Ancient to Modern Technology Connecting, Socializing and Empowering Public Health across the Globe

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Abstract

There are many things that happened in the history that helped to form the internet. One of the best examples is during the World War II. It is how people using technology to send and communicate with each other. During the World War II, the Germany had invented a machine called "enigma" which is a communication machine that allowed them to send information wirelessly during the war. The German invented the Enigma from modifying a commercial version. First they typed the information and then the information was scramble by the machine in order not to let other country know about their information. In order to fight back to the Germany, the British had built a super computer called "bombe" that was able to encrypt the German's message. In this example, it is how the people use the technology to get connected and try to build more and more advance computer to improve their communication purpose and by and by, get connected with the world though nets and internets. It is due to today's internet connectivity and (smart) mobile phone penetration, more than air travel, that the world is now literally a global village. Satellite connectivity helps greatly in distance learning, and in transmission of data as well as information pertaining to early warning of unusual health events in public health.

Keywords: Net; Enigma; Bombe; National science foundation; Public health.

Introduction

Earliest forms of known communication used were the smoke. A person or a tribe used to inform the other tribes miles away using smoke. They used to light up smoky fires and when the smoke used to rise up in the atmosphere high above many other tribes and clans could see them from far off distance and some sort of message was delivered. The message may be a gathering, feast, death of a member or an emergency. The shape and size were later on used to indicate different messages, for example, this smoke could be differentiated from a thick one; so that now two different messages could be conveyed using *the smoke method*. This paved the way for future communication. People later on used sounds, lights, flags etc. to communicate even more and more information. Came the era of pigeons and messengers (not yahoo or skype) which exercised their wonderful aura. Later on, when countries came up, the need of postal department arose and in almost no time did the leaders realize that for the growth of a country required reliable postal service. So the postman became a very good person for delivering the letters. Then came the advent of technology and we used a code made by Samuel Morse. It was popularly called the Morse code. This brought about a revolution in the postal system and thus telegram facility was introduced and was pretty costly. The

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letters which took about 5 to 6 days to be delivered was accomplished in just 2 to 3 days. The telegram is a very short message and is sent only when it is extremely necessary like the death of a person. Back then in India the name 'telegram' was associated with the death of a relative amongst villagers because that is what most of them used it for. Then due to the advent of technology, telephone came. Only the rich people and high officials could posses one such was the cost of a phone call and even more for long distance ones. International calls often got disconnected and was charged for every second of use. Often there used to be cross talks and interference of noise and also sometimes low volume of audio which made the people pay for hearing some garbled up words! Now is the era of the fast revolutionizing and high speed internet yielding enormous energy, money and socialization of the people across the globe. It is due to today's internet connectivity and (smart) mobile phone penetration, more than air travel, that the world is now literally a global village.[1] Satellite connectivity helps greatly in distance learning, and in transmission of data as well as information pertaining to early warning of unusual health events in public health. Internet and social media has boosted communication between individuals and organizations and it has the potential to augment public health communication. Social media refers to "activities, practices, and behaviors among communities of people who gather online to share information, knowledge, and opinions using conversational media.[2]" In public health, social media can be used to inform, educate, and empower people about health issues[3]; to enhance the speed at which communication is sent and received during public health emergencies or outbreaks[4]; to mobilize community partnerships and action[5]; to collect surveillance data[6] and to understand public perceptions of issues.[7]

Internet is the money of this century. Internet is to us what money was to the 18th century. Internet is the MONEY for information and public health. What money was to commodities Internet

is to information and public health? As money empowers the individual with unlimited access to economic goods, Internet empowers the individual with unlimited access to public health medicine and subsequent knowledge. Money has played a similar role as the basis language for commerce. The introduction of money has made possible the exponential growth of production, trade and consumption. Now new innovations in Internet sphere are establishing a common language and a readily accessible mechanism for the rapid exchange of information and ideas between virtually everyone who has access to the system. Intellectually, this will exponentially increase the opportunities for exchange and dissemination of ideas and information for business, medicine, education, governance and research. Money increases energy in society and enables that energy to be utilized more efficiently. Similarly, Internet allows the intellectual work of any individual to reach a far wider audience than is otherwise possible and to be more fully utilized by society. It is due to today's internet connectivity and (smart) mobile phone penetration, more than air travel, that the world is now literally a global village. With information and communication devices available even in remote villages, there is a potential that these technologies could revolutionize health service delivery and act as a "game changer" for an efficient and people-centered health care system in the 21st century. For example, an early warning system during emergencies via short text messaging, or even availability of mobile phones in remote villages can be used to call for help in the event of a difficult labour thereby preventing maternal or infant mortality.[8]

Internet has really revolutionized the lives of the people around the world and side by side, new innovations have also made the world very easy and cheap all-round. The initial infrastructure for Internet was established in 1969 to provide a secure and survivable communications network for organizations engaged in defense-related research. Over the following two decades, it

evolved into a fast, convenient, low cost means for universities and research institutions to electronically exchange information and messages which included *Alan Turing and Bletchley Park;* Top secret code breaking effort; BOMBE: Mechanical Computer Colossus: Electronic Computer; ARPANET; NPL; Merit Network; CYCLADES; X 25 and public data networks; UUCP and Usenet. The Advanced Research Projects Agency Network (ARPANET) pioneered world's operational packet switching network, the first network to implement TCP/IP leading to become the Global internet. The network was initially funded by the Advanced Research projects Agency (ARPA, later DARPA) within the US Department of Defense for use by its projects at universities and research laboratories in the US.

Now, with innovations, the spread of personal computers in businesses, government, schools and homes coupled with the growth of local area networks during the 1980s and early 1990s provided a means for millions of individual users to link into the system. These developments propelled the growth of the Internet from a thousand or so networks in the mid-1980s to about 60,000 connected networks in mid-1995. By the middle of 1997, the Internet was available to an estimated 100 million registered users worldwide. Internet promises to play a similar role at the mental level of information and knowledge as a medium to organize globalization. Initially, the Michigan Educational Research Information Triad formed the Merit Network[9] in 1966 as to explore computer networking between three of Michigan's public universities as a means to help the state's educational and economic development.[10] With initial support from the State of Michigan and the National Science Foundation (NSF), the packet-switched network was first demonstrated in December 1971 when an interactive host to host connection was made between the IBM mainframe computer systems at the University of Michigan and in Ann Arbor and Wayne State University in Detorit.[11] The Merit network was the first

network to make the hosts responsible for the reliable delivery of data, rather than the network itself, using unreliable data grams and associated end-to-end protocol mechanisms.[12,13] During the 1980s, the connections expanded to more educational institutions and thereafter. National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), and the Department of Energy (DOE) became heavily involved in Internet research and started development of a successor to ARPANET. In the mid 1980s, all three of these branches developed the first Wide Area Networks based on TCP/IP and DOE evolved the energy Sciences Network or ESNet.[14]

As the early ARPANET grew, hosts were referred to by names, A technical solution came in the form of the Domain Name System .mil, .gov, .edu, .org, .net, .com and us, root name server administration and Internet number assignments under a United States Department of Defense contract.[15] In the present era, Internet is tremendously used as Email and Usenet; From Gopher to the www (1980-90) In the early 1990s, Gopher, invented by Mark P. McCahill offered a viable alternative to the World Wide Web to Mosaic web browser; Search engines Web Crawler in 1994 — Yahoo in 1994) and Altavista in 1995) Google (998); File sharing; The File transfer Protocol (FTP); Dot-com bubble; Mobile phones and the Internet; Online population forecast etc. It has made the *Whole Globe operated and commanded from the Small Room.* These tremendous innovations like Email and Usenet, Search engines, File sharing, Mobile phones and the Internet, Online population forecast have connected the whole world and made it a smaller one. Some innovations have been raised over the Historiography which is new innovation in the field of digitization. Access to and use of the Internet is heavily concentrated in advanced industrial countries and urban centers today. Clearly e-health is something that has great appeal to Internet users as well as social media throughout the world, especially in North America. Numerous surveys have shown that in the US

in particular there is heavy use among consumers and especially physicians (Katz, Rice & Acord 2004). Many institutions have devoted vast resources to putting medical information online (Boston Consulting Group, 2003). In the US, this includes PubMed and Medline via the National Library of Medicine, which are generally accessible online from Internet-connected computers, Online discussion groups respond to many of the needs unfulfilled by the centralized information providers. In some cases, these groups extract information from professional journals (Wikgren, 2001) and recreate it in a way to make it more applicable and understandable among the users. Zhang *et al* (2004) attribute much credit to mobile phone networks in the widespread success of public education during the SARS epidemic in China. It is worth including in our analysis a brief mention of the way mobile technology is being used to control malaria and AIDS. In the case of AIDS, free text messaging services are available in Kenya, where users can send text questions and receive free answers. Only 58% of Portuguese physicians use the Internet, and only 40% do for medical purposes (both of these figures are far below the EU average). Additionally, physicians in Portugal, as in other EU countries, tend to use the Internet more for information search and training (such as consulting medical journals 70%, further training, 75%, medical associations websites 64%, and prescribing information 59%), than for communication among physicians (such as exchanging views 41%, sending/receiving patient data 20%). Internet and social media use is growing in various countries in the South-East Asia Region. However, despite the improved access to such technologies public health and clinical health services are not dominant in their content and/or applications. There are concerns also that the rapid developments and penetration of technology is further causing a digital divide between "haves" and "have nots", causing further disparities in society and along the social gradient. Nevertheless, technology must be used appropriately. Whether technology can be of benefit or harm will depend largely on the way it is used. The other thing that we are now able to get over the internet is communication has been so easy that it no longer the long periods of posting a letter then wait for the reply that may take month depending you location, but with internet as long you have a connection that made easy at instantaneous (that is to say in real time) Lately the has been so many advances on communication alone, you can now use Software like Skype, Google hangout, Electro met, java, face book, tweeter Whats app, linked, the list goes on and on just for communication purposes only and most of all these application are audio and video which is very good. Social media has enhanced communication between individuals and organizations and has the potential to augment public health communication. The most popular social media is Twitter despite the fact that only 13% of internet users have a Twitter account. The reach of social media is limited as evidenced by the low number of followers, page likes, and subscribers.[16]

In conclusion, these days, due to money, ever expanding technology coupled with new innovations in the field of ever developing science, the internet and social media have made the Whole Globe being reduced to a "Small Room". Based on evidence, it is clear that enhancing use of modern technology is an excellent investment for the future in the fast growing field of public health and allied sciences.[17]

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