How to encode allergy information to enhance territory wide interoperability in Hong Kong?

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Purpose

Allergic reactions and patient harm caused by medications administered in the fact of known allergies can be prevented effectively by proper and encoded allergy documentation and exchange. The experience of developing an allergy documentation system for supporting optimal medication decision at the point-of-need and thereby improving patient safety is presented.

Methods

Structured Alert Adaptation Module (SAAM) is an user-friendly, precise and clear allergy documentation system which is developed for Hong Kong (HK) territory wide uses. SAAM also supports allergy information exchange.

For an efficient SAAM to function, allergies must be stored in a coded form. The important attributes of a patient allergy record is the ingredient to which the patient is allergic, as well as the reaction that the patient experiences when exposed to the allergen. Various well established medication terminologies are available, including the Systemized Nomenclature of Medical Clinical Terms (SNOMED CT), Unique Ingredient Identifier (UNII) and RxNorm. However, they are not widely adopted for encoding allergy information in HK. Hong Kong Medication Terminology Table (HKMTT) is newly built and is a compilation of identifying descriptions with coding of individual drugs registered under the Pharmacy and Poison Board.

Specific concepts are extracted from HKMTT for a precise and encoded allergen list in SAAM. By applying a standardized medication terminology in allergy documentation, allergy information is encoded and is able to exchange. A drug-allergy checking system with clinically relevant alerts is able to be further developed.

Results

HKMTT is being applied in patients' allergy data through SAAM which is being adopted by healthcare institutions in HK. The full list of registered drugs in HKMTT fits the needs of HK territory wide use. The provision of SAAM has switched the practice of health care providers to paper-less. The application of standardized medication terminology in allergy information enhances the local interoperability. The sharing platform of eHR allows exchange of patient's encoded allergy information, which is vital to patient care and safety. The encoded allergy information in SAAM also

acts as a foundation for implementing other medication decision support functions.

Conclusion

SAAM is an efficient documentation system, in which patient data and allergy information will integrate on a patient-specific basic programmatically. It is successfully implemented in HK healthcare institutions. Besides the documentation features, the encoded allergen list plays an important role in the allergy documentation for the representation, exchange, and automation of subsequent allergy/ drug clinical functions.