Development and application of supporting system for clinical practice to improve quality of healthcare

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ABSTRACT

Background: Healthcare system in Japan has achieved a success based on the concept that the whole nation were provided with basic medical care under the universal health insurance system. However, there has been a serious shortage of medical staffs who support regional medical care, and the strategies to improve quality of healthcare were still insufficient.

Objective: To develop a supporting system which enables medical staffs to continuously improve quality of healthcare, and to structure a database for clinical researches which focus on quality of healthcare.

Methods: We had already developed a electronic medical interview system (pL ; p-Listeners) to evaluate patient-perceived health problems, including health-related quality of life (QOL) and patient-reported outcomes (PRO). In the present study, we linked the pL system with an existing electronic medical records, and constructed a database including existing clinical information (health insurance claims and exams, etc.) and patient-derived information. Further, we investigated how to utilize the information from the integrated database when implementing novel contents for primary-care settings.

Results: We prepared contents for 42 symptoms, which covered approximately four-thirds of patients who visited primary care clinics, in order to improve the pL system. We then constructed a large scale database to evaluate the quality of healthcare, by linking the pL system with an existing electronic health records. In a demonstration experiment at primary-care clinics, a considerable number of untreated patients were detected when using the integrated supporting system for clinical practice to a model symptom (overactive bladder symptom).

Conclusion: Achievement of this project suggests that our system (pL linked with cloud-based electronic medical records) can maximize clinician's contact time with their patients. In the future, utilization of the system may improve the quality of healthcare in Japan .