

Modular based customization of electronic medical record for private hospitals in Hong Kong

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Introduction

Clinical Management System (CMS) adaptation is a customizable modular based electronic medical record (eMR) developed for private hospitals in Hong Kong. The pace of eMR development in private hospitals is different. Customized modular based approach allows private hospitals to adopt eMR in a flexible way which in turn enable data sharing and integration capabilities with Electronic Health Record Sharing System (eHRSS).

Objectives

To design and develop a customized modular based electronic medical record for private hospitals to use, and to facilitate private hospitals to adopt CMS adaptation modules.

Method

There were nine modules in CMS adaptation and they were structured allergy and alert module (SAAM); medication order entry module (MOE); diagnosis and procedure module (DxPx); consultation summary module (CS); discharge summary module (DS); letter engine module (LE); drug allergy checking module (DAC); person master index module (PMI) and local eMR adaptor and hospital electronic patient record adaptation module (LAAM). CMS Adaptation Task Force was established to engage private hospitals in the development process and share implementation experiences. All modules were designed to cater clinical workflow in private hospitals; developed and released using a building-block approach. CMS adaptation modules are interrelated. When more than one CMS adaptation modules were adopted, it created a synergistic effect to other modules. Private hospitals might choose which modules to deploy according to their own needs and by stages. They can also adopt the modules by integrating them into their own eMR/ePR systems. All modules were developed with technical standards to facilitate private healthcare sectors to interoperate and interconnect with eHRSS.

Result

Over 80% private hospitals have adopted CMS adaptation modules. Among the hospitals which have adopted CMS adaptation, 89% of them used more than one module. SAAM which enable structured documentation of drug allergy, adverse drug reaction and clinical alert and LAAM which facilitate data upload to eHRSS were the most commonly adopted modules in private hospitals. DAC which provide medication decision support with drug allergy checking was the third most commonly adopted module.

Conclusion

Modular based customization is an effective approach to facilitate private hospitals to adopt electronic medical record and hence, facilitates the interconnection between private hospitals eMR systems to eHRSS.