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                        Records with Nenomics Through Basic, Clinical, and Translational
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   Sommario/riassunto   This eBook contains the 19 articles that were part of a Special Topic in
                        Frontiers in Genetics entitled "Genetics Research in Electronic Health
                        Records Linked to DNA Biobanks". The Special Issue was published on-
                        line in 2014-2015 and contained papers representing the diverse
                        research ongoing in the integration of electronic health records (EHR)
                        with genomics through basic, clinical, and translational research. We
                        have divided the eBook into four Chapters. Chapter 1 describes the
                        Electronic Medical Records and Genomics (eMERGE) network and its
                        contri-bution to genomics. It highlights methodological questions
                        related to large data sets such as imputation and population
                        stratification. Chapter 2 describes the results of genetic studies on
                        different diseases for which all the phenotypic information was
                        extracted from the EHR with highly specific ePhenotyping algorithms.
                        Chapter 3 focuses on more complex analyses of the genome including
                        copy number variants (CNV), pleiotropy com-bined with phenome-wide
                        association studies (PheWAS), and epistasis (gene-gene interactions).
                        Chapter 4 discusses the use of genetic data together with EHR-derived
                        clinical data in clinical settings, and how to return genetic results to
                        patients and providers. It also contains a comprehensive review on
                        genetic risk scores. We have included mostly Original Research Articles
                        in the eBook, but also Reviews and Methods papers on the relevant
                        topics of analyzing and integrating genomic data. The release of this

eBook is timely, since several countries are launching Precision Medicine initiatives. Precision Medicine is a new concept in patient care taking into account individual variability in genetic, environmental and lifestyle factors, when treating diseases or trying to prevent them from developing. It has become an important focus for biomedical, clinical and translational informatics. The papers presented in this eBook are well positioned to educate the readers about Precision Medicine and to demonstrate the potential study designs, methods, strategies, and applications where this type of research can be performed successfully. The ultimate goal is to improve diagnostics and provide better, more targeted care to the patient.