Public Abstract

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Title:A NOVEL AND DYNAMIC PREDICTION ENGINE FOR PRACTICING PRECISION MEDICINE TO PREVENT CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING

Chemotherapy-Induced Nausea and Vomiting (CINV) are the two most dreadful and unpleasant side-effects of chemotherapy for cancer patients. Despite the improvements in CINV management, as many as two-thirds of chemotherapy patients still experience some degree of CINV, leading to many consequences including impaired quality of life, poor social life, loss of workdays, increased healthcare cost, and denial of chemotherapy due to unendurable CINV. Out of three guidelines (ASCO, NCCN, and MASCC) for the management of CINV, none of these guidelines consider the patient-specific risk factors. As a result, physicians use their personal experiences for CINV treatment recommendations, which leads to inconsistent managements of CINV. In this project, we demonstrated clinical innovations in the discovery of combined relationships of various patient-specific factors for causing CINV, and informatics innovations in the development of a novel, precise and dynamic (revisable in real-time) prediction engine for practicing precision and personalized medicine in CINV prevention.