E-Health: A Way Of Shining India - Special Reference To Utter Pradesh

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Abstract
Development of a country or a state is not on papers but it can be judged from the wellbeing of its citizens. India is a vast country of 1. 6 billion populations residing in 29 states and six union territories. Proper mechanism to address basic needs and amenities of the people has been a challenging area for the governments both at centers and states. There is no clear cut policy for the e–health implementations because India has Large geographical area, increase population density, lack of transport, inaccessibility, illiteracy, poverty, poor nutritional status, diversity in food habit and life style are various impediments. Paper will focus on the Present scenario of e-Health in selected provinces of India. In this paper descriptive research methodology has been used for highlighting the major issues of e-Health implementation in Utter Pradesh.

Keywords
ICT, e-Health, Illiteracy, policy, Computers, Digital technologies,

I. Introduction

There is substantial epidemiological evidence that widespread adoption of specific behavior changes can significantly improve population health. Yet, health communication efforts, while well intentioned, have often failed to engage people to change behavior within the complex contexts of their lives. `e-health communication', health promotion efforts that are mediated by computers and other digital technologies, may have great potential to promote desired behavior changes through unique features such as mass customization, interactivity and convenience. There is growing initial evidence that e-health communication can improve behavioral outcomes. However, we have much to learn about whether the technical promise of e-health communication will be effective within the social reality of how diverse people communicate and change in the modern world. E -Health, the use of information and communication technologies (ICT) for health, is one of the most rapidly growing areas in health today.

II. Technology and e-health

The Internet is rapidly and radically transforming many aspects of society, reshaping industries from aircraft manufacturing to retailing by enabling the widespread sharing of information and creating new relationships between buyers and sellers of goods and services. Health-related activities stand to benefit enormously from the Internet. As a highly information-intensive set of functions characterized by complex interactions among a large number of stakeholders—primary care physicians, specialists, nurses, patients, health plan administrators, public health officials, medical librarians, researchers, and others—health-related activities can take advantage of the nearly ubiquitous reach of the Internet and its capability to support communication between users who may not have interacted with each other before. Already the Internet is beginning to influence the health sector by forging new relationships among stakeholders and improving access to health information. Its application in the delivery of health care, maintenance of public health continues.

Health applications have helped motivate a number of efforts to improve the nation's information infrastructure. Ongoing research and development (R&D) efforts, such as those being pursued under the Indian government's Next Generation Internet (NGI) initiative and the private sector's Internet initiative, also hope to foster technologies that could enhance the Internet's ability to meet the needs of the health sector. These efforts will also provide test beds for improved evaluations of the benefits of different health applications of the Internet and their technical and nontechnical requirements. But these test beds—and ultimately the Internet itself—will not adequately support health applications unless a better understanding is developed of the technical capabilities that these applications demand.

III. Benefit of e-health

Electronic health provides much benefit in many ways to Utter Pradesh citizen some benefit are mention below.

- Create the awareness to citizen
- Save the time
- Proper information of doctors and hospitals schedule
- Minimize the cost of medicine
- Minimize the cost of treatment
- Save with hospitals brokers
- Utilize the maximum resources of hospitals

IV. Current Practices in Utter Pradesh

Utter Pradesh is very vast state of India and as per the population it is very necessary to implement e-health system in various hospitals and government agencies to provide pre health information to citizen birth rate and death rate is very impotent factors to growth of any state and nation so e-Health (also written e-health) is a relatively recent term for healthcare practice which is supported by electronic processes and communication. The term is inconsistently used: some would argue it is interchangeable with health care information and a sub set of health informatics, while others use it in the narrower sense of healthcare practice using the internet. The term can encompass a range of services that are at the edge of medicine/healthcare and information technology some current practices are followed by the utter Pradesh Government which are as given below

A. Electronic Health records

An electronic health record (EHR) (also electronic patient record or computerized patient record) is an evolving concept defined as a systematic collection of electronic health information about individual patients or populations. It is a record in digital format that is capable of being shared across different health care settings, by being embedded in network-connected enterprise-wide information systems. Such records may include a whole range of data in comprehensive or summary form, including demographics, medical history, medication and allergies, immunization status, laboratory test

results, radiology images, and billing information.
Its purpose can be understood as a complete record patient encounters that allows to automate and streamline workflow in health care settings and to increase safety through evidence-based decision support, quality management, and outcomes reporting. Enable easy communication of patient data between different healthcare professionals (GPs, specialists, care team, pharmacy)

B. Telemedicine

Telemedicine is a rapidly developing application of clinical medicine where medical information is transferred through the phone or the Internet and sometimes other networks for the purpose of consulting, and sometimes remote medical procedures or examinations.
Telemedicine may be as simple as two health professionals discussing a case over the telephone, or as complex as using satellite technology and videoconferencing equipment to conduct a real-time consultation between medical specialists in two different countries. Telemedicine generally refers to the use of communication and information technology for the delivery of clinical care.(Mishra 2002)
The terms e- health and telehealth are at times wrongly interchanged with telemedicine. Like the terms "medicine" and "health care ", telemedicine often refers only to the provision of clinical services while the term telehealth can refer to clinical and non-clinical services such as medical education, administration, and research. The term e-health is often, particularly in the UK and Europe, used as an umbrella term that includes telehealth, electronic medical records, and other components of health IT.
includes all types of physical and psychological measurements that do not require a patient to travel to a specialist. When this service works, patients need to travel less to a specialist or conversely the specialist has a larger catchment area.

1. Consumer health informatics. It deals with the resources, devices, and methods required optimizing the acquisition, storage, retrieval, and use of information in health and biomedicine. Health informatics tools include not only computers but also clinical guidelines, formal medical terminologies, and information and communication systems. It is applied to the areas of nursing, clinical care, dentistry, pharmacy, public health and (bio) medical research. (or citizen-oriented information provision): both healthy individuals and patients want to be informed on medical topics.
2. Health Knowledge management (KM) it is comprises a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insight and experiences. Such insights and experiences comprise knowledge either embodied in individuals or embedded in organizational process or practice. An established discipline since 1991 (Nonka1991), KM includes courses taught in the fields of business administration, information system, management, and library and information science (Alavi & Leidner 1999). More recently, other fields have started contributing to KM research; these include information and media, computer science public health, and public policy.
3. Virtual healthcare teams: consist of healthcare professionals who collaborate and share information on patients through digital equipment.
4. mHealth (also written as m-health or sometimes mobile health) is a recent term for medical and public health practice supported by mobile devices, such as mobile phone, patient monitoring devices, PDAs, and other wireless device. mHealth applications include the use of mobile devices in collecting community and clinical health data, delivery of healthcare information to practitioners, researchers, and patients, real-time monitoring of patient vital signs, and direct provision of care (via mobile telemedicine). includes the use of mobile devices in collecting aggregate and patient level health data, providing healthcare information to practitioners, researchers, and patients, real-time monitoring of patient vitals, and direct provision of care (via mobile telemedicine).
5. Medical research uses e-Health Grids that provide powerful computing and data management capabilities to handle large amounts of heterogeneous data
6. Health care information system. It deals with the resources, devices, and methods required to optimize the acquisition, storage, retrieval, and use of information in health and biomedicine. Health informatics tools include not only computers but also clinical guidelines, formal medical terminologies, and information and communication systems. It is applied to the areas of nursing, clinical care, dentistry, pharmacy, public health and (bio) medical research also often refer to software solutions for appointment scheduling, patient data management, work schedule management and other administrative tasks surrounding health. Whether these tasks are part of eHealth depends on the chosen definition, they do, however, interface with most eHealth implementations due to the complex relationship between administration and healthcare at .healthcare providers .

V. Barriers of e-health implementation in Utter Pradesh

As per the geographical parameters Utter Pradesh is very huge to implement the health services but still government has taken many initiatives for batter treatment of citizen Still there are some barriers in the implementation. These are:- .

A. Illegal status of Urban Poor

1. Large proportion of urban poor live in unlisted slums
2. Constant threat of eviction
3. This compromises their access to basic services (water, sanitation) and to entitlements.
4. Multidimensional vulnerability
5. Irregular employment, struggle for livelihood
6. Denial of entry / access in healthcare institutions

B. Sub optimal primary health care services

1. Uneven distribution of urban primary healthcare centers
2. Vacant Staff positions and low motivation of worker
3. workers Timings inconvenient to urban poor
4. Weak referral linkages and emphasis on curative care than preventive
5. Lack of convergence and programmed experience
6. Weak coordination among stakeholders
7. Weak urban health capacity of functionaries
8. Few examples of planned and well□managed urban health programmes to guide and inform ongoing and new programmes
9. High cost of private healthcare for the poor

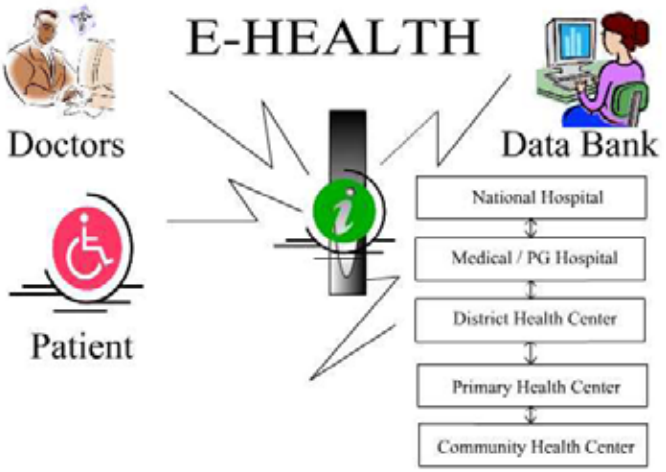
C. Weak community demand for health care

1. Poor literacy and lack of awareness about services,

schemes and entitlement
2. Poor knowledge about health and hygiene behaviors
3. Poor status of women leading to neglect of women's health and lack of family support to mother / caregiver
4. Wide prevalence of culturally influence practices that may be harmful to health

VI. Proposed model for e-health implementation

Proposed model is based on the best uses of technology in current e-health practices . In this model technology is play a vital role for citizen health treatment procedure and provide very good relationship between hospitals and patients.



VII Conclusion

e-health services are being adopted by healthcare provider organizations in Utter Pradesh gradually.

The growth of e-health services has given rise to the need for a new breed of healthcare professionals, healthcare administrators and healthcare technologists. This industry needs people who can understand any two of healthcare, business and technology. Historically the healthcare industry has been the last adopter of technology, the same has been the case with healthcare education in Utter Pradesh . Even till today, many of the medical, dental, nursing, pharmacology and other healthcare degrees do not have courses on information technology. The industry has grown to such a size that people from non-healthcare backgrounds are being recruited and trained. Interestingly, a lot of youngsters with traditional healthcare degrees such as MBBS and BDS are exploring career options in e health. As technology is pervading more into our education system, learning is becoming "anywhere and anytime". In the coming years India wrt U.P. is going to have more e health activities considering the present trend.

References

[1] U. Varshney, "Pervasive healthcare and wireless health monitoring", Mobile Networks and Applications, 12 (2-3), pp. 113-127, 2007.
[2] B. Falchuk, S. Loeb, "Mobile healthcare: Technologies and architectures", Third IEEE/NIH Life Science Systems and Applications Workshop, pp. 180-183, Bethesda, MD, 2007.
[3] [Online] Available : http//www.whoindia.org/EIP/GATS/10-67.pdf
[4] [Online] Available : http//www.mit.govt.in/telemedicine/home/asp
[5] [Online] Available : http//www.whoindia.org/EIP/GATS/13-Annex2.pdf
[6] "A Guide to e-health for the Health care Professional: An Introduction". 2001.American Telemedicine Association. [Online] Available : http//www.atmeda.org/ehealth/guide.htm
[7] Rodriguez, J Roberto., Opportunities and challenges in the deployment of global e-health. 2003. International Journal of health care Technology and Management. 5(3/4/5).
[8] "Analysis of India's e-health environment". Findings of this study at Mode 1 GATS report India.
[9] Silverman, Ross. (2000). "Regulating medical practice in the cyber age:issues and challenges for state medical boards". American Journal of Law and Medicine, Summer-Fall.
[10] "Information technology infrastructure for health": A progressive project undertaken by DIT. Findings of this study at Mode 1 GATS report India.
[11] [Online] Available :www.upnic.ac.in access during march 2010
[12] [Online] Available :www.uphealth.ac.in /annual report 2009
[13] [Online] Available : http//www.whoindia.org/EIP/GATS/10-67.pdf
[14] [Online] Available : http//www.mit.govt.in/telemedicine/home/asp
[15] [Online] Available : http//www.whoindia.org/EIP/GATS/13-Annex2.pdf
[16] Proceedings of 2nd APT Telemedicine Workshop,2004, New Delhi.

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