Design and implementation of an HIV/AIDS electronic medical record system (HIV/AIDS EMR) in the Philippines

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Abstract
An electronic medical record system can help scale up the HIV/AIDS treatment program of a country. The authors illustrate how an HIV/AIDS electronic medical record system (HIV/AIDS EMR) was designed and implemented among treatment facilities across the Philippines.

Introduction
A deficiency in infrastructure, such as information and communication systems3 and limited resources in a developing country4, are barriers in the success of HIV treatment5,6. However, there are existing EMR systems from developing countries which were developed as a result of collaborative efforts from different institutions3,4. These systems range from a stand-alone database1 to a web-based collaboration and telemedicine system2. In the Philippines, the value of the collaborative partnership of the Department of Health and the Tropical Disease Foundation, Inc. for developing innovative approaches to improving health care in the Philippines, with the support of the GFATM, paved way to the development of the HIV/AIDS EMR.

Design and Implementation
The initial design of the system was based on the case report forms and EMR being used at the Research Institute for Tropical Medicine, with inclusion of features relevant to monitoring the status and progress of patients and their treatment regimens. Electronic forms capture information on patient demographics, clinical history, physical examination, diagnostic investigations, clinical assessment, and management plans. Pilot testing was conducted at San Lazaro Hospital, a treatment facility supported by the HIV/AIDS Program of the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM). Clinic staff were trained to use the system and encode data from the paper forms. The system was subsequently refined and deployed at five other treatment facilities.

Generating Reports
The reports generated by the HIV/AIDS EMR contains the pertinent demographic and clinical information on all patients encoded in the system. No patient identifying information other than the patient code and Global Fund Number appears in the reports. These reports are exported as spreadsheet files that can be forwarded electronically to a central facility for periodic data analysis.

Conclusion
The HIV/AIDS EMR provides a viable alternative to manual report generation at treatment facilities in the Philippines. This enables rapid and accurate data transmission for patient monitoring and drug forecasting purposes. This system could conceivably be extended further to establish a web-based interface linked with pharmacy databases to facilitate real-time monitoring of overall operations.

References