

## **Real-world evidence: The public health perspective for chronic diseases**

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**Statement of the Problem:** In the last decade, Real-World Data (RWD) has been increasingly used to provide Real-World Evidence (RWE) in the arena of developing new medical products. RWE complements findings from Randomized Controlled Trials (RCT) by providing information about clinical use of the products in the broader population, and how different environmental and health-care factors can influence treatment effects and/or outcomes. Nevertheless, the potential of RWD/RWE has not been extensively explored in the field of chronic diseases.

**Objective:** The aim is to explore the use of RWD/RWE for maintenance therapies among patients with chronic diseases.

**Methodology:** The strengths, weaknesses, and potential extension of RWD/RDE applications were analyzed by the review of two case studies: (1) The use of antihypertensive medications and change in stages of chronic kidney disease in American adults during 1999-2012; and (2) Changes in cognitive function in American population – metabolic syndrome and use of antipsychotic medications in 1999-2016.

**Findings:** The following factors can expedite the use of RWD/RWE in the field of chronic diseases: (1) setting of multiple population-oriented databases with standardized data collection and easy linkage; (2) expending of existing analytic methods and developing novel methodological approaches to conduct such research. In addition, clinical research with open access will expedite understanding of RWE studies and findings by the communities with diverse population of patients.

**Conclusions and Relevance:** RWD can play significant role in the area of chronic diseases. There is some work to be done to utilize RWD/RWE for clinical research of maintenance therapies among patients with chronic diseases.

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