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An Imperative for Improved Healthcare System**

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Bioinformatics, Healthcare Informatics and Analytics: An Imperative for Improved Healthcare System

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[Jelili Oyelade](#), [Jumoke Soyemi](#), [Itunuoluwa Isewon](#), [Olawole Obembe](#) Published in [Information Science](#)





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Abstract

Healthcare Informatics focuses on health data, information and knowledge, including their collection, processing, analysis and use. Bioinformatics employ computational tools and techniques to study and analyse large biological databases and to absolutely understand disease and grasp the genetics and proteomics by relating them with healthcare data. The focus is on processing genomic and proteomics data for basic research in biology, but also medicine, drug discovery, and related areas. Analytics in healthcare came as a result of large healthcare data that are being gathered electronically. Data analytics is proficient in terms of healthcare improvement, reduction in cost and safety of lives. Applications of data analytics in healthcare is as a result of the eruption in data to mine understandings so as to make informed decisions. This paper reviews bioinformatics, Healthcare Informatics and Analytics as an imperative for an improved Healthcare System. It looks at the benefits, the contribution of each of them to improving healthcare system, the overlap among bioinformatics, healthcare Informatics and analytics and finally the future prospects of healthcare informatics and analytics.

Reference

1. Hogeweg, P. 2011. "The Root of Bioinformatics in Theoretical Biology". *Plos Computational Biology*, 7(3).
2. Fleischmann R. D. , Adams M. D. , White O. , Clayton R. A. , Kirkness E. F. , Kerlavage A. R. , Bult C. J. , Tomb J. F. , Dougherty B. A. , Merrick J. M. 1995. "Whole-genome random sequencing and assembly of *Haemophilus influenza*". *Science* 269 (5223): 496–512.
3. Muller, U. R. , and Nicolau D. V. 2004. "Microarray Technology and Its Applications". Berlin: Springer. 361–374.
4. Andrzej Polanski and Marek Kimmel 2007. *Bioinformatics*. New York: Springer Verlag Berlin Heidelberg.
5. Prerna S. , and Kimberly T. , 2009. "Translational Bioinformatics and Healthcare Informatics: Computational and Ethical Challenges". *Online Research Journal Perspectives in Health Information Management*, 6.
6. Hersh W. 2009. "A stimulus to define informatics and health information technology". *BMC Med Inform Decision Making* 9:24

7. In Y. C. , Tae-Min K. , Myung S. K. , Seong K. M. and Yeun-Jun C. 2013. Perspectives on Clinical Informatics: Integrating Large-Scale Clinical, Genomic, and Health Information for Clinical Care. Genomics and Informatics. Published online by Korea Genome Organization.
8. Friedman, C. 2009. "A fundamental theorem of biomedical informatics". Journal of the American Medical Informatics Association, 16: 169-170.
9. US Department of Health. 2002. Making information count: a human resources strategy for health informatics professionals. USA: Department.
10. IBM Institute for Business Value 2012. The Value of Analytics in healthcare. IBM Global Business Services, USA.
11. Dale, S. , David, A. S. and Denis, P. 2013. The Healthcare Analytics Adoption Model: A Framework and Roadmap. White paper by Health Catalyst.
12. IHIT, 2013. Transforming healthcare through Big data strategies for leveraging health care industry. The Institute for Health Technology Transformation.
13. LaValle, S. , Lesser E. , Shockley R. , Hopkins M. S. , Kruschwitz N. 2011. "Big data, analytics and the path from insights to value". MIT Sloan Manag Rev,52:20-32.
14. Raghupath, W. 2012. Data Mining in Health Care. In Healthcare Informatics: Improving Efficiency and Productivity, pp. 211-223.
15. Burghard C. 2012. Accountable Care driven Big data and analytics. White Paper by IDE Health insights.
16. Dembosky A. 2012. Data prescription for better healthcare. Financial Times, pp. 19.
17. Fernandes L. , O'Connor M. , Weaver V. 2012. "Big data, bigger outcomes: Healthcare is embracing the big data movement, hoping to revolutionize HIM by distilling vast collection of data for specific analysis". J AHIMA. 83(10):38-43.
18. André W. K. 2008. Forecasting in Health Care: Integrating Analytics with Electronic Health Records SAS Institute Inc.
19. Korsten, P. and Christian S. 2010. The world's 4 trillion dollar challenge. Using a system-of-systems approach to build a smarter planet. IBM Global Business Services.
20. The Commonwealth Fund, 2011. Commonwealth Fund National Scorecard on U. S. Health System Performance. Source: Commonwealth Fund National Scorecard on U. S. Health System Performance, 2011.
21. Adams, J. R. , Bakalar, M. D. , Michael B. , Karen K. , Edgar L. M. and Neil S. 2008. "Healthcare 2015 and care delivery: Delivery models refined, competencies defined. " IBM Institute for Business Value.
22. IBM 2012. IBM big data platform for healthcare. Solution Brief.
23. Ravi, K. 2013. Informatics or Analytics? Understanding Healthcare Provider Use cases. Retrieved September 10, 2014 from: <http://practicalanalytics.wordpress.com/2013/07/15/informatics-or-analytics-understanding-healthcare-provider-use-cases/>
24. Wullianallur R. and Viju R. 2014. "Big data analytics in healthcare: promise and potential. Health Information" Science and Systems, 2:3
25. IKANOW 2012. Data analytics for healthcare: creating understanding from Big data. Retrieved August 14, 2014 from: <http://info.ikanow/portals/163225/docs/data-analytics-for-healthcare.pdf>
26. Carlton, M. 2012. How big data analytics reduced medical re-admissions. IBM Corporation.
27. Knowledgegent 2012. Big data and healthcare payers. White Paper by Knowledgegent Innovation through Information. Knowledgegent White Paper Series.
28. Anil, J. 2009. Unlocking the power of big data to improve healthcare for everyone. Explorys.

29. Intel 2012. Leveraging Big data and analytics in healthcare and life sciences: enabling personalized medicine for high-quality care, better outcomes. Medtech media.
30. Greenes, R. A. 1994. Strategic planning activities of American Medical Informatics Association. J Am Inform Assoc, 1(3):263-271.

Keywords

Healthcare Informatics, Bioinformatics, Analytics, Healthcare System

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