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The study of hospital information systems in the 8th health region

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Abstract

The research aims to explore the existing hospital information system (HIS) and their resources in the 8th health region according to the roadmap for the National Health Information Center (NHIC) from Ministry of Public Health (MOPH). In order to determine the functions and flows between each system module for data interconnect and exchange, health provider levels from the primary care unit (first-level hospital) up to the provincial hospital (advance-level hospital) were analyzed. Four major categories, both the front-office and back-office, were evaluated by using questionnaire, survey, and interview. Medical services, inventory for drug and medical supply, monetary and fiscal, human resource, and surveillance process modules are mentioned. Infrastructures and their protocols are included in this investigation.

Keywords: Hospital information system; Health system; National health information center.

1. Introduction

Government and the Ministry of Public Health (MOPH) have always focused on improving the health care and welfare as one of their main policies. The mission emphasized on the development of the health systems which combine the quality and efficiency of health promotion. As one of the preparation processes for the Asean Economic Community (AEC), all hospital under MOPH, especially the border hospital, have to reform and redesign their health care systems in order to seamlessly perform interoperates. Health information technology strongly influenced quality and efficiency of health care, and offered advanced opportunities to support both hospital and community

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levels. As information processing was not only an important quality factor, but a productivity factor that should offer a holistic view of both patients and hospitals for data management.

Therefore to achieve this vision many protocols, standards, indicators and quality assurances were created as guidelines and quality controls for hospital workflows. Infrastructures including high-speed internet and cloud technology have been implemented on the health data center (HDC) such as regional and provincial health offices to establish the National health information center (NHIC). The cockpit program used as the project management tool provides the administer level with the dashboard and situational awareness functions for resource and action reports. The surveillance reports and monitoring regulations for the contracting unit for primary care (CUP) were requested as a tool to connect between the primary care unit (PCU) and hospitals at higher levels to ensure the effectiveness of prevention and disease control. Data quality and data completeness are one of key indicators and measurements. These reports must be submitted to MOPH and other health agencies such as the National Health Society Organization (NHSO).

The data standard report (43+7 folders) is one of the main reports required to submit monthly as it determines the treatment processes and outcomes. MOPH intensively uses this report to operate and maintain all activities. The document are also used partially as the executive summary for the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) regarding on the extremely virulent disease surveillance. However, to properly and completely generate this report, the hospital information system (HIS) must be able to directly retrieve patient's medical records from all subsystems including laboratory, radiology, and referral. The survey reports from the ICT department in 2013 showed that many hospitals have insufficiently managed information systems, provided from different vendors and outsources. These incompatible systems can indirectly contribute the breakdowns in established clinical workflows or reduce efficiency and quality of care as there were difficulties to share electronic health record (EHR) between health care providers as suggested from WHO guideline^{1,2,3,4}. Therefore this paper aimed to explore the existing HIS and its problems. The result of the study can be used to inform policy maker and authority on how to reform and achieve NHIC as shown in Fig 1.

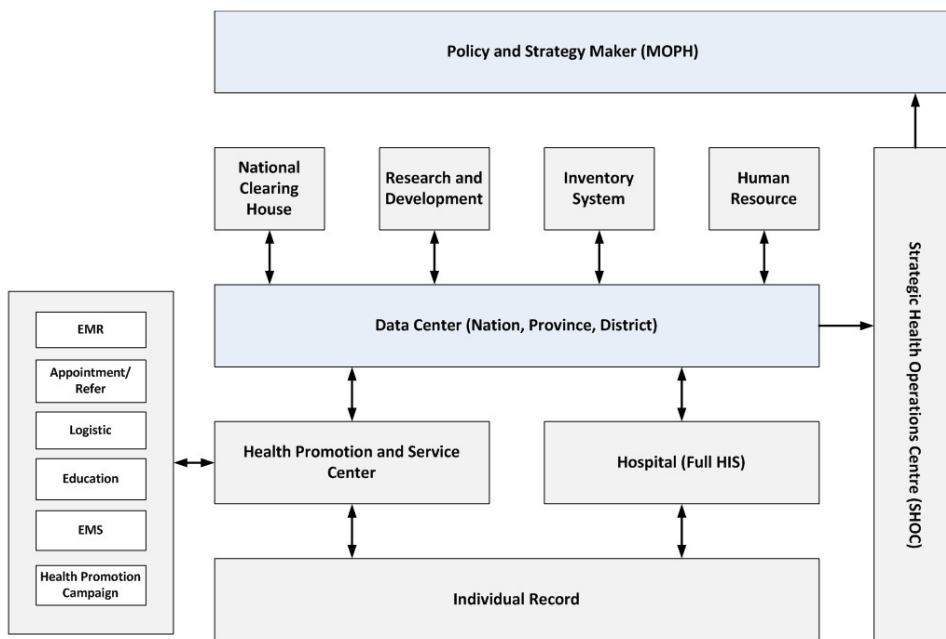


Fig. 1. The structure for the National health information center (NHIC).

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