

Integrating SNOMED CT-AU and the Australian Medicines Terminology (AMT)

Michael Lawley | Principal Research Scientist, AEHRC
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Australian Medicines Terminology

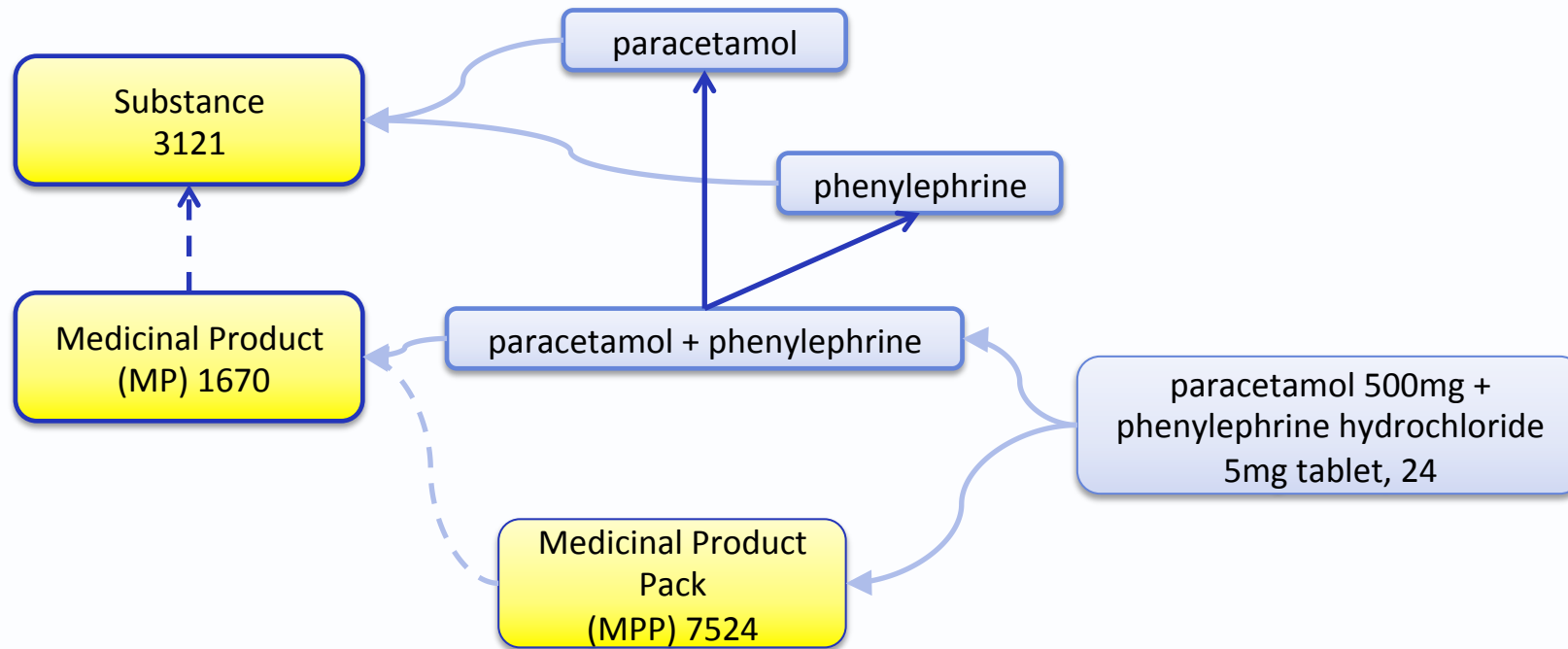
Developed to be fit for the purpose of unambiguously identifying, for clinicians and computer systems, ...

- ... **commonly used medicines in Australia**
[as of July 2011]
 - *includes all PBS/RPBS, TGA AUSTR and a range of AUSTL items.*

... for the following activities:

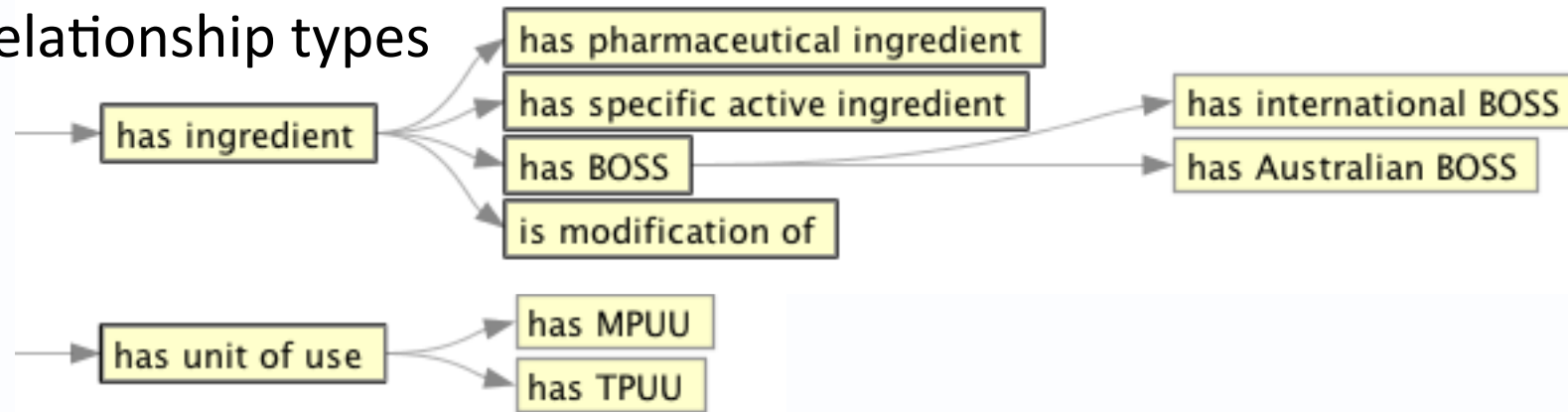
- Prescribing
- Recording
- Review
- Issue – including dispense
- Administration and
- Transfer of Information

AMT High-level Structure (of interest)



The AMT V2 Model

Relationship types



Essentially everything is *primitive*

- (conservative modelling)

SNOMED CT(-AU) Model

373873005 | Pharmaceutical / biologic product |

260787004 | Physical object |

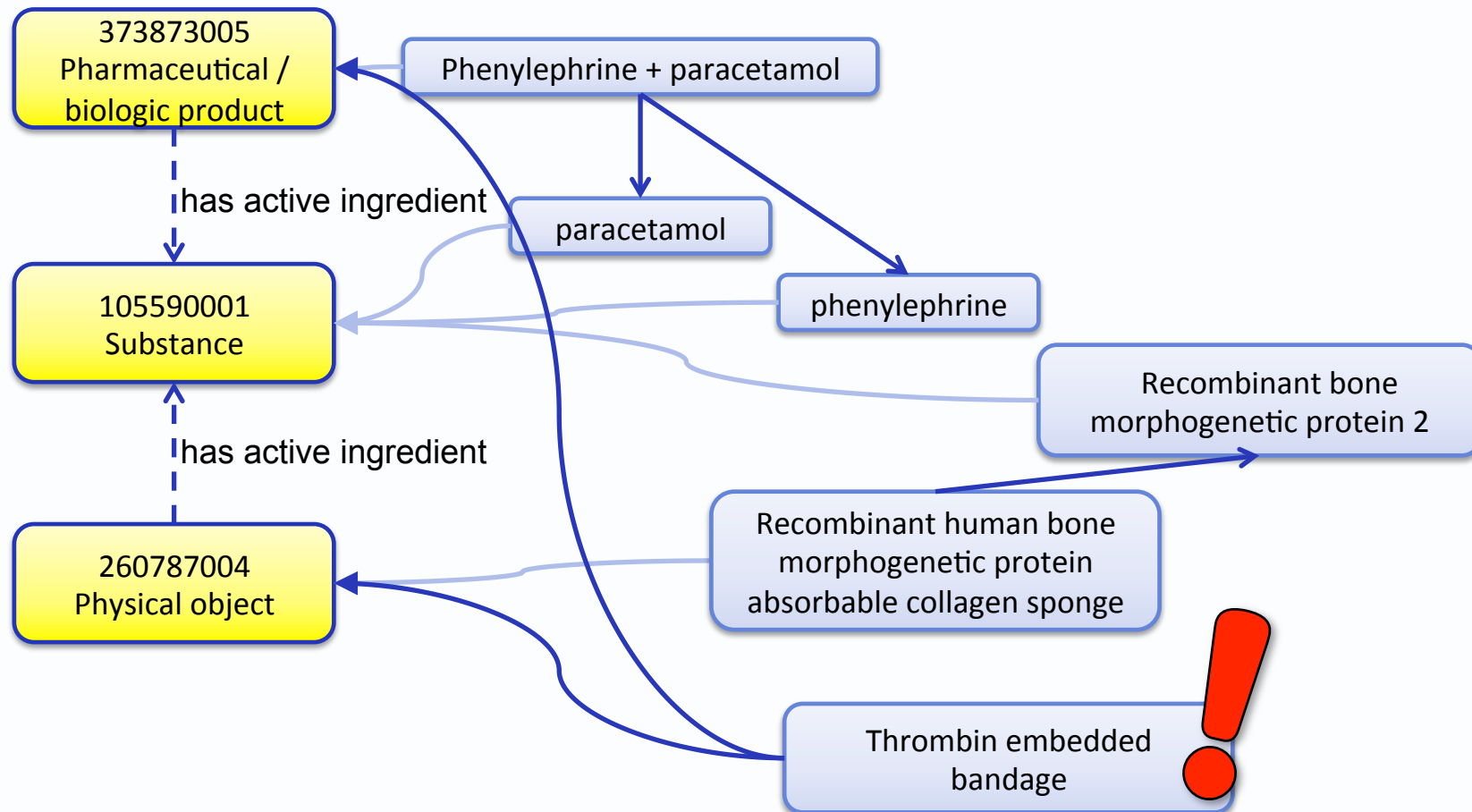
105590001 | Substance |

Relationship types:

- 127489000 | Has active ingredient |
- 411116001 | Has dose form |

A lot of primitive and un-modelled concepts

SNOMED CT High-level Structure



Model alignment

AMT	SNOMED CT
Substance	Substance
Medicinal Product	Pharmaceutical / biologic product
container type, form (Australian qualifier)	Physical object
has Ingredient, ...	Has active ingredient

Substance mapping

Details in “*Development approach for reference sets*”, 2012-08-31

Domain of use: decision support

- potential allergies
- drug-drug interaction
- drug-disease interaction

Scope: AMT Substances actually used in an AMT Product

Result:
RF2 Reference Set

...	referencedComponentId	valueId	stringValue
	2447011000036100	Equivalent	385544005
	2448011000036100	Equivalent	421559001
	2449011000036100	Equivalent	395823000
	2450011000036100	Equivalent	409159000
	2451011000036100	Generalise	409159000

Building the map

Snapper demo

The screenshot displays the Snapper software interface, which is used for building maps between different terminologies. The main window is titled "Ontology: SNOMED CT-AU and Australian Medicines Terminology". It features a table with columns for "Source Term", "Relationship", "Snomed Expression", "Status", and "Comments". The table lists various medical terms and their corresponding SNOMED CT expressions, with status indicators such as "Finished", "Incomplete", and "Finished".

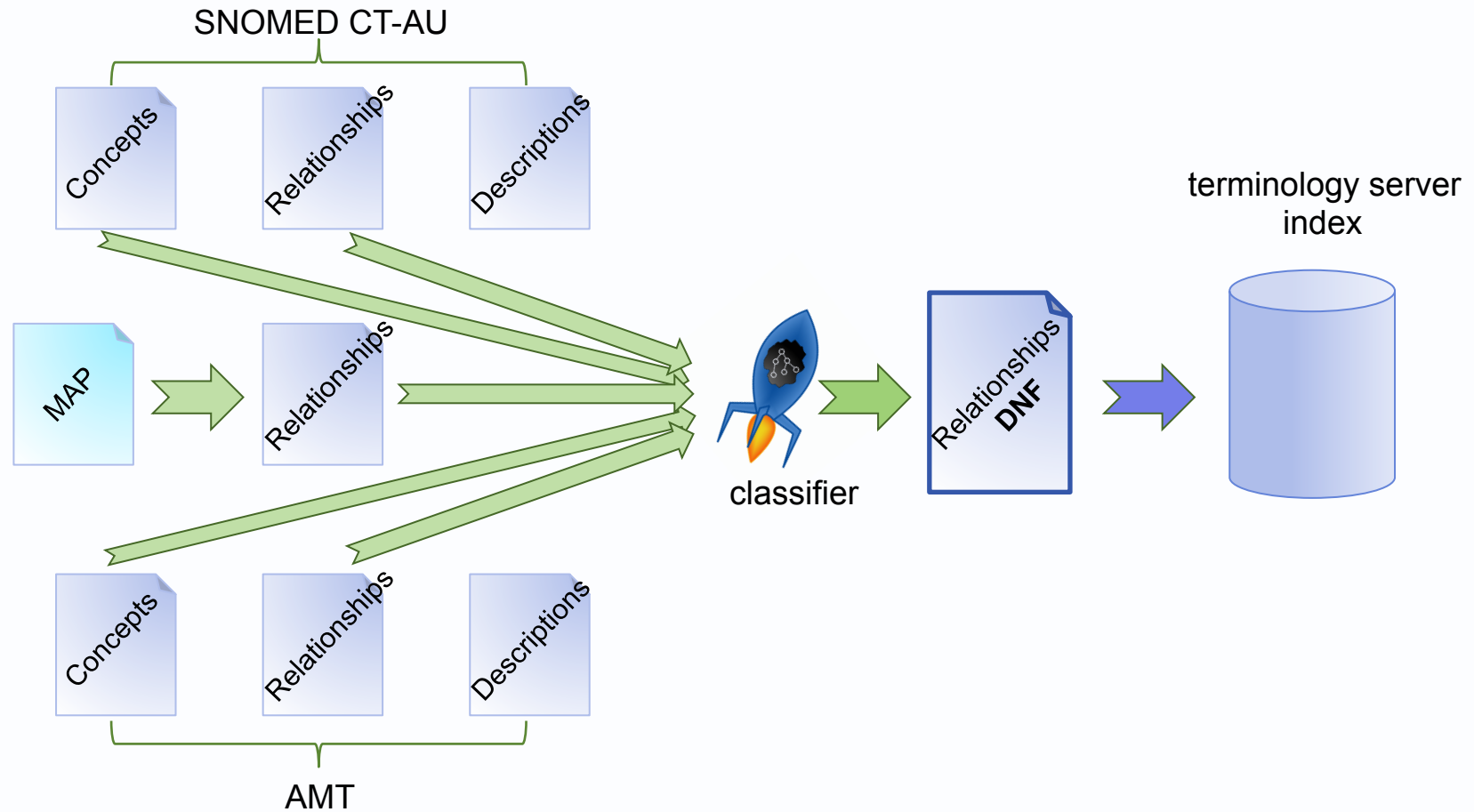
Below the table, there are several panels:

- Expression Editor:** Shows the graphical expression for a selected term, such as "Repair of aneurysm". It includes a "Check Constraints" section and a "Graphical Expression" section with a tree view showing the structure of the expression.
- Clipboard / Concept Definition:** Displays the concept definition for the selected term, including its qualifiers and normal form.
- Properties:** Shows the properties of the selected term, such as "Comment", "Mapped Term", "Mapped Term Concept Id", "Mapping Relationship", "Snomed Expression", "Status", "Additional", and "Hierarchy".

The bottom of the interface shows a "Graphical Expression" view with a flowchart-like structure of concepts and relationships, including terms like "Procedure", "SNOMED CT Concept", "Method", "Repair - action", "Direct morphology", "Aneurysm", and "Procedure site - Direct".



Building the integrated terminology



Building the integrated terminology

Steps

1. Convert RF2 file into a set of additional relationships entries
2. Convert to all relationships to DNF - classification

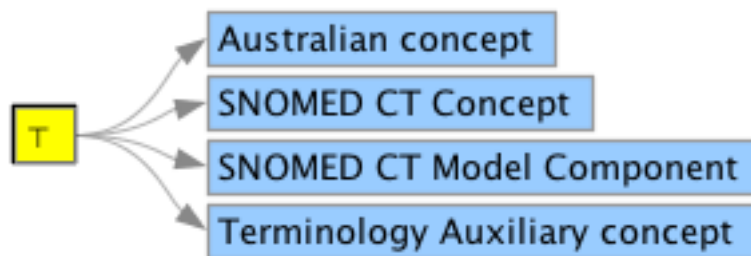
Snorocket

Performs the classification step

OntoServer

Index for searching & lookup

The Result - demo



<http://aehrc.com/snapper/minnow>

Discussion

Bugs

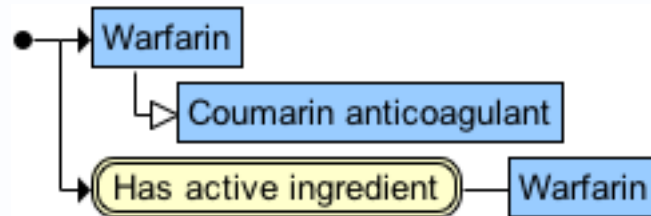
- ? 412546005 | Sodium citrate |
- plant product
 - mapping relationship is wrong
- not caught by mapper review (see poster)
- flagged as a result of classification

Discussion - 2

Limitations

- primitives concepts limit value of map
 - substance mapping doesn't help with product integration

- example

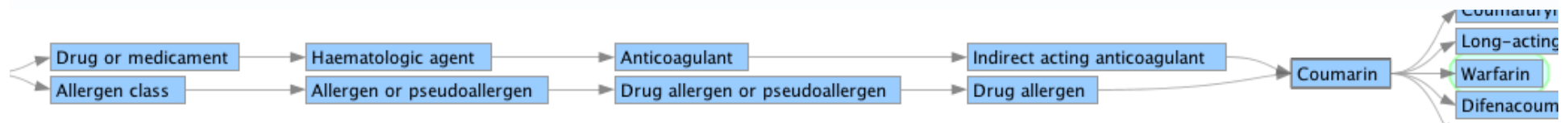


Other

- bandages etc as substances / products

Warfarin modelling

Excess primitives & under-modelling



Future

AMT V3

- Medicinal Products will be fully defined
- Include strength etc (Concrete Domains)

With a mapping of relationship types and some high-level product concepts, some integration of product hierarchies will be inferrable

Thank you

Australian e-Health Research Centre
Michael Lawley
Principal Research Scientist

t +61 7 3253 3609

e michael.lawley@csiro.au

w aehrc.com

See us at booth 9

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www.csiro.au

