

The Incidental Implementer

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About Austin Health

- 600+ bed, tertiary level hospital
- 3 campuses
- Mix of existing informatics
 - ED
 - ICU
 - Specialist databases
 - Discharge Summaries















Clinical System

- State build, shared domain
- Key functions of implementation
 - Pathology / Radiology Orders
 - Pathology / Radiology Results
 - Discharge / Outpatient Medications

SNOMED Terms used for Discharge Summaries







Project Team

- ROMeO- Results Orders Medications Online
- Project Team approx 24 EFT
 - Mix of nurses, pharmacists, HIMs
- 18 month implementation phase
 - Learning the system
 - Understanding clinical workflows
 - Testing / Change Requests

No local / state SNOMED expert







Implementation @ Austin Health

- Go live 15th June 2011
- 5000+ staff to be trained
- Training commenced 14 weeks out
- Junior doctors had 2 hours training
- Consultants had 1:1 post go live

No time to explain SNOMED







Where is our SNOMED used?

- Diagnosis
- Problems
- Procedures
- Past medical / surgical history

Available for all clinical staff to use







How do we use it?

- Not linked decision support
- No reporting system for SNOMED data

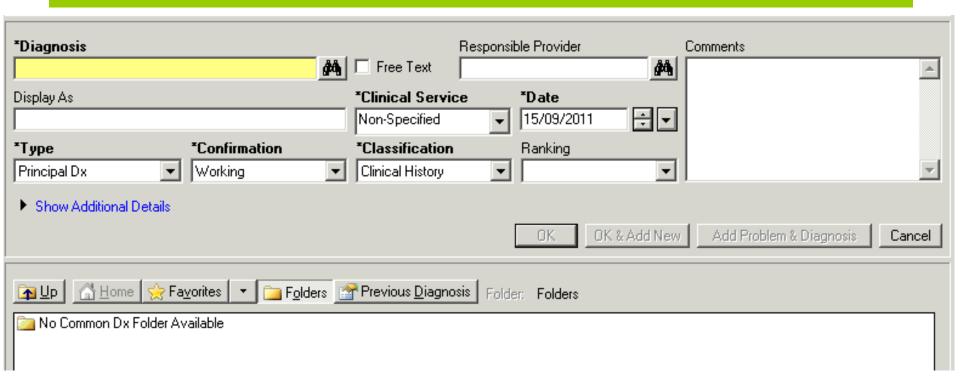
....yet







What it looks like for users

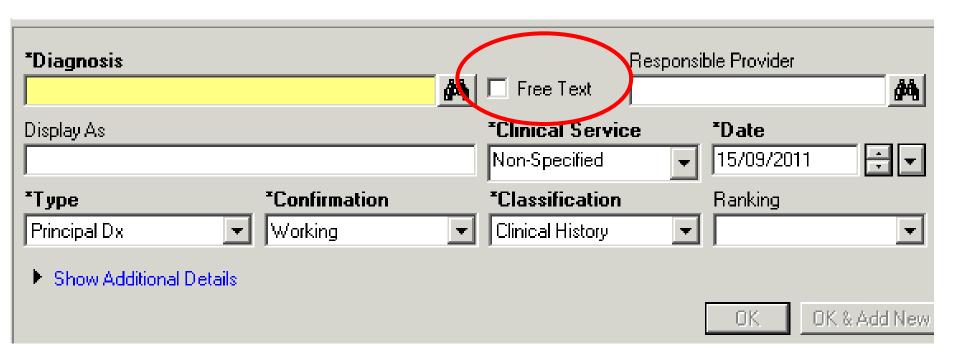








But did you spot this?



Does this compromise the quality?







The search

Diagnosis Search X					
*Search: diabetes	Contains Contains	Within:	Terminology 🔻		
Search by Name	Exact match Starts with	Search by (Code		
Terminology: SNOMED CT Terminology Axis: <all axes="" terminology=""></all>					
View Synonym 📜 Concept Family 🔥 Multi Axial 🦤 Cross Mapping					
Term △	Code	Terminology	Terminology Axis		
Abnormal metabolic state in diabetes mellitus	356119011	SNOMED CT	Finding		
Acrorenal field defect, ectodermal dysplasia, and li	356097011	SNOMED CT	Finding		
ADH-resistant diabetes insipidus	101643016	SNOMED CT	Finding		
Adiuretin-resistant diabetes insipidus	101644010	SNOMED CT	Finding		
Attending diabetes clinic	456686014	SNOMED CT	Finding		
Attends diabetes monitoring	285751016	SNOMED CT	Finding		
Autosomal dominant diabetes mellitus	47630011	SNOMED CT	Finding		
Bird-headed dwarfism with progressive ataxia, insu	356105011	SNOMED CT	Finding		
Control diabatos insipidus	404100n10	емомер ст	Einding		
Add to Favorites			OK Cancel		







The results

Term △	Code	Terminology	Terminology Axis		
Type II diabetes mellitus with hypoglycaemic coma	459169018	SNOMED CT	Finding		
Type II diabetes mellitus with multiple complications	292576013	SNOMED CT	Finding		
Type II diabetes mellitus with neuropathic arthropa	459312014	SNOMED CT	Finding		
Type II diabetes mellitus with peripheral angiopathy	459306016	SNOMED CT	Finding		
Type II diabetes mellitus with ulcer	292581016	SNOMED CT	Finding		
Type II diabetes mellitus without complication	457330012	SNOMED CT	Finding		
Unstable insulin dependent diabetes mellitus	429972014	SNOMED CT	Finding		
Unstable type 1 diabetes mellitus	429971019	SNOMED CT	Finding		
Unstable type I diabetes mellitus	429970018	SNOMED CT	Finding		
Vasopressin-resistant diabetes insipidus	101642014	SNOMED CT	Finding		
The maximum number of results was reached. Please refine your search.					
				Ĭ	

Add to Favorites

OΚ

Cancel







How it looks for recipients of the summary

PAST PROCEDURE HISTORY

DHS - Dynamic hip screw primary fixation of neck of femur (358600013) in 2011 at 86 Years. Tonsillectomy with adenoidectomy (48410019) in 1975 at 50 Years.

Liver lobectomy (506832018) in 1975 at 50 Years.

Appendicectomy (132973012) in 1943 at 18 Years.

Catheterisation (494127014).

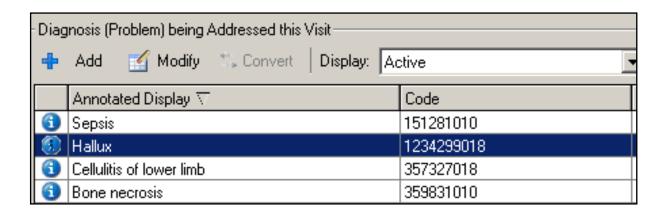






But how would you record these?

Sepsis secondary to Cellulitis of Lower Limbs and necrotic L hallux



Diagnosis (Problem) being Addressed this Visit							
4	Add	Modify	🔭 Convert	Display:	Active		
				' ' '			
Annotated Display ▽			Code				
	Sepsis secondary to cellulitis of lower limbs and necrotic L hallux						







How it is displayed on the summary

Hospital Course PRINCIPAL DIAGNOSIS

Sepsis - Principal Dx.

Hallux - Principal Dx.

Cellulitis of lower limb - Principal Dx.

Bone necrosis - Principal Dx.

Hospital Course PRINCIPAL DIAGNOSIS

Sepsis secondary to cellulitis of lower limbs and necrotic L hallux - Principal Dx.







Imagine this...

Sepsis, duodenal cutaneous fistula, R paracolic gutter abscess with faecal contamination, wound infection, deconditioning, pressure ulcers, anaemia secondary to bile duct perforation

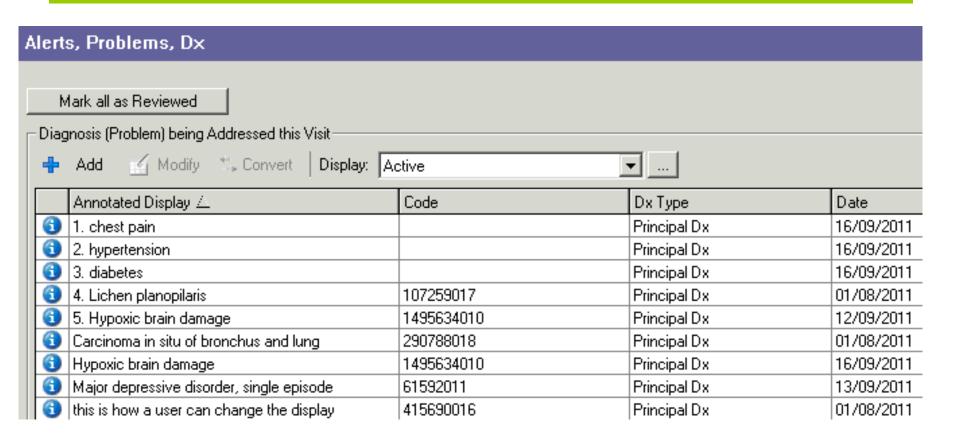








How to add more structure









Which direction to make it easier?









What we thought might help

- Subsets / Favourites
 - Specialty
 - General Comorbidities
 - Post Op Complications
 - Mimic a pre-admission form
- Preliminary work
 - Based on ICD-10 codes







What we did

- General Comorbidities (10 folders, 250 terms)
 - Acute Coronary Syndrome
 - Angina, Angina Pectoris, NSTEMI, STEMI, Unstable Angina
 - Arrhythmia
 - Acute subendocardial infarction, AF, AV Block, Bradycardia, Heart block, Sick sinus syndrome, Sinus tachycardia, tachycardia, VT
 - Electrolyte imbalance Gastroenterology Hypotension
 Infection Nutritional Deficiency Overdose
 Renal Respiratory







What we did (cont)

- Post Op complications (28 terms)
 - Postop nausea, postop shock, postop ileus, postop infection, post op confusion
- Pre-admission form (80 terms)
 - Grouped by body system
 - Mix of finding and past procedures
- No specialty subsets
 - Little time & exposure prior to go live







Pre-Admission Form

SYSTEM ISSUES	If yes - ✓ box of If no - ✓ NAD (or specify in other or N / A)	DOCTOR'S NOTES / DETAILS
	isease	□ NAD □ Orthopnoea □ PND □ Swollen ankles	
RESPIRATORY Cough Wheeze Sputum COAD Other	☐ URTI / LRTI (c☐ Obstructive Sle		*
GASTROINTESTINAL Liver Disease (specify) Hep. Reflux / PUD Bow Other			
HAEMATOLOGICAL Warfarin DVT / PE in p Clopidogrel Abnormal bled Ticlopidine FHx Bleeding NSAIDs Aspirin	eding Blood tra	nsfusion reaction witness	







Why we're not sure if it will help

Did we pick the right code to include?

Term ∇	Terminology Axis
☐ MRSA infection of postoperative wound	Finding
Methicillin-resistant Staphylococcus aureus (MRSA) infection of postoperative wound	Finding
☐ MRSA infection	Finding
Methicillin resistant Staphylococcus aureus infection	Finding
Infection due to Methicillin resistant Staphylococcus aureus	Finding
☐ MRSA - Multi-resistant staphylococcus aureus screening	Procedure
☐ Multi-resistant staphylococcus aureus screening	Procedure
☐ MRSA - Multiple-resistant Staphylococcus aureus infection	Finding
☐ Multiple-resistant Staphylococcus aureus infection	Finding
□ MRSA	Organism
└─ Methicillin resistant Staphylococcus aureus	Organism
☐ HA MRSA	Organism
☐ Hospital associated methicillin resistant Staphylococcus aureus	Organism
🖯 Community-acquired MRSA (methicillin-resistant Staphylococcus aureus) infection	Finding
Community-acquired methicillin-resistant Staphylococcus aureus infection	Finding
Community acquired meticillin resistant Staphylococcus aureus infection	Finding
□ CA MRSA	Organism
Community associated methicillin resistant Staphylococcus aureus	Organism







Why we're not sure if it will help (cont)

- Reducing selection for users
- Putting terms in the mouth?
- Is it too fiddly for end users?
- Is there a best / standard approach for subset development

Is freetext easier and quicker? Yes!







User experience

- Mostly junior staff using SNOMED
- Training is intense
- Documentation is least important
- Want to create the summary... quickly!
- Look up is fiddly
- Building a personal favourite subset
 - 5 rotations per year!







Where to now

- Need our SNOMED data to analyse use
- Senior clinical understanding: how / why
- Clinical staff leading design

SNOMED to be part of decision support for greatest impact



