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*Editorial*

## Importance of health informatics

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### EDITORIAL NOTE

Health informatics is concerned with the development of methods and technologies for the collecting, processing, and analysis of patient data, which can originate from a variety of sources and modalities, including electronic health records, diagnostic test results, and medical scans. The study of the design, development, and use of computational technologies to improve health care is included in health informatics, which is a multidisciplinary field. Computer engineering, software engineering, information engineering, bioinformatics, and other disciplines are participating in this project, which combines medical and computers. Data science and knowledge representation are critical in healthcare. Clinical research informatics and Translational bioinformatics are two subfields of health informatics.

Clinical Research Informatics (CRI) aims to use informatics methods to increase the efficiency of clinical research. This research informatics addresses a variety of issues, including the creation of health-care data warehouses that can be used for research, the use of electronic data capture systems to support data collection in clinical trials, the streamlining of ethical approvals and renewals, and the preservation of past clinical trial data repositories. Researchers and the informatics team are having difficulty coordinating plans and ideas in order to design a system that is easy to use for the research team while also meeting the system requirements of the computer team. The CRI's development may be hampered by a lack of financing. Initiatives to offer de-identified patient level clinical study data for download by researchers who seek to re-use this data are a parallel attempt to standardise how data is obtained. The Clinical Research Informatics supports a variety of clinical

research initiatives such as data gathering and acquisition that is more efficient and effective; protocol design that is optimal and management that is efficient; data archives for finished clinical trials; reporting of Adverse Events and regulatory compliance.

Translational Bioinformatics (TBI) can be described as the collecting and conversion of massive amounts of health-related data such as biomedical and genomics into individually personalised therapeutic entities. Genes involved in unknown or rare conditions/syndromes are identified using genomic data. Oncology is currently the most active application of genomics. During oncological therapy processes, the discovery of cancer genomic sequencing may provide reasons for drug(s) sensitivity and resistance. Clinical big data is a set of electronic health records that can be used to develop new products. To improve patient outcomes, it is suggested that the evidence-based approach now used in medicine be combined with practice-based care. The idea of repurposing a medicine is tempting because it allows pharmaceutical companies to sell an existing approved drug to treat a condition or ailment for which it was not originally licenced by the FDA. By observing "molecular signatures in disease and comparing them to signatures identified in cells," researchers can estimate a medicine's ability to cure and/or minimise symptoms of an illness. Personalized genetic testing is another key theme in Translational Bioinformatics. Using genetic testing in health care poses a slew of ethical, legal, and societal issues; one of the most pressing concerns is whether health care professionals are prepared to incorporate patient-supplied genomic data while still providing unbiased and high-quality care. The reported cases of incorporating such data into health-care delivery had both positive and negative effects on overall health-care outcomes.

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