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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Drug Allergy

Allergic reactions to drugs can result in serious and life-threatening consequences.

12% Medication error due to lack of understanding of drug allergies

8-13% Medication errors preventable if allergy documented at the time of prescribing

Drug allergy information is important.

Medication Decision Support

- Indication
- Contraindications
- Dosage
- Treatment duration
- Dosing Frequency
- Side effects
- Allergy profile

56% Reduction in medication errors due to known allergies after implementing computerised provider order entry with clinical decision support (CDS) of allergy alerts³

Components of a Drug Allergy Checking System

1. Patient’s allergy profile

2. Medication orders (e.g. CPOE applications)

3. Drug allergy checking system (knowledge-based of semantic links between ingredients)
Gap of a effective Drug Allergy Checking System

How to acquire a complete allergy profile for an effective drug allergy checking system?

1. Patient’s allergy profile
   - Complete
   - Accurate
   - Updated
   - Allergy Profile

2. Drug allergy checking system
   (knowledge-based of semantic links between ingredients)

3. eHRSS is filling the Gap.
How can I share allergy records if I don’t have a local eMR in my clinic??

No local electronic medical record (eMR) System
Allergy & Adverse Drug Reaction Details

Patient's Allergy and ADR information is displayed.

- Allergen
- Allergy Information
- Date
- Institution

No record, please verify with patient to confirm.

ADR Causative Agent
ADR Information
Date
Institution

No record, please verify with patient to confirm.
Search by keyword

Input details and [Save]
Record reflected in eHR Viewer immediately

Built-in-smart search

Efficient documentation

Able to update and delete
Gap of an effective Drug Allergy Checking System

1. Patient’s allergy profile
   - Records in eHRSS
   - Records in local eMR

2. Drug allergy checking system
   (knowledge-based of semantic links between ingredients)

3. How to make use of complete eHRSS allergy profile in a drug allergy checking system?

   eHRSS is filling the Gap.
Local medical record system (eMR) + Structured Alert Adaptation Module (SAAM) with allergy download function
Data Quality of eHRSS allergy records

Allergy record distribution

- 87% No Allergy record
- 13% Have Allergy record

197,389 Allergy records in eHRSS
72% Allergy records are structured and encoded

Statistics as of June 2018

Read and recognized by system directly
Automated Drug allergy checking system

Structured Alert Adaptation Module (SAAM)

Non-structured record (28%) are not covered. Measures have to be considered for a clear checking scope to users.
Conclusion: Meaningful Use of Allergy Record

01. Structural documentation of Allergy record
   Directly input allergy records in eHR Viewer

02. Data sharing in eHRSS
   eHR Sharing System

03. Access to the shared record
   Allergy Download

04. Meaningful use of data
   Apply in Medication Decision Support
Thank you