

Utilization of Information and Communication Technology in Dissemination of Health Information in Developing Nations.

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Abstract

This study x-rayed the utilization of information and communication technology (ICT) in disseminating Health information in our contemporary world. The revolution in information and communication technology (ICT) present developing nations with both opportunities and difficulties as they work to improve their Health Management Information Systems (HMIS). Developing nations are forced to seize the opportunities to overcome the obstacles in the aftermath of globalization. In the past few decades developing nations have been using the available ICT to upgrade and improve their HMIS. Although the bulk of health workers reside in remote and rural locations, the process has been implemented at the national, provincial/regional levels and gradually at the local levels due to inadequate economic and communication infrastructure as well as inadequate data quality and underutilization. Consequently, individuals who have access do not fully benefit from ICT improvements. Developing nations must therefore work conscientiously to remove obstacles that could widen

the technological gap between the rural majority and urban minority by establishing favourable laws and appropriate strategies to improve data quality and utilization. Usage of ICT in HMIS is positively impacting people's health through early detection and prevention of many diseases of fatal consequences. Potential power from non-governmental agencies and chances for sharing experiences among developing countries should however be leveraged. Short of this, advancement in ICT will continue to marginalize health workers in developing countries especially those living in distant areas. Also inclusive in the impact of ICT on healthcare and on health information management is usage of mobile phone which makes information dissemination to be faster and cheaper. This is because ICT is information based; advances build one upon another, with little to impede growth. This trend is infectious because more and more fields are becoming information based, in the instances of biotechnology and nanotechnology.

Keywords: Utilization, Health Information, Technology, Communication, Dissemination, prevention.

Introduction

Globally, there have been incredible advancements in health information technology in recent years. Wide-ranging advancements in the use of ICT in the health sector include the sharing and comparison of health information, the growth of online communication, and the use of telemedicine. Particularly, health information has raised the possibility of expanding access to care for teeming populations and paving the path for a time when care will no longer be hampered by distance. Olaleye and Adeyemi (2015) for example, affirms that during the past three decades, a chip's transistor count has increased from negligible to significant by giving health professionals greater access to medical knowledge and cutting-edge medical interventions. These advancements have created chances to improve people's quality of life.

Mohammed (2012) asserts that one significant area where digital technologies can contribute to producing wide-ranging benefits is the effective use of ICTs to deliver services to residents. ICT is a broad term that encompasses all forms of communication devices or software,

including computers, televisions, mobile phones, satellite systems, network hardware and software, and radios. It also includes a variety of associated services and applications, including distance learning and health information video conferences.

The value of ICT lies not in the technology per se, but rather in its enabling role in improving communication and information access over long distances. ICT has been applied in a variety of creative ways to improve society in the area of promoting access to basic health services, finance, and insurance. In the field of healthcare, key strategic applications of ICT such as E-Health and mHealth are increasingly employed in combination with tools that build capacity and address the quality of care to improve health systems, use resources efficiently, and plan for the progressive adoption of universal health coverage, (Mohammed, 2012).

Brunges, (2012) observes that many people regard e-Health and m-Health as the next breakthrough in health system improvement, across large distances especially in developing nations. ICT have been used in many innovative ways to achieve social impacts, ICT and healthcare integration may significantly enhance people's lives and well-being globally, and it can particularly help accomplish the UN Millennium Development Goals (MDGs) health-related indicators.

COVID-19 pandemic in 2020 for instance, presented significant obstacles to the medical and health systems of every nation. Online telemedicine, a representation of e-Health and m-Health service modalities, demonstrated their abilities and played a significant part in this battle against the pandemic. Because ICT has an impact on the economy and society, it is likely to drastically alter the way public health is supplied, (Olaleye and Adeyemi, 2015).

Health Information Dissemination in Urban Areas

According to Gadzema (2020), metropolitan areas have access to health information due to spatial developments that are important for both individual and public health outcomes. People who have better access to and use of health information are better informed, use health services more frequently, spend less on medical care, and adopt healthier habits, all of which contribute to better health. Recent advancements in ICT use relate to people's capacity to use health information to influence decisions that preserve and/or enhance their health. Health outcomes, quality of life, health behaviour, and the usefulness of health treatment can all be impacted by an individual's access to and use of health information. Higher levels of health, for instance, access to and usage of information is linked to improved self-rated health status, increased activity and health checkups, and decreased levels of alcohol and tobacco use.

In order to effectively direct health promotion initiatives, Jeen (2017) developed a community-specific perspective on urban health information sources and distribution tactics. To learn more about certain sources of health information, numerous key informant interviews and focus groups were held on methods of disseminating health information as well as general themes in health information procedures. However, for efficiency and effectiveness, distinct patterns of health information sources and dissemination tactics are needed through ICT.

The value of visual learning, the differentiation between Inuit and non-Inuit, community elders, cultural interpreters, and community cohesion. Family members and Inuit community members are some of the main important topics and sources of health information. Direct communication, whether in a group setting or one-on-one, is the main method used to spread health information. There are notable distinctions between the present mainstream approaches of health promotion and knowledge translation and this community-specific viewpoint on health

information sources and dissemination tactics. In addition to attempting to connect current health information sources and distribution tactics with those of the community, health promotion initiatives must recognize the unique health information processes of this group, (Brunges, 2012).

Health Information Dissemination in Rural Area

Rural populations according to Chauvin & Rispel (2023) have several obstacles that make it difficult for them to obtain and use trustworthy health information. Some of these obstacles include: geographic distance, bad weather, lack of funding, and lack of specialized medical services. Additionally, there exist health inequities in remote areas that prevent rural residents from accessing the present health information benefit. People who reside in the countryside are more likely to engage in unhealthy behaviours and have less access to and use of preventive health care services. They have higher rates of all-cause mortality as well as premature morbidity and mortality from diseases like cancer, heart disease, and childhood obesity than urban residents.

Because access to and usage of health information are linked to health outcomes, Chauvin & Rispel (2023) stressed that rural inhabitants have less access to primary care physicians, specialists, and other health information sources than their urban counterparts. Rural residents with low health literacy had less access to scientific literature and mass media, but more use of corporations and companies than those with adequate health literacy. They also had less use of search engines, blogs, and magazines, and only had less access to specialist doctors than urban residents.

High-income nations may invest more in medical information and communication technologies to reduce and prevent child mortality and enhance mother health, according to evidence from numerous studies.(give examples of such studies) Given that the economic downturn will significantly impede the implementation of online health policies, developing nations may prioritize medical IT projects in an effort to see quick success as well as exchanging private health data acquired from medical Internet of things devices. These positive connections between ICT and national health can attest to the fact that ICT eventually improves national health outcomes by gathering and processing health data and fostering better teamwork and communication, (Jeen, 2017).

ICT-Enhanced HIV and Health Education

UNESCO assists in the use of ICT-enhanced approaches in the development, implementation, and expansion of high-quality HIV and health education programs as well as education sector and civil society equipping young people with the values, knowledge, and abilities necessary to maintain good health throughout their lives. Such health education programmes and awareness raising tools according to Gadzema (2020) are rights-based, scientifically accurate and grounded in evidence, culturally appropriate, gender responsive and age-specific. Effectiveness of interventions of ICT on the knowledge of HIV/AIDS prevention and awareness as well as Health information and control are well documented.

ICT provide adolescents and young people with information about different aspects of sexuality, general and reproductive health and help them develop important personal and social skills that are necessary for safe and enjoyable interpersonal relations and protection from HIV, sexually transmitted infections, early and unintended pregnancy, substance use and other risks for health and well-being, (Rispel, 2023).

Policy Dialogue, Experience Sharing of Knowledge and Networking

To facilitate policy dialogue, experience sharing and networking, UNESCO (2021) organizes and participates in different national, regional and global conferences, workshops and technical consultations that promote decisions and actions to improve the quality and expand the scale of HIV and health education programmes. In the same vein, similar policy was operated during COVID 19 saga.

ICT-Enabled Health Education and Awareness Raising

UNESCO offers training courses, publications and supports online discussion shows with experts and celebrities to sensitize parents about the goals, content and methodologies of school-based HIV prevention and health education. About 2 million people in Eastern European and Central Asian Countries (EECA) have benefited from these initiatives including Mama Mia! being a Parent of an Adolescent project so far. UNESCO supports the production of multimedia resources (video tutorials, documentaries, edutainment cartoons) to make school-based and non-formal HIV education and awareness raising more interactive and impactful through ICT, (Gadzema, 2020).

In Russia, the Ministry of Education and Science according to Bruges, (2012) has recommended to use the UNESCO-UNAIDS supported video lesson on HIV in all schools. 100 partnership with Nauchpok Youtube channel, a series of 10 edutainment videos about HIV, sexual and reproductive health, gender, violence, relationships and other issues have scored over 8 million views in EECA countries during 2017 alone, adapted and translated into Armenian and Kyrgyz languages resulting into Multilingual Internet and social media resources.

Approach of Information Dissemination

Seminar which is a gathering of people with similar interests to discuss, learn, and exchange ideas is an important information dissemination strategy that take place in an academic institution, a commercial organization, or an office conference room. Informant Session deals with communicating research findings or products to those who will use the information in practice. Workshop it for research to have the greatest impact, the findings must be made available to as many people as possible, in a clear and accessible manner. Webinar in the same vein, is a live online event that aims to educate or enlighten a virtual audience on a particular subject. Information Packets are a cost-effective method of giving consumers who are unable to visit the resource center information about a specific topic area. (Gadzema, 2020).

The Impact of Information and Communication Technologies (ICTS) On Health Outcomes

ICT-health relationships are the main focus of discussions about how technology affects public health. Chauvin & Rispel (2023) affirms the enormous potential that digital technologies have to enhance health equity and the general public's health status. Rispel, & Gadzema (2022) also confirm that ICTs' contribution to enhancing population health and longevity in Malaysia

ICT Facilitate Policy Dialogues, Experience Sharing and Networking on Health Education:

After a cycle of evidence, discussions, seminars, and consultations on a particular topic, ICT is meant to help establish or execute a policy change. As such, it is a component of the policy and decision-making processes in health education. Therefore, the process itself is the main focus of this definition rather than a single incident, policy brief, or synthesis document as well as consultations on specific topics, (Bruges, 2012) .

Build Health Teachers' Capacity and Awareness Raising on Preventive Measure: ICT enhance Health Education by providing professional Health educators with more knowledge for future innovations. ICT create opportunities of awareness on Health information on early detection and prevention of many diseases of fatal consequences through audio and audio visual. (Allahabi, 2012).

Impact of ICT on Health Information Management

According to Dennis More's law (2013), ICT affects healthcare and health information management, the cost or size of a given computing power roughly doubles every two years with additional implications to "the magic of compound interest,". Mobile phone is becoming faster and cheaper, the trends are exponential, moving at an ever-increasing rate. This might be because one of them had the knowledge and Information as the foundation of communications technology (ICT); developments build on one another with minimal hindrance. Because more and more fields—like biotechnology and nanotechnology, for example—are becoming information-based, this tendency is contagious.

Jeen (2017) asserts that healthcare is likewise moving toward an information-based approach, claiming that all information-based sciences exhibit this exponential development rate. Although mobile phones and ICT in general are speedier and less expensive, the healthcare industry has not yet benefited from this kind of advancement. The contrary is actually true in the health sector; as a result of the additional information, files are growing and, at best, becoming unwieldy, along with storage issues. There are other clinical domains with excessive amounts of information besides health information managers (HIMs).

Oluwarobi, (2012) affirms that a physician would need to read more than seven articles per day, every day of the year, in order to be up to date with the latest research, given that journals publish an average of four times a year. Managers of health information are similarly helpful in this respect. According to Adeyemi & Olaleye (2015), improvements in the amount, quality, and accessibility of health information would result in higher healthcare quality and efficiency.

The growing use of ICT in the healthcare industry, such as the pervasive electronic health record (EHR), is one of the main elements of such a concept. Although this idea has existed since the beginning of ICT, it is just now beginning to take shape. Employees' reactions to the new technology vary, according to health information management. In an interesting article on her life in the UK, Gadzema (2020) describes a career centered around ICT.

According to Allahabi (2012), ICT and health are more closely coordinated in the UK. HIM expertise is developed; therefore the variety of HIM positions is growing, ranging from conventional to state-of-the-art information wranglers. This diversity is also represented in the professional practice articles. It tells a story about privacy and disclosure, about the balance and decisionns between the duty to others and the duty to patients. These issues will not go away with increased technology; in fact, as new situations arise, we will have to make many more decisions. The remaining professional practice articles are about ICT, and they describe the work and the benefits that have been accrued.

Brunges (2012), express that HIM's function in ICT-related initiatives can also be both conventional and novel. In a conventional function, the Barwon Southwest region's enhanced cancer data collection includes information on cancer staging and therapy, as well as information on metastases and recurrence (in addition to the regular cancer registry data). Without better ICT

assistance, this initiative would not have been possible and the data would not have been as valuable. He also discusses a cutting-edge automated physical letter system that Australia Post and the Royal Hobart Hospital collaborated to create.

Among the numerous advantages were 20% cost savings, the opportunity to accomplish tasks not covered in health information management courses, and the development of multimedia patient and clinical information apps. Adokiye & Kpangban (2010) demonstrates how e-health will support statistical data collecting on a broader scale, although consistent semantics are required to do this. Peter (2009) examines the Federal government's reactions on connecting Healthcare conference report to the impending shift on a broader global scale, covering both specific implementation partnerships and infrastructural projects (such as terminology, provider register and identity, patient identification, and authentication).

Conclusion

- ICT has been applied in a variety of creative ways to improve society, such as having expanding access to essential services like insurance, banking, and health care.
- In order to enhance health systems, make optimal use of resources, and prepare for the gradual implementation of universal health coverage, e-health and m-health are being used more and more in conjunction with tools that address service quality and create capacity.
- Different trends in the sources and methods of disseminating health information has emerged.
- Direct communication, whether in groups or one-on-one contacts, is the main method of disseminating health information.

- Rural residents have been denied access to the existing health information benefit due to health inequities in rural areas. They are however, more likely to engage in unhealthy behaviours and have less access to and use of preventive health care services. They have higher rates of premature morbidity and mortality from diseases like cancer, heart disease, and childhood obesity as well as higher rates of all-cause mortality than urban residents.
- Improvements in the quality, quantity, and accessibility of health information resulting into better and more efficient healthcare is made possible through ICT.
- In general, ICT significantly affects the management of health information.

Recommendations

- Governmental and non-governmental health organizations should work harder to disseminate the result of recent studies.
- Public health campaigns, seminars, and workshops should be held on a regular basis.
- Rural residents should have access to a functional network. People should take charge of their health by swiftly searching out accurate and up-to-date health information.

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