Bioinformatics in Medicine: The Age of Omics

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ABSTRACT: Earlier this year President Obama announced details about the Precision Medicine Initiative, a plan to effectively improve healthcare by taking into account genetic, environmental, and other patient specific data that directly impacts the diagnosis and treatment of diseases. The initiative highlights the need to be able to efficiently integrate data derived from molecular biology techniques with phenotypic and clinical data. Advancing technologies in DNA and protein sequencing allow clinical researchers to investigate an individual patient’s genetic markers; however, these data sets are difficult to integrate due to the complexity and scale of the data. This presentation will review lessons learned while working as a Bioinformatics Consultant to the ACBRI at Cedars-Sinai Hospital. The goal of the position was to capture the needs and capabilities of the research community at Cedars-Sinai, and to design an infrastructure for a Research Community Bioinformatics Network (RCBN).