



Prescribing Decision Support using SNOMED CT

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Audience

Anyone interested in finding out about the use of SNOMED CT for decision support.

Objectives

To provide the description of a system using SNOMED CT for prescribing decision support. To show the importance of SNOMED CT as a terminology for decision support.

Abstract

SNOMED CT is a comprehensive clinical terminology facilitating the recording of structured patient data. One of the key stated benefits of SNOMED CT is to facilitate decision support¹. Studies have shown that 6.5% of hospital admissions, costing the NHS in England £466m a year, are due to adverse drug reactions². Of these 72% are considered to be potentially avoidable with computerised prescribing systems having the potential to play an instrumental role in their prevention.

LORENZO is a multi-professional multi-specialty electronic patient record system that provides one complete patient or user record that can be accessed across all care settings. LORENZO is currently deployed in a number of healthcare organisations in England and the Netherlands. LORENZO includes prescribing functionality supporting outpatient prescribing, discharge prescribing, inpatient prescribing and electronic medications administration. A key feature within the LORENZO prescribing functionality is active decision support alerts for allergy, contraindication, drug interaction and drug therapeutic duplication checking.

SNOMED CT is used as the basis for most of the prescribing decision support functionality in LORENZO. Specifically, all prescriptions are recorded using First DataBank identifiers which are mapped to the NHS Dictionary of Medicines and Devices (dm+d)³ which forms part of the SNOMED CT UK Drug Extension. Patient problems are recorded using SNOMED CT, and are used as the basis for drug contraindication checking. Patient allergies are recorded using SNOMED CT, and are used as the basis for drug allergy checking. All of this is done by ensuring that the prescription decision support knowledge base contains the relevant SNOMED CT concept codes which can be used by the system.

As of May 2013, the discharge prescribing functionality has been in live use on 6 wards at Royal Lancaster Infirmary (which is part of University Hospitals of Morecambe Bay in the UK) for almost 18 months. In the past year, nearly 40,000 discharge prescriptions have been written using this system. Feedback has been very positive, with a number of other hospitals visiting Lancaster to view the application. The system is widely used by medical and pharmacy staff and all are looking forward to the introduction of the inpatient prescribing and electronic medicines administration functionality that is due for release later this month.

References

1. Summary of SNOMED CT benefits <http://www.ihtsdo.org/snomed-ct/whysnomedct/benefits/>
2. Pirmohamed M, James S, Meakin S, Green C, Scott AK, Walley TJ, Farrar K, Park BK and Breckenridge AM. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18820 patients. *BMJ* 2004; 329; 15-19.
3. The NHS Dictionary of Medicines and Devices <http://www.dmd.nhs.uk/>