eHealth: Challenges and Prospects in Africa

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INTRODUCTION

Some of the most promising and clearly demonstrated applications for IT in development are in the improvement of health care delivery.

Experience to date suggests there is a number of specific ways ICT can be applied to achieve better health outcomes.

Health care is among priority sectors in developing countries, especially in Africa. Many people perish daily from infectious and other diseases due to poor health care conditions.

There seems to be a great potential in using Information and Communication Technology (ICT) to save human lives by improving health delivery and access to much needed medical knowledge. Can ICT really make a difference in improving health in Africa?
eHealth in developed countries has rapidly evolved from the delivery of online medical content toward the adaptation of generic e-commerce solutions to the processing of health-related administrative transactions and logistical support of clinical tasks. eHealth is perceived as being particularly useful in the operational support of the new decentralized and collaborative healthcare models being implemented in many countries. Initially designed for large organizations and industrialized countries, eHealth solutions are being increasingly proposed as an answer to the many health system management problems and healthcare demands faced by health organizations in developing society’s like Africa.
In the health sector, ‘eHealth’- an area rapidly growing in health today distinguished by the utilization of electronic communication and information technology to transmit, store, and retrieve digital data for clinical, educational and administrative purposes at the local and distance site.

The essence of eHealth is reliable transaction delivery in a fast changing environment involving people, processes and a service or business infrastructure focused on the ill and healthy citizen.
eHEALTH IN HEALTHCARE
DELIVERY

eHealth provide opportunities for individuals, medical professionals and healthcare providers to

- obtain information,
- communicate with professionals,
- deliver first-line support especially where distance is a critical factor and
- promote preventive medicine programmes.
CHALLENGES

The challenge is to assess,

- Specific country needs for Health ICT, telemedicine and eHealth
- Analyze long-term costs of sustainability against benefits
- There is a need for pilot testing of health information and communications technologies and methods in developing and low-income countries like Africa
- There has been important, but limited funding by donor agencies and others to date, as well as a growing number of privately sponsored projects
However, for the validation of use of eHealth in Africa, more funding is required that is designed not only to measure the long-term costs of sustainability, but also to assess outcomes, including:

- Baseline measurement of work-in-progress
- Referring and consulting site data outcomes
- Patient outcome disposition and records management
- Primary care provider/specialist diagnostic concordance
- Cost-effectiveness data
- Technology functionality and use

The most important feature of the needs assessment and pilot developments is stakeholder involvement - government, business, NGOs, community, hospitals, clinics, health care workers, patients - and a shared commitment to assessment, concept, design and implementation.
CHALLENGES

Socioeconomic and development constraints:

- Technology distribution and access deficiencies represent the most acute issues in the dissemination of health IT applications in Africa.
- High telecommunication tariffs, inappropriate or weak policies, organizational inefficiency, lack of locally created content and uneven ability to derive economic and social benefits from information intensive activities.
- IT utilization inequalities by the general population have been shown to be determined by level of education and income.
- This is complicated by the fast-changing deployment of new technologies and accompanying standards that are constantly raising the level of advancement that must be met by anyone who wants to remain current.
CHALLENGES

Technology infrastructure and operational issues:

- Poor telecommunications infrastructure, limited number of internet service providers (ISP), lack of access to international bandwidth and affordable internet access costs are readiness issues that continue to be major impediments to diffusion of internet applications to the point of healthcare in Africa.

- In Africa fast connectivity is still limited and usually only dialed-up access is available in some countries. Dependable connectivity is needed for reliable transactions.

- On a positive note, telecommunication sectoral reform in Africa is bringing significant improvements in services and a drop in tariffs because of greater competition and expanding market.

- With the recent rapid trade liberalization and modernization of the telecommunications sector in many countries, the telecommunications infrastructure is improving.
CHALLENGES

Imperfect market:
- The hospital sub sector is characterized by small facilities that cannot afford the major capital expenses in deploying ICT resources and would be hard-pressed to meet the operational costs to maintain in-house applications.
- Web enabling business and government operations is expensive.
- It is difficult for health executives in the public sector to justify such levels of investment.
- There is no comprehensive data for health ICT expenditures in Africa.
- The straightforward transfer of the e-commerce experience and solutions to the health sector is problematic because the healthcare environment has characteristics that are different from an ideal competitive market, guided by rational decisions and the balance of availability and demand for goods and services.
Skilled and committed human resources:

- People are central to the value added creation of Health IT products and services and an organization’s human resource is the key to success.
- Employees’ skills are the most expensive and least elastic resource and an obstacle to technological development in Africa.
- Most African countries do not have strong and efficient government and academic institutions committed to invest in education, scientific and technological development and public services in tandem with business sectors (for instance, banking and retail commerce) ready and willing to automate their operations.
CHALLENGES

Standardization, Security and Privacy:

. There is need for African countries to have accrediting organizations to serve as regulators for process and data standards for the healthcare industry.

Data security and privacy of personal health data are universal concerns and a high priority issue in many countries.

There is a growing concern regarding the protection of health records against intrusion, unauthorized use, data corruption, intentional and unintentional damage, theft and fraud.
CHALLENGES

- Health data transmitted over national and international networks offer unprecedented opportunities for better patient care and community health interventions by facilitating data exchange among professionals but pose new challenges to confidentiality.

- Given the sensitive nature of healthcare information, and the high degree of dependence of health professionals on trustworthy records,

- The issues of reliability (data residing in the electronic health record are accurate and remains accurate),

- Security (owners and users of the electronic health record can control data transmission and storage),

- Privacy (subject of data can control their use and dissemination) are of particular significance and must be clearly and effectively addressed by health and health related organizations and professionals.
PROSPECTS

ICT is being used in some African countries to facilitate remote consultation, diagnosis and treatment.

In Gambia, for example, nurses in remote villages use digital cameras to download images of symptoms onto a PC and transfer them to nearby towns for examination by doctors.

The same model is being applied to facilitate collaboration among physicians themselves. When an expert opinion is required, doctors in rural towns in Gambia send the images captured by the nurses to specialists in the United Kingdom for advice.

The principle of ICT-facilitated collaboration extends to medical research also. This is illustrated in West Africa, where malaria researchers use a network of satellites and ground stations to submit data for clinical trials conducted at tropical disease research facilities in London and Geneva.

Currently some national governments and their respective agencies in Africa are committed to WHO resolution on eHealth and implement New Partnership for Africa’s Development (NEPAD) sectoral priorities on Health ICT. This is evident by Promotion of education, training and national planning capacity in information systems and technology; convening groups for implementation of standards.
PROSPECTS

- The prospects of information technology in healthcare for Africa are tremendous. Nowadays it is becoming increasingly difficult to run an institution without using computers. Desktop machines are replacing traditional office typewriters.

- Information technology that can be used, maintained and developed by the indigenous professionals is crucial. Education and training is a key to building indigenous capacity that helps reduce dependence on developed world, to cut under-utilisation of existing equipment and to help to apply technology for solving local complex problems.

- Though the changes for technology render what is appropriate at one time inadequate at another, African countries should consider effective use of some basic technologies.

- Four main technologies are very important in information access in developing countries, namely: desktop publishing, CD-ROM, on-line access and Internet connection.
PROSPECTS

Governments should play active roles in diffusing the above technologies to colleges, universities and schools and Healthcare institutions in particular.

The use of Internet is a boost to graduate research in Africa. Connectivity helps to open the window to global knowledge for Africa. In addition to deploying information technology in education, governments should promote the use of information technology in the health sector.

Governments should develop better policies for equitable access to Information Technology. The need to provide equitable access should not undercut connection of information delivery agencies, business and private institutions to high bandwidth networks.

Those "ready to ride" should be allowed to surf on global information networks. Appropriate information and communication policies are the basis for building regional information infrastructure for socio-economic development.
PROSPECTS

Wireless communications technologies (satellite, microwave and cellular) can be used to operate sustainable health systems for the poorest in an environment of limited infrastructure.

IT based solutions in resource poor environments include systems for health information and readiness, health education and training, drug supply and inventory tracking, treatment procedures and protocols, and health care resource tracking and support in remote areas.

Telemedicine systems allow the interconnection of users in the field, local clinics, regional health facilities and national hospitals, and the linkage with key international institutions and disease-related centers of excellence.
CONCLUSION

eHealth (ICTs) present many potential benefits and challenges; thus, potential for explosive growth.

To realize the benefits, the challenges mentioned must be overcome.

Human resource development related to ICT in health is a huge area that is critical to the successful application of ICT in the sector.

Skills in information systems design and implementation are critical to successful application of ICT in the sector.
CONCLUSION

- Progress is being made, but before eHealth can emerge there must be improved reliability and robustness.

- If eHealth is to flourish in Africa, it needs to be staged and nurtured. We need to build on our own local skills and infrastructure, based on local demand.

- The careful selection of solutions is important - we should only take the best from elsewhere. There are many initiatives, and only a few will survive.

- Africa should ensure that eHealth becomes an integral part of health organizations - bricks and clicks.

- Build competencies for eHealth; find & retain skilled personnel
CONCLUSION

- Health is Wealth; the Wealth of a Nation is the health of its people

- Has African countries made enough effort in examining ways and means of providing the infrastructure to connect the health community and providing access to information relevant to the health needs of the continent?

- Leadership in African countries must demonstrate their commitment to the implementation of eHealth and promote both concept and practical application through participation, allocation of resources and open communication.

- To meet the goals of poverty eradication programmes of many African countries as well as the millennium development goals (MDG), our socio-economic thinking must tag along with the improvement in the health sector with the eHealth tools and services.
Thank you for listening