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Information Technology and Healthcare Education: Scope and Opportunities

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Patient administration, laboratories and accounts handle large volumes of numeric data and the revolution in the field of information and technology (IT) has made the clinical activities involving calculations much easier. There is emergence of computer-aided history-taking and diagnosis. In a simplified language, it can be said that we need computers for data entry, data processing and for data storage where the data can be retrieved as and when necessary (for patient management or for research purpose). The basic unit what we all are aware is a computer hardware which in simplest terms is collection of various physical parts and includes monitor, keyboard, mouse, hard disk drive, motherboard, video card and many others components, largely determined by the needs of the users. Now the word processing and database management systems have penetrated the working clinician and health services management. Information technology in medical education and healthcare is a broad concept that encompasses procedures, tools and techniques which can be used to improve healthcare delivery and can facilitate health education. This concept includes complex technological models, software packages, hardware equipments and is supported by innovative technologies. Schwartz[1] predicted that by the year 2000, the computer-aided diagnosis will have instrumental role in medicine. This will further extend the physician's intelligence.[2] Health information technology will decrease delayed, missed and incorrect diagnoses in the clinical practice.[3] With the help of IT, human being became more productive and efficient with the information. Computer application has improved human tasks and activities. The convergence of information and communication technologies were the next steps and this has led the booming of networking, both within and between the organizations.[4]

The data sharing concepts and integrated information systems were evolved in the 90's. Hospital information systems took rich data like sounds, images, movies inside the hospital. The health records in the medical records department became completely digital, including the acquisition, storage and transmission of the data. The internet usage became essential, which enabled moving of data and information quickly and cost-effectively.[4] With the rapid rate of development and proliferation of information, we can expect more sophisticated use of computers, like voice and handwriting recognition in the future. The health professionals should take it as a challenge to implement techniques like tele-surgery and integrated electronic health records for the benefit of their patients. The sophisticated undergraduate and postgraduate web-based training has to be done as well.[4] Inadequate facilities and delayed diagnosis are causing higher mortality in a majority of cases in peripheral areas. High-quality history taking and physical examination is very much essential; however, time pressure and memory pose a major problem. In the 1960s, history-taking through computer-based patient interviewing was performed.[5,6] It was reported that the technology can be used as a complement rather than replacement to the physician-acquired history.[7] The electronically available patient information enables efficient review of patient information and recognition. Graphical representation of numerical data could be performed.[8] The display of patient data in graphs and tables have decreased the review times. They are also effective in answering the various clinical questions.[9] The diagnostic checklists comprising of 'don't miss' or 'commonly missed diagnoses' can be given to the doctors for common presenting symptoms and sign

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for cross verification.[3,10] This can be best performed with computer-based differential diagnosis listing.[3] Diagnostic protocols can be ingrained into various electronic tools.[3]

Various modules have been developed and promoted for healthcare delivery and for facilitating healthcare education, training and research. These include e-Hospital,[11] e-Office,[12] e-Library[13] and many other electronic health record management systems. **e-Hospital**[11] is promoted by National Informatics Centre (NIC) and is a health information management system, which can be deployed in cloud and can be managed across the hospitals. This helps to maintain treatment cycles related to outpatient and inpatient services and integrates clinical, administrative and billing-/insurance-related activities. The available modules include patient registration facility, emergency registration, clinics, billing and accounts, PACS Interface, pharmacy management, electronic medical records (EMR), telemedicine suite, to name a few. **e-Office** is a simplified, responsive module which is also developed by NIC and helps to maintain efficient, effective and transparent transactions and processes while ensuring data security and data integrity. The aim of **e-Library** is to provide paperless, uninterrupted and comprehensive access to online resources, e-journals, electronic documents and many other virtual resources.

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US Dietary Advisory Committee Recommends No Added Sugar Until Two Years of Age

A US government advisory group has issued its first-ever set of dietary guidelines for infants and toddlers. The plan from the 2020 Dietary Guidelines Advisory Committee recommends that children under 2 years of age should not be given any added sugar.

It further states that infants should be fed only breast milk for the first 6 months, where possible. The report stresses on breast milk as the best option for babies and states that it can help reduce the risk of obesity later on. However, if it is not available, infants should be given iron-fortified formula. Supplemental vitamin D should also be started soon after birth. The guidelines recommend that all Americans must limit added sugar to less than 10% of daily food intake… (*BBC*)