



## ADVANCEMENT OF INFORMATION TECHNOLOGY RELATED TO MEDICAL AND HEALTH SECTOR

### Information Technology & Biochemistry

<b>Tripuresh Pandey</b>	Department of Information Technology, Owaisi Hospital & Research Centre, Deccan College of Medical Sciences, Hyderabad 500058 T.S India.
<b>Syyeda Anees</b>	Department of Biochemistry, Owaisi Hospital & Research Centre, Deccan College of Medical Sciences, Hyderabad 500058 T.S India.
<b>Shaikh Mahmood*</b>	Department of Biochemistry, Owaisi Hospital & Research Centre, Deccan College of Medical Sciences, Hyderabad 500058 T.S India. *Corresponding Author

### ABSTRACT

Information technology (IT) related to medical and health sector has vast area of net working. It is very easy to find out the location and land mark of specified and particular names of hospitals in the field of medical and health centers. It is also very easy to find out the total medical and health facilities under one roof, the list of doctors available, the drug available in pharmaceuticals stores, blood available in the blood banks, three(3) dimensional surgery facility, a deck facility of the patients etc. The Hottest Medical Technologies are related Advance Telemedicine, New Methods of Drug Development, Data Driven Health Care, Nanomedicine, 5G-Enabled Devices, Tricoders, Healthcare's Digital Assistants, Smarter Pacemakers, A Lab. on a Chip, Wearables with a Purpose, Remote Patients Monitors, Artificial Intelligence, Digital Therapeutics, Technology in Mental Health and Internet of Medical and Health Sector.

### KEYWORDS

Medical Technologies, Advance Telemedicine, New Methods of Drug Development, Data Driven Health Care, Nanomedicine, 5G-Enabled Devices, Tricoders, Healthcare's Digital Assistants, Smarter Pacemakers, A Lab. on a Chip, Remote Patients Monitors, Artificial Intelligence, Digital Therapeutics, Internet of Medical and Health Sector.

### INTRODUCTION:

The medical and health advances are the generation of information of knowledge.1-5 This improves understanding in medical and health sciences, these are significant break through that results in an improvement of the diagnosis, treatment and prevention of diseases.6-8 With the advancement of big data, wearable medical devices, virtual reality, block chain, telehealth and more, medical and health care practitioners across the globe are in a much better place to manage their patients in hospitalized and post hospitalized cases.9-12 These technologies have significantly the processes the role of technology in medical and health has reshaped for patient – care, hospital management, discovering and innovating better drugs and predicating the course of treatment based preliminary on data.13-15 The importance of technology in medical and health care is deeply – rooted.16-18 The internet of medical technology, artificial intelligence and deep learning technology is now paring its way to provide fast care management and care of emergencies, reduce casualties by providing real – time ewers to patients history – all with a few taps on screen.19-20

### MATERIALS AND METHODS:

The Deccan College of Medical Sciences Hyderabad has two major teaching hospitals named Owaisi Hospital and Research Centre 1050 bedded and Princess Esra Hospital and Research Centre 850 bedded, there also a number of rural dispensaries working under it.21-25 It is a very great privilege that the Information Technology Department of DCMS, OHRC, PEHRC and rural dispensaries are upgraded with latest Information Technology Department software.26-30 The Information Technology Department covers from reception desk to patients discharge.31-35.

### CONCLUSION:

Information Technologies are reaching maturity now, many important technologies have enormous future potentials.36 As more of the world's information is digitalized and more people and more people and things are network, the economics of the digital networked economy will become ever more important.37 Recent years have yield significant advances in computing and communication technologies, with profound impact on society. Technology is transfixing the way we work play and interact with others.38

### DISCUSSION:

Information Technology has helped healthcare professions track patients' records easily and securely.39 A medical professional can add records, x-rays, tests results and even vital signs to the virtues chart that is easy to record shown and check against other records.40

### REFERENCES

1. Health at a glance 2017: OECD indicators. Paris: Organisation for Economic Cooperation and Development; 2017 ([http://dx.doi.org/10.1787/health\\_glance2017-en](http://dx.doi.org/10.1787/health_glance2017-en)).

2. Tackling wasteful spending on health. Paris: Organisation for Economic Cooperation and Development; 2017 (<http://dx.doi.org/10.1787/9789264266414-en>), accessed 24 February 2018).
3. Health at a glance 2015: OECD indicators. Paris: Organisation for Economic Cooperation and Development; 2015 (<http://apps.who.int/medicinedocs/documents/s22177en/s22177en.pdf>), accessed 24 February 2018). 8. WHO fact sheet on antimicrobial resistance. Geneva: World Health Organization; 2018 (<http://www.who.int/mediacentre/factsheets/fs194/en>), accessed 24 February 2018).
4. Advancing the responsible use of medicines: applying levers for change. IMS Institute for Health Care Informatics; 2013 (<http://papers.ssrn.com/sol3/papers.cfm?abstractid=2222541>), accessed 24 February 2018).
5. World health statistics 2016: monitoring health for the Sustainable Development Goals. Geneva: World Health Organization; 2016 ([http://who.int/gho/publications/world\\_health\\_statistics/z2016/EN\\_WHS2016\\_TOC.pdf](http://who.int/gho/publications/world_health_statistics/z2016/EN_WHS2016_TOC.pdf)), accessed 24 February 2018).
6. Tracking universal health coverage: first global monitoring report. World Health Organization and World Bank; 2015 ([http://www.who.int/healthinfo/universal\\_health\\_coverage/report2015/en](http://www.who.int/healthinfo/universal_health_coverage/report2015/en)), accessed 24 February 2018). References 78 14.
7. Caring for quality in health: lessons learnt from 15 reviews of health care quality. Paris: Organisation for Economic Cooperation and Development; 2017 (<http://dx.doi.org/10.1787/9789264267787-en>), accessed 24 February 2018).
8. Speakers and moderators at the Policy Forum on the Future of Health: statement by Donald M. Berwick. Paris: Organisation for Economic Cooperation and Development (<http://www.oecd.org/health/ministerial/policy-forum/speakers.htm>), accessed 24 February 2018).
9. Arah OA, Westert GP, Hurst J, Klazinga NS. A conceptual framework for the OECD Health Care Quality Indicators Project. International Journal for Quality in Health Care. 2006;Suppl 1:5–13.
10. Braithwaite J, Herkes J, Ludlow K, Testa L, Lamprell G. Association between organisational and workplace cultures, and patient outcomes: a systematic review. BMJ Open. 2017;7(11).
11. Citizen Voice and Action: civic demand for better health and education services. World Vision International; 2012 (<https://www.wvi.org/local-advocacy/publication/citizen-voice-and-action-project-model>), accessed 24 February 2018).
12. OECD reviews of health systems: Costa Rica 2017. Paris: Organisation for Economic Cooperation and Development; 2017.
13. Monitoring health inequality: an essential step for achieving health equity. Geneva: World Health Organization; 2015.
14. Leslie HH, Ndiaye Y, Kruk ME. Effective coverage of primary care services in eight high-mortality countries. BMJ Global Health. 2017:e000424.
15. Kruk ME, Leslie HH, Verguet S, Mbaruku GM, Adanu RMK, Langer A. Quality of basic maternal care functions in health facilities of five African countries: an analysis of national health system surveys. Lancet Global Health. 2016;4(11):e845–55.
16. Leslie HH, Fink G, Nsona H, Kruk ME. Obstetric facility quality and newborn mortality in Malawi: a cross-sectional study. PLoS Medicine. 2016;13(10):e1002151.
17. Ng M, Misra A, Diwan V, Agnani M, Levin-Rector A, De Costa A. An assessment of the impact of the JSY cash transfer program on maternal mortality reduction in Madhya Pradesh, India. Global Health Action. 2014;7(1):24939.
18. Stenberg K, Hanssen O, Tan-Torres Edejer T, Bertram M, Brindley C, Meshreky A et al. Financing transformative health systems towards achievement of the health Sustainable Development Goals: a model for projected resource needs in 67 low-income and middle-income countries. Lancet Global Health. 2017;5(9):e875–87.
19. Abegunde D. Inefficiencies due to poor access to and irrational use of medicines to treat acute respiratory tract infections in children. World health report 2010: Background Paper No. 52. Geneva: World Health Organization (<http://www.who.int/healthsystems/topics/financing/healthreport/whr-background/en>), accessed 25 February 2018).
20. Ministerial statement: the next generation of health reforms. OECD Health Ministerial Meeting, 17 January 2017. Paris: Organisation for Economic Cooperation and Development (<http://www.oecd.org/health/ministerial/ministerial-statement-2017.pdf>), accessed 27 February 2018).
21. Institute of Medicine. Medicare: a strategy for quality assurance, volume I. Washington (DC): National Academies Press; 1990 (<https://doi.org/10.17226/1547>), accessed 25 February 2018).

22. Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington (DC): National Academies Press; 2001 (<https://doi.org/10.17226/10027>, accessed 25 February 2018).
23. Maternal, newborn, child and adolescent health: what is quality of care and why is it important? Geneva: World Health Organization (<http://www.who.int/maternal-child-adolescent/topics/quality-of-care/definition/en/>, accessed 25 February 2018).
24. Global Health Observatory data. Geneva: World Health Organization (<http://www.who.int/gho>, accessed 26 February 2018).
25. Data for measuring health care quality and outcomes: OECD Health Care Quality Indicators Project. Paris: Organisation for Economic Cooperation and Development (<http://www.oecd.org/els/health-systems/health-care-qualityindicators.htm>, accessed 26 February 2018).
26. Data Bank: Service Delivery Indicators. Washington (DC): World Bank (<http://databank.worldbank.org/data/reports.aspx?source=service-delivery-indicators>, accessed 26 February 2018).
27. Demographic and Health Surveys. DHS Program (<https://dhsprogram.com/>, accessed 26 February 2018).
28. Donabedian A, Wheeler JR, Wyszewianski L. Quality, cost, and health: an integrative model. *Medical Care*. 1982;10:975–92.
29. Das J, Holla A, Das V, Mohanan M, Tabak D, Chan B. In urban and rural India, a standardized patient study showed low levels of provider training and huge quality gaps. *Health Affairs*. 2012;31(12):2774–84.
30. Peabody JW, Tozija F, Muñoz JA, Nurdyke RJ, Luck J. Using vignettes to compare the quality of clinical care variation in economically divergent countries. *Health Services Research*. 2004;39(6 Pt 2):1951–70.
31. Wilson RM, Michel P, Olsen S, Gibberd RW, Vincent C, El-Assady R et al. Patient safety in developing countries: retrospective estimation of scale and nature of harm to patients in hospital. *BMJ*. 2012;344:e832. 50. Patient experience with ambulatory care. In: *Health at a glance 2015: OECD indicators*. Paris: Organisation for Economic Co-operation and Development; 2015.
32. United States National Healthcare Disparities Report. United States Department of Health and Human Services, Agency for Healthcare Research and Quality; 2015. DELIVERING QUALITY HEALTH SERVICES: A GLOBAL IMPERATIVE FOR UNIVERSAL HEALTH COVERAGE 81
33. Schoen C, Osborn R, Squires D, Doty MM, Pierson R, Applebaum S. New 2011 survey of patients with complex care needs in 11 countries finds that care is often poorly coordinated. *Health Affairs (Millwood)*. 2011;30(12):2437–48.
34. World health report 2010. Health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010.
35. Brownlee S, Chalkidou K, Doust J, Elshaug AG, Glasziou P, Heath I et al. Evidence for overuse of medical services around the world. *Lancet*. 2017;390(10090):156–68.
36. Health care systems: efficiency and policy settings. Paris: Organisation for Economic Co-operation and Development; 2010 (<http://dx.doi.org/10.1787/9789264094901-en>, accessed 26 February 2018).
37. Strengthening integrated, people-centred health services. Resolution WHA69.24, adopted at the World Health Assembly, 28 May 2016. Geneva: World Health Organization; 2016.
38. Global Strategy on Human Resources for Health: Workforce 2030. Geneva: World Health Organization; 2016 (<http://www.who.int/hrh/resources/globstrathrh-2030/en/>, accessed 26 February 2018).
39. Frenk J, Chen L, Bhutta ZA, Cohen J, Cripps N, Evans T et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*. 2010;376(9756):1923–58.
40. Guidelines on transforming and scaling up health professionals' education and training. Geneva: World Health Organization; 2013 (<http://who.education.guidelines.org/content/about-guidelines>, accessed 26 February 2018).