



Integration of Health Information Systems to Promote Health

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Dear Editor-in-Chief

The health information systems (HISs) include data and concepts in health services given to patients to improve the management of such services (1). HISs with four key functions (data generation, compilation, analysis and synthesis, and communication and use) provides the foundation of decision-making (2). HISs is a useful source to collect data from the health sectors. It ensures the quality of data (3).

Information can share across the systems for the purpose of continues of care. Lack of integration of these systems leads to inadequate data flow between them (4). The purpose of integrated HISs are systems that interconnected, providing services to clients, leading to continues workflow and integrated information flow and enabling healthcare decision making (5). Integrated HISs is widely considered to provide higher performance in terms of quality and safety. Information systems cover different geographic regions, provide fast and convenient access to the healthcare services, and reduce costs (6). Moreover, information systems are the potential tool to health promotion (7).

Health promotion is defined as:

“The enabling of people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and realize their aspirations, to satisfy needs and to change or cope with the environment” (8).

Three categories of health promotion at the community level that can benefit from the integration of HISs are health education, health screening and prevention of disease.

Health education

Integrated HISs helps the healthcare providers to control some health conditions like hypertension, cholesterol level, diet, and obesity. Using information systems, the providers can access the data of individuals from multiple levels of the health system. In fact, the information of the clients flows across healthcare sector using integrated HISs. Perhaps, education itself does not need the information system, but it provides the contents of the education resource and it is a useful tool to integrate information and promote health.

Health screening

Health promotion programs are designed to manage chronic conditions such as diabetes, coronary heart disease, stroke, and cancer (9). Information systems can aggregate demographic data, geographic data, data about risk factor of diseases and other related data. Aggregation of data helps decision makers to manage the screening programs.

Prevention of disease

Information systems provide assembly, analysis, and dissemination of data necessary to guide, promote and evaluate the disease prevention and health promotion programs. Data about inci-

dence and mortality of diseases, trends, identification and prevalence of risk factors should be shared between these systems.

HISs have been developed in order to integrate health information to meet consumer requirements, contribute to epidemiological research, enhance care quality, reduce expenses and facilitate information management (10). Integration can be done in different levels (technical and management/ functional and non-functional), so using standards and middleware lead to systems integration and resulted in health promotion. Standards on terminology, security and data exchange play a critical role to integrate HISs and provide interoperability across heterogeneous systems. Middleware is a tool to facilitate the integration of HISs, so that, in the interaction between the systems there is no need to reproduce the same component of them (11).

It is recommended to investigate the level of integration between information systems and how they provide the integrity of information.

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