIlff says.
5. **Telehealth tools.** There are several necessary components for a viable telehealth infrastructure. Certainly, there needs to be the right connectivity and support from the government — especially in rural areas — but hospitals have to be willing to take on collaborative telehealth tools of their own, says Steve Nitenson, RN, PhD, senior solutions architect for Perficient and an adjunct professor at Golden Gate University in San Francisco.
6. **Ultrasound imaging devices.** Physicians, especially those within the ED, have become more adept at using ultrasound imaging devices over the past 10 years, Dr. Hitchcock says. "We're starting to see hospitals are concerned with what equipment they're using in the ED, like ultrasound," Dr. Hitchcock says. "When I was going through training, we were using what radiology was throwing away. Now, hospitals are realizing they can attract and retain the latest and greatest, and that's important from a physician satisfaction perspective."
7. **Infection detecting technologies.** A high-quality hospital infection control program keeps a hospital competitive on several fronts. First, it keeps the hospital compliant with all regulatory patient safety issues. Second, low rates of infection are able to be publicized to patients to tell them, "You will be safely treated at this hospital." Effective infection control hospital programs also have the right technology to detect if and when there is a problem.

8. **Healthcare staffing management technology.** Staffing and labor costs can consume more than 50 percent of expenses at most hospitals. In order to keep those costs in check, hospitals can implement staffing management technology to keep scheduling at an optimal state without sacrificing patient care.

9. **Social media.** Social media technologies such as Facebook, Twitter, CaringBridge, podcasting, wikis, blogs and others are not new (Facebook has already been around for eight years), and the services are all extremely accessible. However, not all hospitals utilize the technology — or at least utilize it in a well-structured manner.

10. **Patient-friendly technologies:** Mr. Ciotti says there are eight patient-friendly technologies that could make a positive difference in hospital's reputation, position, and patient's satisfaction scores:

- *Central scheduling:* Having a single number for patients to call in order to schedule appointments and tests simplifies an otherwise roundabout task. "Most hospitals fail to implement central scheduling because the various departments insist on keeping their own schedules that they control for various reasons," Mr. Ciotti says. "Make it easy for patients and they will come".
- *Speech-assisted automated attendant systems:* Hospitals can stay competitive and also save money with a voice recognition phone system. The systems could reduce staff overtime and helps to avoid dropped calls or unpleasant patient interactions.
- *Master Patient Index:* MPI is a database that keeps a unique identifier for each patient. Patients can approach a registration window, show ID and skip the wave of forms because their information is in a HIPAA-complaint index.
- *Self-register kiosks:* Similar to self check-in stations at an airport, self-register kiosks can be positioned in admitting, ER and outpatient registration areas that are secured, and patients can verify their identities or update their information.
- *Wireless connectivity:* Physicians, clinicians and other staff members are not the only people in a hospital who live on their mobile devices and smart phones. Similar to restaurant chains, hospitals should offer a friendly Wi Fi connection to make it easy for patients and visitors to access the wireless network.
- *Bedside computer terminals:* Bedside computer terminals allow patients to see the processes happening around them while still enabling physicians and nurses to update patient records efficiently.
- *Bedside medication verification:* A BMV system adds another layer of patient safety to a hospital's technology strategy. A nurse can scan a patient's badge with BMV, which confirms the patient is receiving his or her correct medication, and the patient sees it every day.
- *Online bill pay:* Patients are able to pay their phone, cable, utility and other service bills online. Hospitals that offer the same ability can stay competitive, and Mr. Ciotti says it could even improve the hospital's accounts receivable.

Conclusion

Challenges and Opportunities

The increasing healthcare needs of an ageing population, expensive technologies, a shift toward community-based care, the need for improved access, and quality, as well as the desire of people to be more directly involved in decisions about their health represent significant challenges and opportunities in a country like India. Health information plays a key role in determining how these challenges are met. Add to these the long list of brick-and-mortar infrastructure gaps, capacity building, training of health professionals who are ICT-illiterate, and the lack of primary healthcare staff, and it is easy to see why the Indian healthcare sector offers an array of opportunities for low-cost innovation and the application of technology for improving health outcomes.

The use of ICT applications in home care is an expanding research area, with a variety of ICT applications used to increase access to

home care. The result shows that ICT in home care is mostly used as a tool for communication between healthcare professionals and patients or family members. Healthcare professionals can, based on this result, advantageously use ICT applications in home care as a tool to support people living with chronic illnesses gaining control of their illness that promotes self-care.

References

1. Utbult M. Vård nära dig – hemsjukvård med stöd av IT. TELDOK report 152, Stockholm.
2. Saba V and McCormick, K, 2005, Essentials of Nursing Informatics. McGraw Hill
3. Vimarlund V, Olve N-G. Economic analyses for ICT in elderly healthcare