

Case Study

5 years on: Reflection from implementing an Electronic Patient Record with SNOMED CT

Summary

Monica Jones, Associate Director of Information Services in Health Informatics, The Rotherham NHS Foundation Trust reflects on a 5-year journey since the last published case study and illustrates how SNOMED CT has been utilised to benefit patients, the organisation and the wider NHS.

Background

In 2012, The Rotherham NHS Foundation Trust began its roll-out of the MediTech electronic patient record (EPR). A [case study](#) published by NHS Digital the following year, reported on the implementation and the initial benefits. Now, 5 years on, we have re-visited Rotherham to see how things have progressed with their digital roadmap and what benefits they can attribute to an EPR with content captured for direct care using SNOMED CT.



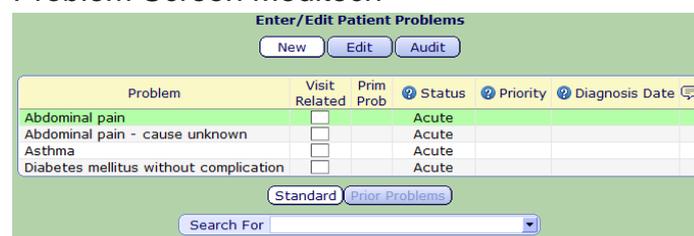
Benefits to the organisation

► Improved data entry

Using SNOMED CT data entry lists (subsets) has improved the speed of data entry, achieved standardisation of recording within

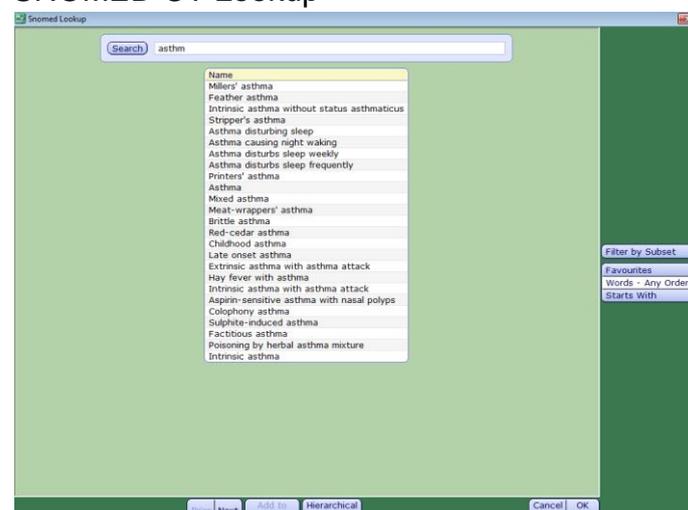
the hospital; improved data quality and subsequent analysis. Some clinical specialties have championed these benefits, obstetrics and gynaecology now have a number of front-end forms that saves time for data entry, as well as reports that enable them to undertake clinical research and audits. Previously these were undertaken by clinicians trawling through notes to identify appropriate patients. These are used to better understand and design the service offered, as well as improve patient care. Improved data quality has resulted in a saving of approximately 28K per annum to the Trust.

Problem Screen Meditech



Problem	Visit Related	Prim Prob	Status	Priority	Diagnosis Date
Abdominal pain	<input type="checkbox"/>		Acute		
Abdominal pain - cause unknown	<input type="checkbox"/>		Acute		
Asthma	<input type="checkbox"/>		Acute		
Diabetes mellitus without complication	<input type="checkbox"/>		Acute		

SNOMED CT Lookup



► Clinical Coding

Outpatients uses SNOMED CT for diagnosis and procedures, which are entered by clinical staff. The Trust uses 3M Clinical Encoder as a “bolt-on” to its Meditech EPR to undertake automatic processing of outpatient data. Mapping of SNOMED CT procedures to classification OPCS 4.8 codes is now 95% automated, these are then put through a grouper that allows creation of the respective Healthcare Resource Groups (HRGs). Clinical coders still do a final review for any obvious irregularities. These process improvements have led to a savings of 30K per annum for the Trust. The clinical coding department has seen significant benefits; they no longer rely on agency staff, have less staff attrition and their roles have evolved. The clinical coding role is now closely aligned with the data quality role and clinical assurance. Staff morale is higher, they enjoy their more holistic role and the overall depth of coding in patient records has increased and is above the national average. The department also meets its Flex to Fix targets and is close to achieving 5-day coding.

► Scheduling and resource allocation

The procedure subsets are also utilised for scheduling and resource allocation. Choosing the correct SNOMED CT procedure from a predefined list allows clinicians to book the resources in the appropriate location and has resulted in a saving of approximately 28K per annum. The trust is now able to better monitor theatre usage and resources, e.g. equipment and staff. As procedures undertaken are being captured in several clinical areas, both clinical staff and management have a better view of exactly what is being performed.

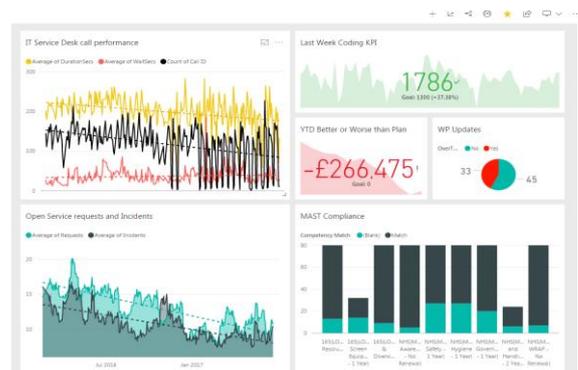
► Emergency Care Data Set (ECDS)

In the Emergency Department, the Trust has used Meditech ED module since November

2016 as well as a new Triage system (Manchester Triage). To introduce the ECDS dataset extraction, all the work was done behind the scenes within the existing system. No changes were needed to the user screens. This was only possible because the EPR supports SNOMED CT. The investment to extract this dataset is of the order of 100 times less than previously – roughly from £1 per patient to 1p per patient! In addition, Rotherham were the first trust in the country to provide their ECDS data on a daily basis, and their Emergency Department are now truly paperless. This is a significant improvement and thus will enable national planning and trend analysis to support the monitoring of admissions in A&E. Implementation and utilisation of SNOMED CT will enable further datasets using SNOMED CT to be provided quickly and with minimal effort.

► Analysis

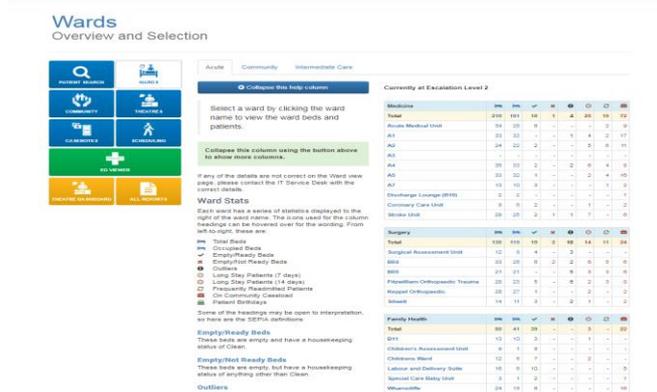
The trust now has over 5 years of data at the level of detail provided through using SNOMED CT and visual access to case mix data which enables much more accurate trend analysis, and thus improved planning and commissioning.



The potential now exists to better support clinical audit; both through doing analysis of the data in the system and identifying particular patient cohorts.

Clinical dashboard

SEPIA Portal (knowledge portal) can be used to visualise activity across Trust from waiting times to patient conditions. e.g. the chief complaint can be seen very quickly. SNOMED CT has enabled a longitudinal record to be visible as well as a more holistic view of the patient e.g. if the patient is feeling isolated. This provides data in real-time on the trusts progress against its service delivery plan. 5 years ago, the trust did not have the ability to accurately know the services it had previously provided and thus what was agreed in commissioning was estimated; this resulted in the trust delivering services for which it did not receive accurate funding. This year, the level of services provided were within the 2% tolerance to the plan agreed with commissioners.



Freedom of Information (FOI) requests

Requests can now be dealt with more quickly and accurately by using ED CUBE and SNOMED CT data. Automated reporting and self-service queries have saved time, previously it would have taken an analyst an hour to find the information whereas now it takes 5 minutes. Other internal audits can also be carried out quickly as part of service improvements including patient compliant investigations.

Benefits for the patient

► Improved visualisation of activity

Improved visibility of the clinical outpatient activity leads to much better patient care. The Trust cut outpatient waiting lists by 65% in some areas, as well as recorded a drop in the number of missed appointments (DNAs) per month.

► Discharge Summaries

Discharge summary is massively improved with a better level of information. This is beneficial to both GP's and patients.

Challenges and lessons learned

Having SNOMED CT specialism within the Trust was essential and has enabled appropriate training and support. A mixture of face to face training, follow-up checks and work shadowing in the early phases of go-live was undertaken.

Clinicians requested a smaller choice of SNOMED CT clinical terms in data entry lookup lists. A clinical lead from each speciality was needed to help determine the correct content that should be used.

The SNOMED CT preferred term is displayed as the default display description as the system allows only one description to be used

for each concept, however, the searching can be performed on all the SNOMED CT descriptions.

Rotherham have upgraded the system with the current SNOMED CT release and intend to do this on an annual basis. The time to upgrade does need to be factored into plans which involves checking for changes in subsets and favourite folders, this is considered essential and no different to any other data set change.

Future

Rotherham is a “Leap Frog Follower” and will be getting funding for Transfer of Care and open API as an example of an Acute and

Community Trust with integrated care. They are also looking into using a terminology server and using FHIR services.

Fully coded discharge summaries and GP letters will be flowing to primary care when their systems are able to accept these. It is expected in the near future.

Case study produced by NHS Digital in conjunction with The Rotherham NHS Foundation Trust

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