ICT applications and risks in the Health Industry

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Information and Communication Technologies (ICT)

Information and Communication Technologies (ICTs) is a broader term for Information Technology (IT), which refers to all communication technologies, including the internet, wireless networks, cell phones, computers, software, middleware, video-conferencing, social networking, and other media applications and services enabling users to access, retrieve, store, transmit, and manipulate information in a digital form.

Telehealth

The term telehealth has been broadly defined as the use of telecommunication and information technologies for the provision of healthcare to individuals at a geographical distance. Telehealth involves a wide variety of specific modalities including telephone-based interactions, Internet-based information, still and live imaging, personal digital assistants and interactive audio-video communication or television.

eHealth

eHealth is described as the overall umbrella field that includes both ICT and telehealth, combining use of electronic communication and information technology in healthcare

While the term ICT and its correlation to the health industry exist for almost two decades, it's now urgent during the pandemic of Covid-19 to revisit the advantages and the disadvantages of telemedicine as it's what we need in this era of social distancing and digital reforming.

Applications of ICT in Healthcare

ELECTRONIC HEALTH RECORDS (EHRs)

Automatically alert the treating physician to potential issues such as allergies or intolerances to certain medicines.

Provide invaluable data to clinical researchers, helping to advance medical knowledge and the development of treatments for common health problems.

Patients can track their own health condition as well as get a second opinion from any medical practitioners around the globe.

HEALTH EDUCATION

Health education creates awareness among the public about the communicable diseases, health status, prevention measures and various current diagnostic & therapeutic procedures.

ICT IN HOME CARE

ICT applications in home care act as a tool to support people living with chronic illnesses and helps them gain control of their illness while promoting self-care.

Various ICT applications offer healthcare professionals the way to become more flexible and able to address the differing needs of individual patients, that is, a more person-centered care.

BIG DATA AND THE CLOUD

Reduces healthcare costs.

Predicts epidemics.

Avoids preventable deaths.

Improves quality of life.

Reduces healthcare waste.

Developes new drugs and treatments.

Protects against the loss of sensitive data with strong backup and recovery services.

mHealth Apps

Some of the areas that "mhealth" apps assist with include:

- Chronic care management.
- Medication management.
- Medical reference.
- Diagnostics.
- Personal health records.
- Women’s health.
- Fitness and weight-loss.
- Mental health

HOSPITAL MANAGEMENT SYSTEMS

ICT helps the management to improve patient safety and satisfaction, get updated to the latest technology, have knowledge on population health and statistics and keep a note on the government mandates on track.

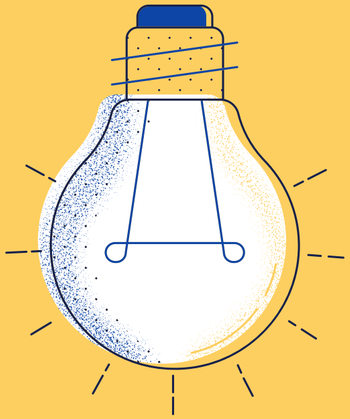
Using ICT and Serious Games for Health help reduce costs by reducing the time required to process data and manage paperwork.

The implementation of Telemedicine means fewer patients in waiting rooms and less pressure on front desk teams. Other benefits include shorter patient waiting times and improved efficiency that leads to savings.

NOTABLE APPLICATIONS

Robot-assisted surgery and Telesurgery which allows a surgeon to operate with precision from anywhere in the world.

Smart cards that contain all of the medical records of a patient and can be used every time they visit a doctor, dentist, pharmacist or hospital.



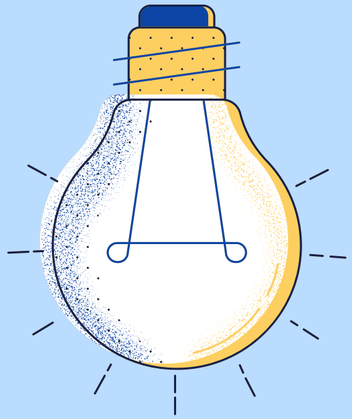
RISKS PEOPLE-WISE

The use of ICT cannot replace a face-to-face encounter with a medical expert.

There is a lack of knowledge about how to use ICT solutions to meet the needs of people with chronic illness.

Hospital staff need training which is costly and sometimes staff members may be resistant or fearful of using ICT.

Increase of impersonal patient-doctor interactions.

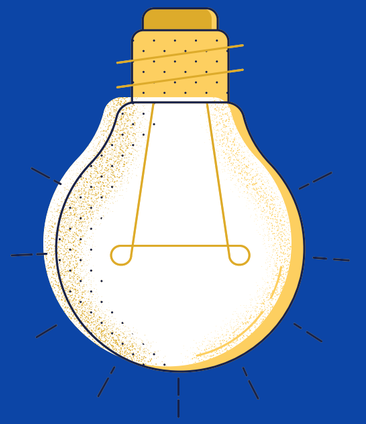


RISKS TECHNOLOGY -WISE

While having a central point for all data information is extremely useful, overdependence may result in serious repercussions if there are connectivity or bandwidth problems.

Susceptibility to network hackers. Patients' medical history and other health information should be kept confidential for ethical and legal reasons. While the health care system network is definitely equipped with security measures, it is not impossible for network hacking to occur.

ADDITIONAL RISKS



Patient records are apparently big business, with stolen health credentials fetching upwards of $10 each – about 10 or 20 times the value of a credit card number. The information on these records can then be used to create fake IDs (to purchase medical equipment/drugs or submit false insurance claims).

Even with the most advanced technology, human error can’t be erased completely. Mobile devices can be easily lost or stolen, and they’re also vulnerable to hacking, malware, and viruses

Thank you for your time!