

Meaningful Use Of Electronic Health Record Sharing System (eHRSS) Allergy Record To Enhance Medication Safety In Private Healthcare Sectors in Hong Kong

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Introduction

Medication decision support (MDS) is a process by which clinicians are systematically informed by an information system that there is a decision to be made. MDS is a key part of clinical information systems to aid clinician decision making during process of patient care. Drug allergy checking (DAC) is the first MDS implemented through Government Electronic Health Record (eHR) project to compare drug being ordered in medication order entry (MOE) system, to patient's electronic allergy record captured. DAC will inform prescriber if an interaction exists between allergy record and drugs prescribed. DAC is successfully implemented in Department of Health (DH) and several private hospitals in Hong Kong. Current DAC is limited to allergy records documented in local electronic medical record (eMR).

Objective

Allergy records shared in territory wide eHR Sharing System (eHRSS) is part of patients' complete allergy profiles. This study examines the readiness and value of the allergy record downloading from eHRSS into local eMR for DAC.

Methodology

Readiness and practicality of eHRSS allergy downloaded in local eMR is studied in terms of the data quality and mapping accuracy for potential DAC feature.

Result and Discussion

1. Downloading allergy records from eHRSS

Allergy's FastPass is a well-established mechanism to download eHRSS allergy records to local eMR system. It is adopted by DH and private hospitals in Hong Kong. DAC could ride on Allergy's FastPass to access downloaded eHRSS allergy records for drug allergy checking.

2. Data quality of eHRSS allergy records

As of June 2018, there are 954,809 active healthcare recipients registered in eHRSS. About 87% of them do not have allergy record while 13% have in eHRSS. In the total 197,389 eHRSS allergy records, 72% is structured and encoded which is recognized directly by DAC.

As a result, expanding DAC to eHRSS allergy record appears to be technical feasible and clinically valuable.

Converting of the downloaded allergy data from eHRSS to DAC recognized terminology is possible. Majority allergic reactions and patient harm can be potentially prevented. Nevertheless, it is evident that 28% eHRSS allergy records

are non-structured and not covered by expanded DAC. Measures have to be considered for a clear checking coverage to users.

Conclusion

Allergy records shared on eHRSS is of good data readiness and quality and can be downloaded to local eMR and used for allergy checking to improve medication safety.