



ICD-11 Helps Link East-West Clinical Data for Potential Drug Discovery

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Opinion

Volume 4 Issue 1

Received Date: January 10, 2020

Published Date: January 23, 2020

DOI: [10.23880/ipcm-16000194](https://doi.org/10.23880/ipcm-16000194)

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With the advancement of computational science and technology, medical records have been transformed from the previous handwritten mode to the electronic format. Precise and systematic storage of patient data including demographics, diagnosis, medication, laboratory test results and radiological reports is possible. Retrospective investigation of the electronic health records (eHR) could probably find novel relationships between diseases re-evaluate drug usage and discover phenotype-genotype associations [1].

In May 2019, the World Health Assembly from World Health Organization (WHO) formally approved to include a chapter on diagnoses in terms of traditional medicine in the latest version of WHO International Classification of Diseases (ICD-11). Chinese medicine (CM) has a very long history and is widely used in Asia. The patients likely use CM to restore the body to its natural balance and/or western medicine (WM) to suppress the symptoms. Due to the fundamental differences between two systems, it is quite difficult to make well-defined evidences to demonstrate the efficacy and safety of CM with or without the integration with WM [2]. Several studies of the prescription patterns of Chinese herbal products for patients with gynecological diseases have been investigated in Taiwan using the ICD codes [3-5]. This implies that data mining of Chinese medicine with eHR using ICD-code of CM is likely feasible.

In Hong Kong, an integrated clinical workstation (CMS) is used by all of the WM clinical users in Hospital Authority (HA), which stores clinical details of individual patients. Since 2003, the Chinese Medicine Informative System (CMIS) has been launched to assist the operation of HA tripartite CM Centre for Training and Research (CMCTRs). CMIS is used by

the registered CM practitioners independently. The linkage of two healthcare electronic systems could make use of the ICD-11 codes to carry out data mining and big data analysis. Objectives may include the observation of (1) the correlation of the CM syndrome patterns with WM diagnostic biomarkers (2) commonly prescribed herbs and/or acupoints in specific diseases (3) the evaluation of safety and efficacy of CM (4) artificial intelligence learning in CM. Such investigation from “bedside” to bench will be more relevant to clinical needs and less off-target will be resulted.

Criticism and concerns of the decision of ICD-11 in CM is understandable [6]. The prescriptions of CM ingredients by the CM practitioner will indeed remain independent of the compendium as the new codes only serves as a guidelines for CM diagnostic purposes. The codes are useful for standardizing the research protocols but it will take some years later to review the possible significant impact in drug discovery.

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