Network modeling for patient engagement and implications: 2014 International Health Policy Survey

Yi-Sheng Chao[1], Hau-tient Wu[2], Marco Scutari[3], Antoine Boivin[1]
1. Centre de recherche du CHUM, Université de Montréal; 2. Department of Mathematics, University of Toronto; 3. Department of Statistics, University of Oxford

Objective (50 words)

Engaging patients in their own care had been used to improve health outcomes and health care quality[1-3]. However, it remains unclear how patient engagement measures interact with each other and health outcomes. This study aims to explore how patient engagement can be used to improve health systems and health status.

Approach (100)

We used the Commonwealth Fund 2014 International Health Policy Survey of Older Adults, which provided information on adults aged 55 years and over in Canada with details in patient characteristics, healthcare experiences, patient-physician communication and other factors related to patient engagement. Patient engagement was measured as the involvement in their own health care[2]. Bayesian networks consisting of nodes that represented variables of interest and arcs that represented their relationships were used[4]. The relationships between the variables were described as conditional dependencies and tested with score-based methods[5]. Chi-square tests and t tests were used to determine the differences of categorical and continuous variables across groups respectively.

Results (125)

Among 25,269 participants, the mean age was 68.51 years and 57.40% were females. The distributions of age, sex, education, heart disease, diabetes, and end-of-life planning were significantly different across provinces (p<0.001 for all). The measures of patient engagement were interconnected and classified in two contexts: specialist and chronic illness care. Written plans in chronic illness care were linked to the plan feasibility and helpfulness. If professionals contacted patients for chronic illness care, patients had better access to professional assistance. If specialists provided treatment choices, they were more likely to involve patients and discuss what mattered to patients.

Conclusion (50)

The level of patient engagement depends on the context, especially the settings of specialist or chronic illness care. The strategies to engage patients in specialist care and chronic illness care are different and policy-makers need to design interventions accordingly. We suggest engaging patients by providing treatment choices and written plans.