



**Australian Medicines Terminology
v2 to v3 migration guide v2.0**

3 March 2014

Approved for external use

Document ID: NEHTA-1596:2014

National E-Health Transition Authority Ltd

Level 25

56 Pitt Street

Sydney, NSW, 2000

Australia

www.nehta.gov.au

Disclaimer

The National E-Health Transition Authority Ltd (NEHTA) makes the information and other material ("Information") in this document available in good faith but without any representation or warranty as to its accuracy or completeness. NEHTA cannot accept any responsibility for the consequences of any use of the Information. As the Information is of a general nature only, it is up to any person using or relying on the Information to ensure that it is accurate, complete and suitable for the circumstances of its use.

Document control

This document is maintained in electronic form and is uncontrolled in printed form. It is the responsibility of the user to verify that this copy is the latest revision.

Copyright © 2014 National E-Health Transition Authority Ltd

This document contains information which is protected by copyright. All Rights Reserved. No part of this work may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without the permission of NEHTA. All copies of this document must include the copyright and other information contained on this page.

Document information

Key information

Owner	Manager, Clinical Terminology
Date of next review	To be determined.
Contact for enquiries	NEHTA Help Centre
	t: 1300 901 001
	e: help@nehta.gov.au

Product version history

Product version	Date	Release comments
1.0	29 Feb 2012	Final, for external release.
2.0	03 March 2014	Updated content to reflect changes to v3 model following v3 Beta feedback activities.

Table of contents

1	Introduction	6
1.1	Purpose	6
1.2	Intended audience	6
1.3	Scope.....	6
1.4	Overview	6
1.4.1	Summary of this document	7
1.5	AMT v3 documentation map.....	7
1.6	Questions and feedback.....	8
2	AMT model diagrams	9
2.1	AMT v2 model diagram.....	9
2.2	AMT v3 model diagram.....	10
3	Changes between AMT v2 and v3 components	12
3.1	Overview	12
3.2	AMT notable products.....	13
3.2.1	Medicinal Product.....	13
3.2.2	Medicinal Product Unit of Use	15
3.2.3	Medicinal Product Pack	19
3.2.4	Trade Product.....	23
3.2.5	Trade Product Unit of Use	24
3.2.6	Trade Product Pack	29
3.2.7	Containerized Trade Product Pack	32
3.3	AMT substances.....	35
3.4	AMT qualifiers	36
3.5	AMT relationship details.....	40
3.6	AMT data representation concepts	43
3.7	AMT reference sets	43
3.8	Others.....	49
4	Migrating from v2 to v3	52
	Step 1: Requirement to migrate	53
	Step 2: Understand changes between AMT v2 and AMT v3 components.....	53
	Step 3: Understand AMT v3 release format and files	53
	Step 4: Are there changes to my AMT v2 data in AMT v3?	54
	4a: No change.....	54
	4b: No match in AMT v3	54
	4c: Changed description without a change in concept.....	54
	Step 5: What is my AMT implementation type?	55
	Step 6: Find relevant, active AMT v3 concepts to re-map the local term set	55
	6a: Changed v2 mapped concepts	55
	6b: Unchanged v2 mapped concepts.....	55
	Step 7: Consider implications of mapping for migration.....	55
	Step 8: Replace excluded or changed AMT v2 components with relevant, active AMT v3 components	56
	8a: Changed v2 components.....	56
	8b: Unchanged v2 components	56

Step 9: Consider implications of a native implementation for migration	56
5 AMT v3 release	58
5.1 Product Support	58
5.2 Terminology browser	58
Appendix A AMT v3 model diagram conventions.....	59
Appendix B AMT v3 concept hierarchy	61
Acronyms	63
References	64

1 Introduction

1.1 Purpose

This document provides guidance for those currently using AMT v2 in some form within their IT systems, who will need to prepare for and migrate to AMT v3.

1.2 Intended audience

This guide is intended primarily for:

- Health sector managers and analysts defining scope and requirements for clinical systems in their domains.
- Clinical software vendors with a specific interest in medicines management.

In both cases, this document will be relevant because the audience will have already implemented AMT v2 in some form within their systems. For those who have not implemented AMT v2, but wish to implement v3, please see the *AMT v3 Technical Implementation Guide* [1].

This document assumes a certain level of technical competence in data management and database design, and a familiarity with the use and nomenclature of medicines is also assumed.

1.3 Scope

This document provides guidance to users who have implemented AMT v2 data who wish to migrate to AMT v3. It is not relevant to other current and potential users of AMT.

1.4 Overview

The Australian Medicines Terminology (AMT) uniquely and unambiguously codes and describes medicines, using a set of defining properties, and is intended to cover commonly used medicines in Australia.

AMT has been available in v2 model format since 2007. In 2014, it will be upgraded, in both content and structure, to the v3 model. This upgrade will address stakeholder feedback on the v2 and v3 Beta models¹, bring AMT into compliance with the SNOMED CT² Release Format 2 specification and facilitate integration of AMT with SNOMED CT-AU.

Because of the upgrade, those who have implemented v2 will need to migrate to v3. This document provides support for that migration, and should be read in conjunction with the full set of AMT v3 documentation (see Section 1.5) and licensee obligations as set out in the *Australian National Terminology Release Licence Agreement* [2].

¹ See *AMT v3 Beta Feedback Summary* [6] for details.

² IHTSDO®, SNOMED® and SNOMED CT® are registered trademarks of the International Health Terminology Standards Development Organisation.

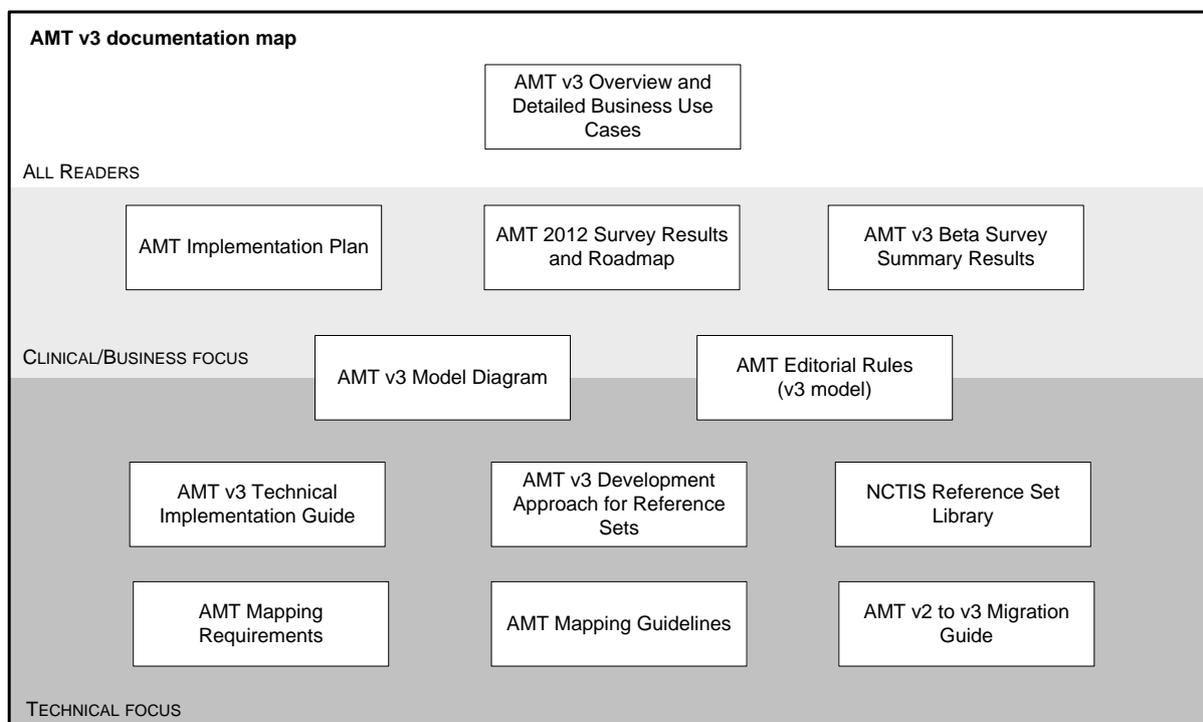
1.4.1 Summary of this document

The major sections of this document are as follows:

AMT model diagrams	Provides the conceptual model for AMT v2 and AMT v3.
Changes between AMT v2 and v3 models	Describes the differences between AMT v2 and AMT v3 components. Several side by side comparisons of AMT products modelled in v2 and v3 are included.
Migrating from v2 to v3	Provides a suggested approach to migrating between the two versions.
Production AMT v3 release	Explains how the NCTIS will be introducing AMT v3 data and tools.

1.5 AMT v3 documentation map

<i>Business:</i>	Business owners, product managers, project managers, policy makers.
<i>Clinical:</i>	Healthcare professionals and other end users.
<i>Technical:</i>	Programmers, content developers, testers, information system suppliers, analysts, terminology/classification specialists, health IT professionals and researchers.



Recommended reading lists for the different types of readers are as follows. Items with asterisks need only be read if relevant to the reader's needs.

Doc No.	Doc Name	Business	Clinical	Technical
1	<i>AMT v3 Overview and Use Cases</i> [3]	Y	Y	Y
2	<i>AMT implementation plan</i> [4]	Y	Y	
3	<i>AMT survey results and roadmap</i> [5]	Y*	Y*	Y*
4	<i>AMT v3 Beta Feedback Summary</i> [6]	Y*	Y*	Y*
5	<i>AMT v3 Model Diagram</i> [7]		Y	Y
6	<i>AMT v3 Editorial Rules</i> [8]		Y	Y
7	<i>AMT v3 Technical Implementation Guide</i> [1]			Y
8	<i>AMT v3 refset development approach</i> [9]			Y*
9	<i>NCTIS reference set library</i> [10]			Y*
10	<i>AMT Mapping Requirements</i> [11]			Y*
11	<i>AMT Mapping Guidelines</i> [12]			Y*
12	<i>AMT v2 to v3 Migration Guide</i> (this document)			Y*

The prerequisites for each document are described in their respective introductions.

1.6 Questions and feedback

Because of the limited audience of this document, questions and feedback should be addressed directly to the NCTIS Terminology Product Support Specialist, at help@nehta.gov.au.

Questions, feedback and requests for assistance are encouraged; the NCTIS will endeavour to assist implementers of AMT v2 to make the smoothest possible migration to AMT v3.

2 AMT model diagrams

The aim of remodelling AMT is to bring it into compliance with the SNOMED CT Release Format 2 specification, and simplify the AMT model to meet identified business use cases to promote the easier adoption of AMT by the Australian healthcare market. The process of simplifying the AMT v2 model structures included stakeholder input from clinical and technical perspectives. The AMT v3 model structures also enhance the ease of integration of AMT with SNOMED CT-AU going forward.

The result of this remodelling should be to reduce the effort and complexity required to implement AMT within clinical IT systems, and thereby to further NEHTA's goal of interoperability of health data.

2.1 AMT v2 model diagram

The model diagram for AMT v2 (focusing on the AMT product classes) is depicted below.

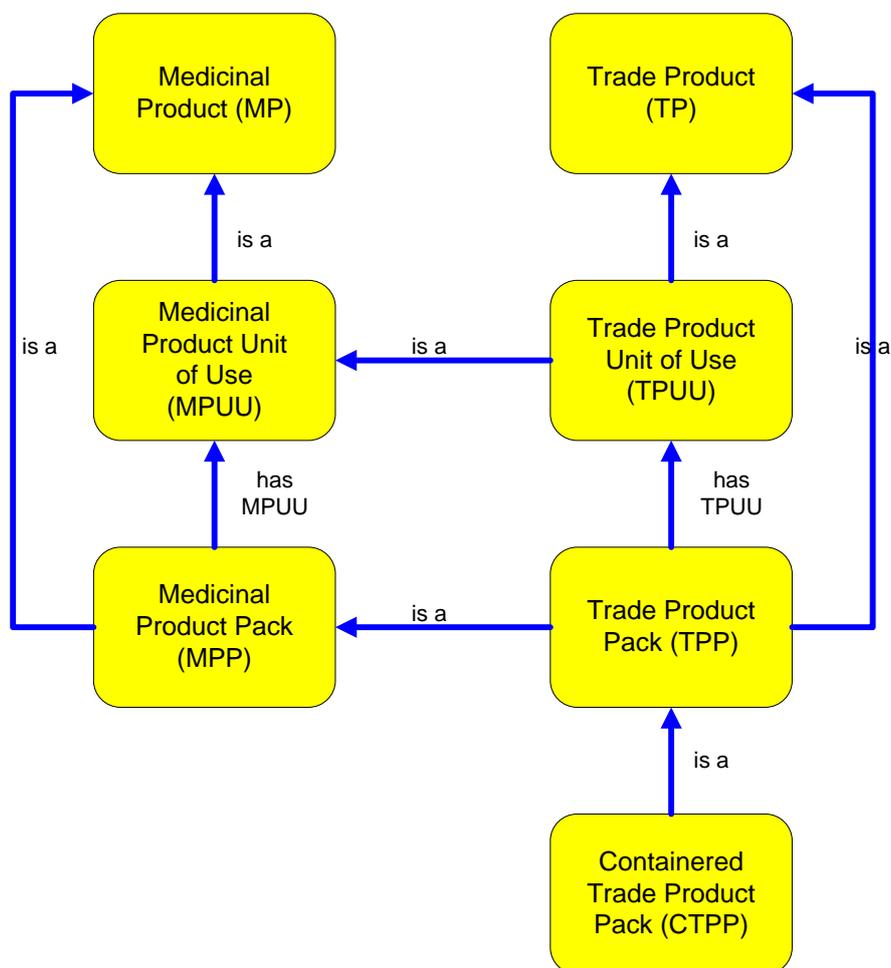


Figure 1: AMT v2 model

More detailed modelling of the AMT Product classes and other classes such as Substances and Qualifiers are available in the *AMT v2 UML Class Diagram* [13]. The broad logical structure of the key AMT components (i.e. the seven Australian Product or “notable” classes) is very similar in the AMT v3 model. Section 3 describes the differences between the AMT v2 and v3 models.

2.2 AMT v3 model diagram

The AMT v3 model (Figure 2 below) is somewhat simpler than the AMT v2 model, despite initial appearances to the contrary. These apparent differences reflect different diagramming standards between Figure 1 and Figure 2.

The revised design has been developed in response to the stakeholder feedback from the Model Review project and more recently from AMT v3 Beta feedback activities, described in the *AMT v3 Beta Feedback Summary* [6]. The AMT v3 release data will be compliant with this updated model.

The model diagram reflects the Stated Form of AMT. A separate model diagram that reflects the Distribution Normal Form will be made available subsequently.

The AMT v3 model diagram is also available for download as a separate standalone document in *AMT v3 Model Diagram* [7].

KEY

- A purple box denotes an AMT concept that is fully defined.
- A blue box denotes an AMT concept that is primitive (i.e. not fully defined).
- A white box denotes an AMT reference set member.

More details regarding the diagramming notation used here can be found in Appendix A.

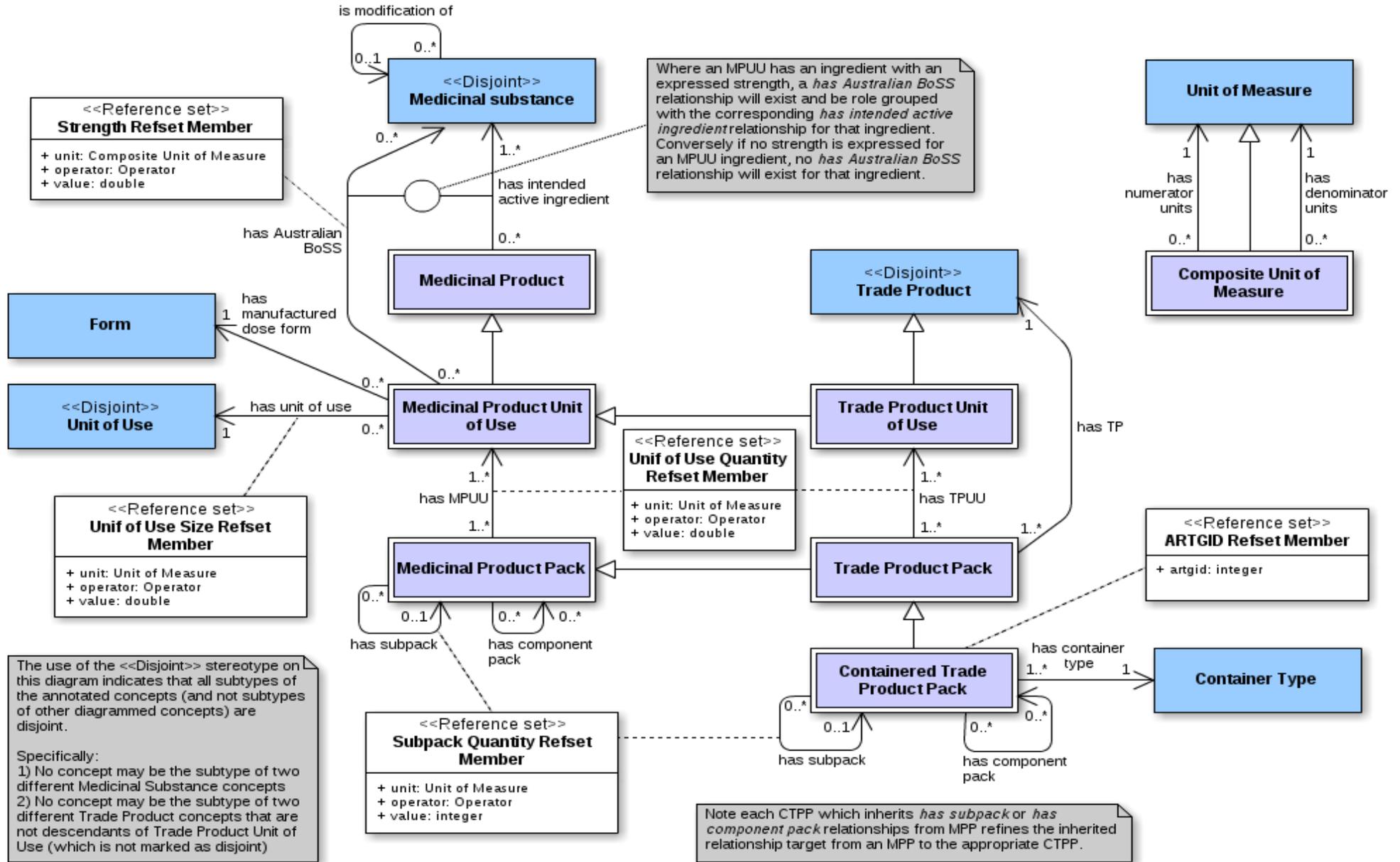


Figure 2: AMT v3 model

3 Changes between AMT v2 and v3 components

3.1 Overview

Figure 3 provides a pictorial summary of the changes between the AMT v2 and v3 components.

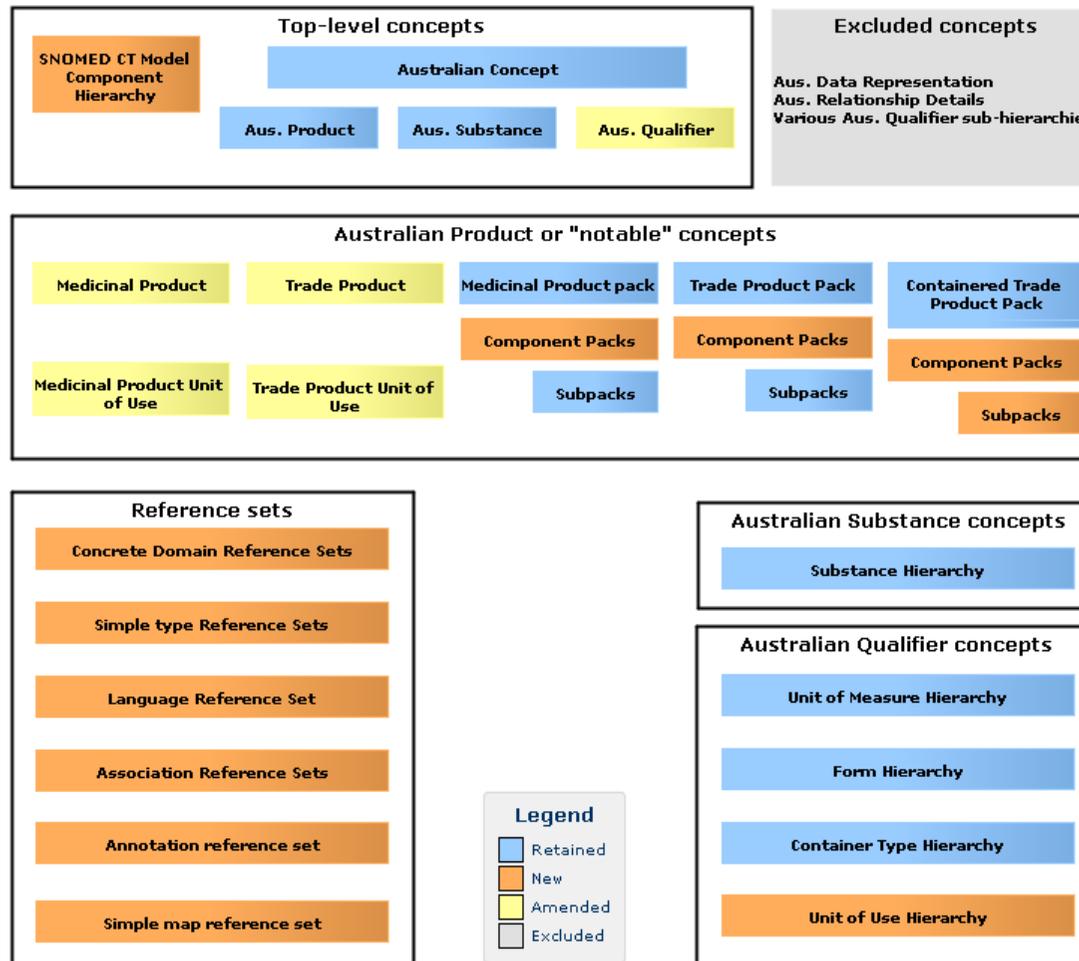


Figure 3: Simplified overview diagram of changes between v2 and v3

The categories set out in this diagram should be interpreted as follows.

Retained v2 components	These are AMT v2 components that are retained in AMT v3 with no changes to their concept identifiers or descriptions (Fully Specified Names and Preferred Terms).
New v3 components	These are brand new components added in AMT v3 as specified in the AMT v3 model and RF2 specifications.
Amended v2 components	These are AMT v2 components where some concepts and their descriptions have been excluded in AMT v3, with the remaining concepts and descriptions retained in AMT v3.
Excluded v2 components	These are AMT v2 components that have been deprecated for use and excluded in AMT v3.

The following sections elaborate on these changes in more detail. For still more detail, please refer to the *AMT v3 Technical Implementation Guide* [1].

Note: Where relationships and Concrete Domain reference sets are mentioned, these refer to the Stated Form of the AMT release. The AMT v3 release files (in Distribution Normal Form) will have some differences with regards to some relationships and Concrete Domain reference sets e.g. non-redundant, inferred and inherited relationships. Refer to the *AMT v3 Technical Implementation Guide* [1] for more information on the Distribution Normal Form.

3.2 AMT notable products

3.2.1 Medicinal Product

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All MP concepts and their descriptions (Fully Specified Name and Preferred Term) not covered within (4) and (5) below are retained from v2.	✓					
2 All MP concepts have the same IS A relationship to <i>[Medicinal product]</i> .	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
3 HAS INGREDIENT relationship renamed as HAS INTENDED ACTIVE INGREDIENT. <ul style="list-style-type: none"> • This represents a minor change to the description text but no change to the meaning of the concept/relationship. 	✓					
4 MPs representing multi-component products are excluded. <ul style="list-style-type: none"> • e.g. <i>/esomeprazole (& clarithromycin (& amoxicillin/</i> 		✓	✓	✓		
5 No hierarchy of MPs where these existed in v2. <ul style="list-style-type: none"> • If the intended active ingredient is a base, then the MP concept representing the base is included. <ul style="list-style-type: none"> i. e.g. <i>/paracetamol/</i> • If the intended active ingredient is a salt (which is clinically significant), then only the MP concept representing the salt is included. <ul style="list-style-type: none"> i. e.g. only <i>/atropine sulfate/</i> is included, not <i>/atropine/</i> 		✓	✓	✓		

3.2.2 Medicinal Product Unit of Use

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All MPUU concepts and their descriptions (Fully Specified Name and Preferred Term) not covered within (6) below are retained from v2.	✓					
2 All MPUU concepts not covered within (5) below have the same IS A relationship to their parent MP concepts.	✓					
3 The same Form attribute is retained – via HAS MANUFACTURED DOSE FORM relationship.	✓					
4 Base ingredient and base strength information is excluded from certain Fully Specified Name descriptions, with the BoSS ingredient and BoSS strength retained within the string. <ul style="list-style-type: none"> ○ e.g. diclofenac 23.27 mg [<i>diclofenac sodium 25 mg tablet: enteric (medicinal product unit of use)</i>] is amended to [<i>diclofenac sodium 25 mg tablet: enteric (medicinal product unit of use)</i>] ○ Only the description text is amended with no change to the concept or description identifiers. 	✓					✓
5 HAS SPECIFIC ACTIVE INGREDIENT relationships are excluded.				✓		

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>6 No hierarchy of MPUUs where these existed in v2.</p> <ul style="list-style-type: none"> ◦ Only the MPUU representing the Basis of Strength Substance (BoSS) is included. <ul style="list-style-type: none"> - e.g. Only <i> diclofenac potassium 50 mg tablet </i> is included, not <i> diclofenac 44.29 mg tablet </i> ◦ The active ingredient(s) within MPUU concepts in v3 is based on the BoSS, if the BoSS exists. ◦ Where there is no associated BoSS, the active ingredient(s) within MPUU concepts is based on the Intended active ingredient(s) inherited from their parent MP concepts. <ul style="list-style-type: none"> - e.g. <i> triglycerides medium chain </i> ◦ If the MPUU representing the salt entity is included, a new IS A relationship is added from the MPUU to its parent MP. 	✓	✓	✓	✓		
<p>7 Optional attributes and description type are excluded:</p> <ul style="list-style-type: none"> ◦ unit dose form indicator ◦ unit dose form size value/unit: <ul style="list-style-type: none"> - Replaced by <i>Unit of Use Size reference set</i>. ◦ unit dose type units <ul style="list-style-type: none"> - Replaced by Unit of Use attribute. 	✓	✓	✓	✓		

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>8 New HAS AUSTRALIAN BoSS relationship to Substance</p> <ul style="list-style-type: none"> ◦ This is an optional attribute where MPUUs without a reported strength will not have a HAS AUSTRALIAN BoSS relationship. <ul style="list-style-type: none"> - Examples include non-medicated dressings, diagnostic agents, nutritional supplements and inert substances. ◦ Has a defining Strength attribute (normalised to denominator of 1) via <i>Strength reference set</i> for machine consumption e.g. 50 mg/mL. <ul style="list-style-type: none"> - The non-normalised Strength details (i.e. the typical human readable Strength representation) continue to be displayed within the MPUU FSN and PT descriptions (where these existed in v2) e.g. 250 mg/ 5 mL. - The non-normalised Strength details can be calculated by using a combination of the <i>Strength reference set</i> and <i>Unit of Use Size reference set</i>. - A Strength attribute does not exist for products without an associated BoSS. 					✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>9 New HAS UNIT OF USE relationship to Unit of Use.</p> <ul style="list-style-type: none"> ◦ Has a defining Unit of Use Size attribute via <i>Unit of Use Size reference set</i> e.g. 5 mL, 2.5 g, 1 each. ◦ Both Unit of Use and Unit of Use Size are mandatory attributes for all MPUUs in v3 (these are optional in v2). <ul style="list-style-type: none"> - e.g. MPUU <i>[aciclovir 5% cream]</i> has a Unit of Use of <i>[continuous]</i> and a Unit of Use Size of "1 each". 					✓	
<p>10 For new MPUU concepts without a reported strength, their FSN and PT descriptions may include an Other Strength Representation element within the description text. Note: Other Strength Representation is not currently available as an individual element for use in v3.</p> <ul style="list-style-type: none"> ◦ e.g. FSN <i>[dressing alginate superficial wound 5 cm x 5 cm dressing (medicinal product unit of use)]</i> ◦ e.g. PT <i>[dressing alginate superficial wound 5 cm x 5 cm dressing]</i> 					✓	✓

3.2.3 Medicinal Product Pack

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All MPP concepts and their descriptions (Fully Specified Name and Preferred Term) are retained from v2.	✓					
2 All MPP concepts have the same HAS MPUU relationship(s) to MPUU concepts.	✓					
3 MPP HAS SUBPACK relationships retained from v2.	✓					
4 All MPP IS A relationships to MP concepts are excluded.				✓		

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>5 Base ingredient and base strength information is excluded from certain Fully Specified Name descriptions, with the BoSS ingredient and BoSS strength retained within the string.</p> <ul style="list-style-type: none"> ◦ e.g. diclofenac 23.27 mg / <i>diclofenac sodium 25 mg tablet: enteric, 50 tablets (medicinal product pack)</i> is amended to <i>diclofenac sodium 25 mg tablet: enteric, 50 tablets (medicinal product pack)</i> ◦ Only the description text is amended with no change to the concept or description identifiers. 	✓					✓
<p>6 Optional attributes and description types are excluded:</p> <ul style="list-style-type: none"> ◦ total unit of use quantity value/unit ◦ total unit of use size value/unit ◦ total subpack quantity: <ul style="list-style-type: none"> - Replaced by <i>Subpack Quantity reference set</i>. 		✓	✓	✓	✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>7 New MPP component pack concepts and HAS COMPONENT PACK relationships are added.</p> <ul style="list-style-type: none"> ○ MPP component pack concepts are created for certain multi-component products (combination kits). ○ Where the MPP concept already exists in v2, the existing concept is used instead. <p>- e.g. <i>[clarithromycin 500 mg tablet, 14]</i></p>	✓				✓	
<p>8 Has a defining Unit of Use Quantity attribute via <i>Unit of Use Quantity reference set</i> e.g. 20 tablets, 10 ampoules.</p>					✓	
<p>9 Has an optional Subpack Quantity attribute via <i>Subpack Quantity reference set</i> e.g. 4 each.</p>					✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>10 For new MPP concepts without a reported strength, their FSN and PT descriptions may include an Other Strength Representation element within the description text.</p> <p>Note: Other Strength Representation is not currently available as an individual entity for use in v3.</p> <ul style="list-style-type: none"> ○ e.g. FSN <i>/dressing alginate superficial wound 5 cm x 5 cm dressing, 10 dressings (medicinal product pack)</i> ○ e.g. PT <i>/dressing alginate superficial wound 5 cm x 5 cm dressing, 10</i> 					✓	✓

3.2.4 Trade Product

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All TP concepts and their descriptions (Fully Specified Name and Preferred Term) not covered within (2) below are retained from v2.	✓					
2 Certain TP concepts are excluded and replaced by new TPs that include a fuller "brand name" or trade distinguishing information. These new TP concepts have a new Fully Specified Name and Preferred Term. <ul style="list-style-type: none"> ○ e.g. <i> Panadeine Forte </i>, <i> Panadol Rapid </i>, <i> Panadol Osteo </i> are new TP concepts added ○ The editorial rules governing the creation of TP Fully Specified Name and Preferred Term descriptions are amended. 		✓	✓	✓	✓	✓

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
3 Optional attributes are excluded: <ul style="list-style-type: none"> ○ trade product group ○ sponsor 		✓	✓	✓		

3.2.5 Trade Product Unit of Use

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All TPUU concepts are retained from v2.	✓					
2 All TPUU Fully Specified Name descriptions not covered within (3) below are retained from v2.	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>3 All TPUU Fully Specified Name descriptions that include "(as salt)" information are amended to reflect no display of "(as salt)" information.</p> <ul style="list-style-type: none"> ◦ e.g. <i> Amoxil (amoxicillin (as sodium) 1 g) injection: powder for, 1 g vial (trade product unit of use) </i> is amended to <i> Amoxil 1 g injection: powder for, 1 g vial (trade product unit of use) </i> ◦ Only the description text is amended with no change to the description identifier. ◦ If the salt is clinically significant (i.e. MP represents the salt), the "(as salt)" information is retained. <ul style="list-style-type: none"> - e.g. <i> Calci-Tab 600 (calcium (as carbonate) 600 mg) tablet: uncoated, 1 tablet (trade product unit of use) </i> 	✓					✓
<p>4 All TPUU concepts have the same IS A relationships to TP and MPUU concepts.</p>	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>5 The mandatory Form attribute will be retained for all TPUUs via the HAS MANUFACTURED DOSE FORM relationship – this is either inherited from the TPUU's parent MPUU or point to a more specific Form, where required.</p> <ul style="list-style-type: none"> ○ If inherited from the MPUU, the TPUU Form will be the same as the MPUU Form. <ul style="list-style-type: none"> - e.g. Both are <i>/tablet/</i> ○ TPUU Form may be a more specific Form, which is a child or descendant of the MPUU Form. <ul style="list-style-type: none"> - e.g. TPUU Form is <i>/injection: powder for/</i> - e.g. MPUU Form is <i>/injection/</i> 	✓					
<p>6 All TPUU Preferred Terms for single ingredient products are excluded and replaced with new descriptions that has no display of the ingredient or “(as salt)” information.</p> <ul style="list-style-type: none"> ○ e.g. The v2 TPUU PT <i>/Amoxil (amoxicillin (as sodium) 1 g) injection: powder for, vial/</i> is replaced with the v3 TPUU PT <i>/Amoxil 1 g injection: powder for, vial/</i> 			✓		✓	✓

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>7 All TPUU Preferred Terms for multi-ingredient products are excluded and replaced with new descriptions that have no display of ingredients or strengths.</p> <ul style="list-style-type: none"> ◦ e.g. The v2 TPUU PT <i> Panadol Sinus (paracetamol 500 mg + pseudoephedrine hydrochloride 30 mg) tablet: film-coated, 1 tablet </i> is replaced with the v3 TPUU PT <i> Panadol Sinus tablet: film-coated, 1 tablet </i> ◦ If strength information is part of the trade name, it is included in the TP and inherited by the TPUU. <ul style="list-style-type: none"> - e.g. TP of <i> Abisart HCT 150/12.5 </i> - e.g. TPUU of <i> Abisart HCT 150/12.5 tablet </i> ◦ Some exceptions exist (rare occurrences). Ingredients and strengths are retained in descriptions where they are required to ensure no duplication with another description is created. 	✓		✓		✓	✓

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>8 HAS PHARMACEUTICAL INGREDIENT relationships are excluded.</p> <ul style="list-style-type: none"> ◦ Non-clinically significant salts are not modelled in AMT v3 unless they are defined as the BoSS <ul style="list-style-type: none"> - e.g. Medicinal Substances of <i> amoxicillin sodium </i> and <i> amoxicillin trihydrate </i> are excluded 		✓	✓	✓		
<p>9 Optional attributes and description types are excluded:</p> <ul style="list-style-type: none"> ◦ other identifying information ◦ proprietary dose form: <ul style="list-style-type: none"> - Included as part of the TP (string) ◦ trade product suffix: <ul style="list-style-type: none"> - Included as part of the TP (string) 		✓	✓			✓

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>10 For new TPUU concepts without a reported strength, their FSN and PT descriptions may include an Other Strength Representation element within the description text.</p> <p>Note: Other Strength Representation is not currently available as an individual entity for use in v3.</p> <ul style="list-style-type: none"> ○ e.g. FSN <i>Algisite M (66000519) (dressing alginate superficial wound 5 cm x 5 cm) dressing: medicated, 1 dressing (trade product unit of use)</i> ○ e.g. PT <i>Algisite M (66000519) 5 cm x 5 cm dressing: medicated, 1</i> 					✓	✓

3.2.6 Trade Product Pack

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All TPP concepts and their Preferred Terms are retained from v2.	✓					
2 All TPP Fully Specified Name descriptions not covered within (3) below are retained from v2.	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>3 All TPP Fully Specified Name descriptions that include "(as salt)" information are amended to reflect no display of "(as salt)" information.</p> <ul style="list-style-type: none"> ◦ e.g. <i> Amoxil (amoxicillin (as sodium) 1 g) injection: powder for, 5 x 1 g vials (trade product pack) </i> is amended to <i> Amoxil 1 g injection: powder for, 5 x 1 g vials (trade product pack) </i> ◦ Only the description text is amended with no change to the description identifier. ◦ If the salt is clinically significant (i.e. MP represents the salt), the "(as salt)" information is retained. <ul style="list-style-type: none"> - e.g. <i> Calci-Tab 600 (calcium (as carbonate) 600 mg) tablet: uncoated, 100 tablets (trade product pack) </i> 	✓					✓
<p>4 All TPP concepts have the same IS A relationships to MPP concepts and HAS TPUU relationships to TPUU concepts.</p>	✓					
<p>5 All v2 TPP HAS SUBPACK relationships are excluded.</p>				✓		
<p>6 All TPP IS A relationships to TP are excluded and replaced by new TPP HAS TP relationships.</p>				✓	✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>7 Optional attributes and description types are excluded:</p> <ul style="list-style-type: none"> ○ trade product suffix: <ul style="list-style-type: none"> - Included as part of the TP (string) ○ other pack information ○ total unit of use quantity value/unit ○ total unit of use size value/unit ○ total subpack quantity: <ul style="list-style-type: none"> - Replaced by <i>Subpack Quantity reference set</i>. 		✓	✓	✓	✓	✓
<p>8 New TPP component pack concepts are added.</p> <ul style="list-style-type: none"> ○ TPP component pack concepts are created for certain multi-component products (combination kits). ○ Where the TPP concept already exists in v2, the existing concept is used instead e.g. <i>[Klacid 500 mg tablet: film-coated, 14 tablets]</i>. 	✓				✓	
<p>9 Has a defining Unit of Use Quantity attribute via <i>Unit of Use Quantity reference set</i> e.g. 20 tablets, 10 ampoules.</p>					✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>10 For new TPP concepts without a reported strength, their FSN and PT descriptions may include an Other Strength Representation element within the description text.</p> <p>Note: Other Strength Representation is not currently available as an individual entity for use in v3.</p> <ul style="list-style-type: none"> ○ e.g. FSN <i>Algisite M (66000519) (dressing alginate superficial wound 5 cm x 5 cm) dressing: medicated, 10 dressings (trade product pack)</i> ○ e.g. PT <i>Algisite M (66000519) 5 cm x 5 cm dressing: medicated, 10</i> 					✓	✓

3.2.7 Containered Trade Product Pack

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
1 All CTPP concepts and their Preferred Term descriptions are retained from v2.	✓					
2 All CTPP Fully Specified Name descriptions not covered within (3) below are retained from v2.	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>3 All CTPP Fully Specified Name descriptions that include "(as salt)" information are amended to reflect no display of "(as salt)" information.</p> <ul style="list-style-type: none"> ◦ e.g. <i> Amoxil (amoxicillin (as sodium) 1 g) injection: powder for, 5 x 1 g vials, vial (containered trade product pack) </i> is amended to <i> Amoxil 1 g injection: powder for, 5 x 1 g vials, vial (containered trade product pack) </i> ◦ Only the description text is amended with no change to the description identifier. ◦ If the salt is clinically significant (i.e. MP represents the salt), the "(as salt)" information is retained. <ul style="list-style-type: none"> - e.g. <i> Calci-Tab 600 (calcium (as carbonate) 600 mg) tablet: uncoated, 100 tablets, bottle (containered trade product pack) </i> 	✓					✓
<p>4 All CTPP concepts have the same IS A relationships to TPP concepts.</p>	✓					
<p>5 All CTPP HAS CONTAINER TYPE relationships are retained from v2.</p>	✓					
<p>6 Optional description types are excluded:</p> <ul style="list-style-type: none"> ◦ other containered pack information ◦ ARTG ID: <ul style="list-style-type: none"> - Replaced by the new <i>ARTG ID reference set</i>. 			✓		✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>7 New CTPP component pack concepts and HAS COMPONENT PACK relationships are added.</p> <ul style="list-style-type: none"> ◦ CTPP component pack concepts are created for certain multi-component products (combination kits). ◦ Where the CTPP concept already exists in v2, the existing concept is used instead e.g. <i>[Klacid 500 mg tablet: film-coated, 14 tablets, blister pack]</i>. 	✓				✓	
<p>8 New CTPP subpack concepts and HAS SUBPACK relationships are added.</p> <ul style="list-style-type: none"> ◦ e.g. <i>[Triquilar ED, 28, blister pack]</i> 					✓	
<p>9 Has an optional Subpack Quantity attribute via <i>Subpack Quantity reference set</i> e.g. 4 each.</p>					✓	

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>10 For new CTPP concepts without a reported strength, their FSN and PT descriptions may include an Other Strength Representation element within the description text.</p> <p>Note: Other Strength Representation is not currently available as an individual entity for use in v3.</p> <ul style="list-style-type: none"> ◦ e.g. FSN <i>Algisite M (66000519) (dressing alginate superficial wound 5 cm x 5 cm) dressing: medicated, 10 dressings, carton (containered trade product pack)</i> ◦ e.g. PT <i>Algisite M (66000519) 5 cm x 5 cm dressing: medicated, 10, carton</i> 					✓	✓

3.3 AMT substances

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>1 All Substance concepts and their descriptions (Fully Specified Name and Preferred Term) are retained from v2.</p>	✓					

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
2 All Substance concepts have the same IS A relationship to <i>/Medicinal substance/</i> .	✓					
3 All Substance HAS MODIFICATION OF relationships are retained from v2.	✓					

3.4 AMT qualifiers

AMT qualifier hierarchy (Australian qualifier)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Animal origin	All Animal origin concepts, descriptions and relationships are excluded.		✓	✓	✓		
Availability status	All Availability status concepts, descriptions and relationships are excluded.		✓	✓	✓		
Biotech descriptor	All Biotech descriptor concepts, descriptions and relationships are excluded.		✓	✓	✓		
Container type	All Container type concepts, descriptions and relationships are retained from v2.	✓					

AMT qualifier hierarchy (Australian qualifier)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Form	All Form concepts, descriptions and relationships are retained from v2.	✓					
Ingredient activity status	All Ingredient activity status concepts, descriptions and relationships are excluded.		✓	✓	✓		
Organisation	All Organisation concepts, descriptions and relationships are excluded.		✓	✓	✓		
Pack manufacture indicator	All Pack manufacture indicator concepts, descriptions and relationships are excluded.		✓	✓	✓		
Pack size indicator	All Pack size indicator concepts, descriptions and relationships are excluded.		✓	✓	✓		
Plant part	All Plant part concepts, descriptions and relationships are excluded.		✓	✓	✓		
Plant preparation	All Plant preparation concepts, descriptions and relationships are excluded.		✓	✓	✓		
Preferred strength representation type	All Preferred strength representation type concepts, descriptions and relationships are excluded.		✓	✓	✓		

AMT qualifier hierarchy (Australian qualifier)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Proprietary form	All Proprietary form concepts, descriptions and relationships are excluded. <ul style="list-style-type: none"> The Preferred Term of the concept is included as part of the associated TP description (string). 		✓	✓	✓		✓
Route of administration	All Route of administration concepts, descriptions and relationships are excluded.		✓	✓	✓		
Trade product group	All Trade product group concepts, descriptions and relationships are excluded.		✓	✓	✓		
Unit dose form indicator	All Unit dose form indicator concepts, descriptions and relationships are excluded.		✓	✓	✓		
Unit of measure	<ul style="list-style-type: none"> All Unit of measure concepts, descriptions and relationships are retained from v2. 	✓					

AMT qualifier hierarchy (Australian qualifier)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
	<ul style="list-style-type: none"> • New Composite Unit of Measure concepts are added to support the <i>Strength reference set</i>. <ul style="list-style-type: none"> ◦ e.g. <i>/mg/mL/</i>, <i>/mg/each/</i>, <i>/g/L/</i> • Each Composite Unit of Measure concept has new relationships created to their individual units of measure. <ul style="list-style-type: none"> ◦ HAS NUMERATOR UNITS <ul style="list-style-type: none"> - e.g. <i>/mg/mL/</i> HAS NUMERATOR UNITS <i>/mg/</i> ◦ HAS DENOMINATOR UNITS <ul style="list-style-type: none"> - e.g. <i>/mg/mL/</i> HAS DENOMINATOR UNITS <i>/mL/</i> 					✓	
Unit of Use	Newly added qualifier class to represent an MPUU attribute.					✓	

3.5 AMT relationship details

AMT relationship details hierarchy (Australian relationship details)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
MPP has MPUU	1 All MPP has MPUU (MHM) concepts, descriptions and relationships are excluded.		✓	✓	✓		
	2 Attributes and description types are excluded. <ul style="list-style-type: none"> ○ unit of use quantity value/unit <ul style="list-style-type: none"> - Replaced by <i>Unit of Use Quantity reference set</i> ○ unit of use size value/unit <ul style="list-style-type: none"> - Replaced by <i>Unit of Use Size reference set</i> 		✓	✓	✓	✓	
MPUU has specific active ingredient	1 All MPUU has specific active ingredient (MPUUUSA1) concepts, descriptions and relationships are excluded.		✓	✓	✓		

AMT relationship details hierarchy (Australian relationship details)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
	<p>2 Attributes and description types are excluded.</p> <ul style="list-style-type: none"> ○ HAS AUSTRALIAN BoSS relationship: <ul style="list-style-type: none"> - Replaced by MPUU HAS AUSTRALIAN BoSS relationship. ○ base/salt form strength numerator/denominator value/unit: <ul style="list-style-type: none"> - Replaced by <i>Strength reference set</i>. These Strength details pertain to the BoSS only. 		✓	✓	✓	✓	
TPP has TPUU	<p>1 All TPP has TPUU (THT) concepts, descriptions and relationships are excluded.</p>		✓	✓	✓		
	<p>2 Attributes and description types are excluded.</p> <ul style="list-style-type: none"> ○ unit of use quantity value/unit: <ul style="list-style-type: none"> - Replaced by <i>Unit of Use Quantity reference set</i>. ○ unit of use size value/unit: <ul style="list-style-type: none"> - Replaced by <i>Unit of Use Size reference set</i> 		✓	✓	✓	✓	

AMT relationship details hierarchy (Australian relationship details)	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
TPUU has pharmaceutical ingredient	1 All TPUU has pharmaceutical ingredient (TPUUPI) concepts, descriptions and relationships are excluded.		✓	✓	✓		
	2 Attributes and description types are excluded. <ul style="list-style-type: none"> ○ HAS BoSS relationship: <ul style="list-style-type: none"> - Replaced by TPUU HAS AUSTRALIAN BoSS relationship (inherited from MPUU). ○ ingredient strength numerator/denominator value/unit: <ul style="list-style-type: none"> - Excluded. Strength details within the <i>Strength reference set</i> pertain to the BoSS only. 		✓	✓	✓	✓	

3.6 AMT data representation concepts

AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
<p>All Australian data representation (i.e. metadata) concepts, descriptions and relationships are excluded.</p> <ul style="list-style-type: none"> Replaced by SNOMED CT Model Component sub-hierarchy which aligns with SNOMED CT-AU and SNOMED CT metadata. 		✓	✓	✓	✓	

3.7 AMT reference sets

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Australian dialect reference set	<p>New <i>Language type</i> reference set added.</p> <ul style="list-style-type: none"> Determines if a Synonym description is Preferred (i.e. Preferred Term) or Acceptable (i.e. acceptable or synonymous terms). 						✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Medicinal product reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active MP concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	
Medicinal product unit of use reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active MPUU concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Medicinal product pack reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active MPP concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	
Trade product reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active TP concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Trade product unit of use reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active TPUU concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	
Trade product pack reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active TPP concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Containerised trade product pack reference set	<p>New <i>Simple type reference set</i> added.</p> <ul style="list-style-type: none"> Provides the set of active CTPP concepts for implementation. Replaces the <i>Attribute value type reference set</i> in v2. This is a change in the reference set pattern but the aim of the reference set stays the same. 					✓	✓	
Strength reference set	<p>New <i>Concrete domain type reference set</i> added.</p> <ul style="list-style-type: none"> Represents normalised BoSS strength attribute for MPUUs for machine consumption. 						✓	
Unit of Use Quantity reference set	<p>New <i>Concrete domain type reference set</i> added.</p> <ul style="list-style-type: none"> Represents pack quantity attribute for every MPP and TPP. 						✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
Unit of Use Size reference set	<p>New <i>Concrete domain type reference set</i> added.</p> <ul style="list-style-type: none"> Represents unit of use size attribute for every MPUU. 						✓	
Subpack Quantity reference set	<p>New <i>Concrete domain type reference set</i> added.</p> <ul style="list-style-type: none"> Represents optional subpack quantity attribute for certain MPPs and CTPPs. 						✓	
Association reference set	<p>New <i>Historical (Replaced By) Association type reference set</i> added.</p> <ul style="list-style-type: none"> Specifies the active concepts that replace concepts that have been retired. Similar information and aim as the v2 History Mapping file. 						✓	

Reference sets	AMT v2 and v3 model component comparison	No change to identifiers or meaning (same as v2 representation)	v2 concept identifiers excluded	v2 descriptions and their identifiers excluded	v2 relationships and their identifiers excluded	v2 reference set excluded	New v3 concepts, descriptions, relationships or reference set file added	v2 editorial rule change
ARTG ID reference set	<p>New <i>Annotation type reference set</i> added.</p> <ul style="list-style-type: none"> Specifies the ARTG ID (string) associated with CTPP concepts. 						✓	
Substance to SNOMED CT-AU mapping reference set	<p><i>Simple map reference set</i> retained from v2.</p> <ul style="list-style-type: none"> Provides a mapping between AMT Substances to SNOMED CT-AU Substances. 	✓						

3.8 Others

Others	AMT v2 and v3 model component comparison
AMT v2 history	<p>No history from v2 will be included in v3.</p> <ul style="list-style-type: none"> All v2 components retired due to v2 to v3 model change or BAU processes are excluded in the first v3 release. Only active components are represented in the first v3 release. <p>The RF2 history tracking mechanism is in place from the first v3 release onwards.</p>
Extracting AMT Preferred Terms for use	<p>In AMT v3, per the RF2 format, a combination of the Description file and <i>Language reference set</i> is used to extract the Preferred Terms (synonym descriptions annotated with acceptabilityId value of <i> Preferred </i>) for use in an implementation.</p> <p>In AMT v2, Preferred Terms are extracted using the Description file (via selecting a value within the DescriptionType field).</p>

Others	AMT v2 and v3 model component comparison
Component status	Per RF2 specifications, status (in the active field) is simplified to 0 (active) and 1 (inactive).
RF2 release type – release files	<p>First v3 release will be in Full and Snapshot release types.</p> <p>Later v3 releases will include Delta release type.</p> <p>AMT v2 releases are currently in Snapshot only.</p>
RF2 distribution form – release files	<p>AMT v3 releases will be in Distribution Normal Form (DNF).</p> <ul style="list-style-type: none"> • The DNF includes inferred and inherited relationships to ease implementations without users manually navigating to different hierarchy levels to obtain attributes (where required). • DNF only impacts on the Relationship file and Concrete domain reference sets. • The Stated Form may be published alongside the DNF. <p>AMT v2 releases are currently in Stated Form only.</p>
RF2 reference sets	<p>RF2 specifications allow the ability to extend the terminology via any number of reference sets.</p> <p>Some new metadata reference sets exist in AMT v3 including:</p> <ul style="list-style-type: none"> • <i>Reference Set Descriptor reference set.</i> • <i>Description Format reference set.</i> • <i>Module Dependency reference set.</i>
AMT v2 UUIDs	<p>All AMT v2 components have an assigned SNOMED CT identifier and a UUID. For example, the MP concept of <i>/aciclovir/</i> has a:</p> <ul style="list-style-type: none"> • SNOMED CT identifier of “21239011000036106”; and a • UUID of “5603685b-5cff-5bd0-a3d7-7c7973a899cf”. <p>In AMT v3, all components except reference set members use their SNOMED CT identifier as their primary identifier.</p> <p>In AMT v3, only reference set members (row ids) have a UUID data type.</p> <p>While not intended for active use, all v2 UUIDs are included in the AMT v3 Identifier file to provide backward compatibility.</p>
Namespace identifier for new AMT v3 components	All newly created components in AMT v3 (e.g. new concepts, descriptions, relationships) will have a new namespace identifier of “1000168” within their SNOMED CT identifier e.g. 1532451000168124.

Others

AMT v2 and v3 model component comparison

All AMT v2 components that are included in v3 data will retain their SNOMED CT identifier, which have a namespace identifier of "1000036" e.g. 19838011000036104.

effectiveTime

The effectiveTime of any AMT component specifies the date at which the component was first released in the terminology, or when the component's state has changed in subsequent releases.

The effectiveTime format in AMT v3 is represented to the day of the year, using ISO 8601 basic representation of YYYYMMDD.

In AMT v3, the effectiveTime for legacy data (i.e. data brought over from v2) will be true only back up to AMT v2 release 2.0 (June 2009).

- If a v2 component's effectiveTime is 20090630 or more recent, they will have the same effectiveTime in v3.
 - For example, the CTPP *[Crosva 10 mg tablet: film-coated, 30 tablets, blister pack]* was added into the AMT Jan 2014 release, and will have a v3 effectiveTime of 20140131.
 - If a v2 component's effectiveTime is earlier than 20090630, they will have a v3 effectiveTime of 20090630.
 - For example, the CTPP *[Paclitaxel (Baxter) 30 mg/5 mL injection: concentrated, 1 x 5 mL vial]* was added into the AMT Dec 2008 release, and will have a v3 effectiveTime of 20090630.
-

4 Migrating from v2 to v3

The migration path from v2 to v3 will be dependent on the way that the v2 data has been implemented. Before undertaking a migration, a full analysis should be performed on the impact that the changes in the model will have on your current implementation.

Those implementers who have only mapped their local term sets to AMT v2 concepts should have a relatively simple migration path.

The following diagram illustrates a high level process flow of how an implementer may migrate from their AMT v2 implemented data to AMT v3. The subsequent sections provide further information for each step but do not define every specific detail needed for a given step. Please contact the NCTIS via help@nehta.gov.au if you have any queries.

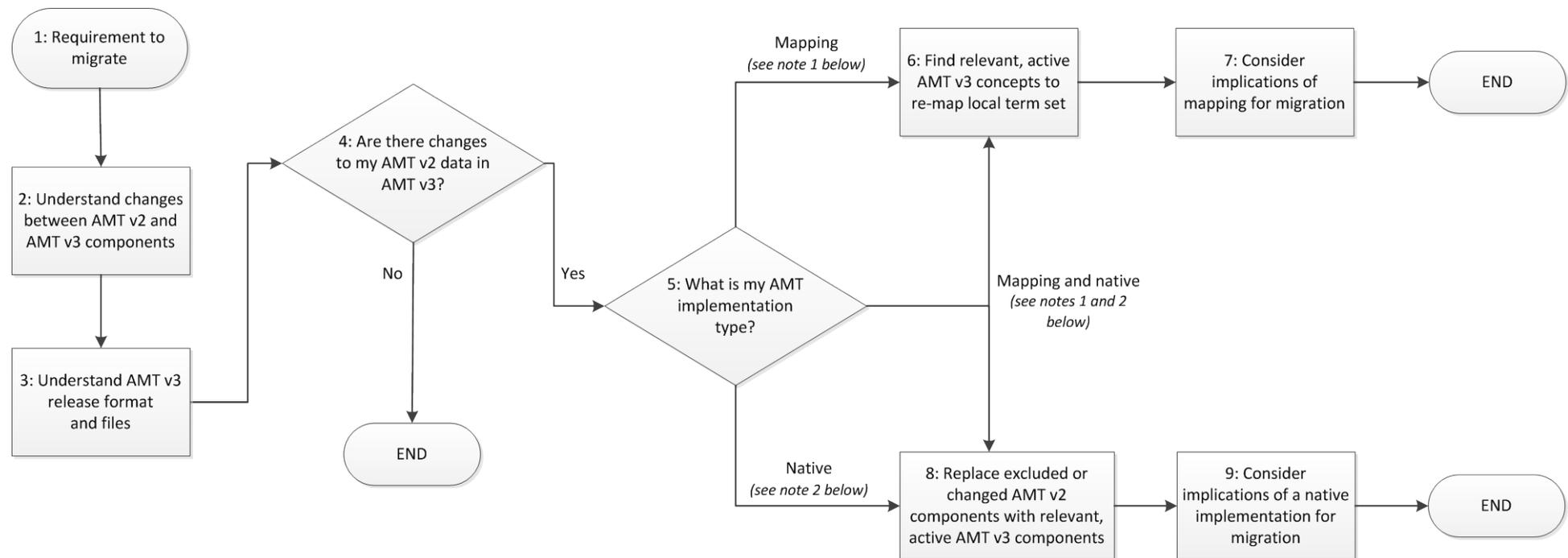


Figure 4: Illustrative AMT v2 to v3 migration process

- 1 An AMT mapped implementation is a mapping between a local term set and AMT, where local terms continue to be employed in the user interface of a clinical system. A map is an index from one code and/or term to another. Rules may sometimes be used to allow translation from one representation to another indicating degree of equivalence. A map is often computable and it is the outcome of the mapping process.³
- 2 A native AMT implementation is an implementation where AMT concepts, descriptions and/or relationships are used and deployed within a clinical system. Typically, AMT descriptions are employed in the user interface.

Step 1: Requirement to migrate

The requirement to migrate a current implementation of AMT v2 data is driven by factors such as:

- The retirement of AMT v2 production releases.⁴
- The adoption of the new AMT v3 release data.
- Licensee obligations for end product updates.⁵

Step 2: Understand changes between AMT v2 and AMT v3 components

Refer to Section 2.2 of this document to understand the new AMT v3 model. Refer to Section 3 to understand if any of your AMT v2 implemented components have changed and/or new components introduced into the v3 model.

Step 3: Understand AMT v3 release format and files

Refer to the *AMT v3 Technical Implementation Guide* [1] to understand the changes to AMT v3 release files, which are RF2 compliant. These include the core files, reference sets and how they relate to each other.

The new release format may change your current algorithms. Section 3.8 briefly describes some technical changes between AMT v2 and v3.

Of note, extracting Preferred Term descriptions requires the use of an additional Language reference set. If you have implemented any AMT v2 relationships, note that there are changes to the AMT v3 Relationship file which is published in Distribution Normal Form (DNF). Further information on DNF is available in the AMT v3 TIG.

Also, numeric attributes within AMT v3 are now made available via Concrete Domain reference sets. These reflect a new reference set pattern that is undergoing the process of inclusion in the RF2 technical specifications.

For more detailed information on RF2, refer to the *SNOMED CT Technical Implementation Guide* [14].

There are some changes to the *AMT v3 Editorial Rules* [8].

³ See *ISO 17115:2007* [15].

⁴ See <http://www.nehta.gov.au/media-centre/news/469-national-clinical-terminology-and-information-service-nctis-announces-the-upcoming-retirement-of-australian-medicines-terminology-v2-releases>.

⁵ Refer to the *Australian National Terminology Release Licence Agreement* [2] – in particular clause 6.

Step 4: Are there changes to my AMT v2 data in AMT v3?

- 1 To answer this question, first perform a comparison between your AMT v2 implemented data and an instance of the AMT v3 data to find out the exact changes to those components.
- 2 Determine from the results of this comparison if there are any changes.

At a minimum, extracting concept identifiers and descriptions for use will have changed due to the AMT v3 release files adopting the RF2 specifications. However, there may be no changes to your AMT component from a model perspective, e.g. no changes to the concept identifier, Preferred Term description text or source relationships within v3 data.

When assessing the changes between v2 and v3, for components implemented from previous AMT v2 releases the following categories of change are possible:

- No change.
- No match in AMT v3.
- Changed description without a change in concept (i.e. change in description text and description ID only).

4a: No change

This category of change applies to those instances where there are no changes to the concept IDs or descriptions. These v3 components are retained as they are from v2.

For example, all v3 Medicinal Product Pack (MPP) concepts and their Preferred Term descriptions are retained from v2 with no changes.

4b: No match in AMT v3

This category of change applies to those instances where there is no match found between the AMT v2 component and AMT v3 (i.e. the v2 component has been excluded).

For example, some Medicinal Product (MP) and Trade Product (TP) concepts are retired and excluded due to changes in the v3 model. Exclusion of AMT v2 history is noted under Section 3.8.

4c: Changed description without a change in concept

This category of change applies to those instances where there is a change in description without a change in concept ID (i.e. change in the description text and description ID only).

An illustration of this category of change is where the ingredient and strength information is removed from a TPUU concept description. For example, the v2 term "Actonel (risedronate sodium 30 mg) tablet: film-coated 1 tablet" would change to "Actonel 30 mg tablet: film-coated" in AMT v3.

Step 5: What is my AMT implementation type?

The way AMT v2 data has been implemented affects the way a migration to AMT v3 is performed. Typically, AMT v2 data is implemented via a mapping or is natively used within a system.

There may be hybrid approaches in implementing AMT v2, which is not covered in the high level process flow diagram (Figure 4). Please contact the NCTIS for further support if required.

Step 6: Find relevant, active AMT v3 concepts to re-map the local term set

6a: Changed v2 mapped concepts

If your AMT v2 implementation is a mapping and any of your AMT v2 mapped concepts have changed in v3:

- If the excluded v2 concept has an active replacement v3 concept or a clinically suitable, active v3 concept is available, then you should re-map your local concept to the replacement or suitable v3 concept.
 - Refer to the *AMT v3 Association reference set* to find retired concepts and their active replacement concepts.
- If the excluded v2 concept does *not* have an active replacement concept, determine whether the concept is out of scope of the AMT v3 model.
- You should confirm that the removal of this concept will not adversely affect your implementation. If adverse impacts are expected, please contact the NCTIS for further guidance.

6b: Unchanged v2 mapped concepts

There may be changes to description text only with no changes to concept ID for your AMT v2 mapped concepts.

These represent cases where the meaning of the concepts has not changed. No re-mapping is expected in these instances. However, you should review and confirm the amended description text remain suitable for your mapped concepts.

Step 7: Consider implications of mapping for migration

After local terms are remapped, the typical product development lifecycle processes such as testing, deployment and maintenance should be undertaken.

For a mapping implementation, minimal impacts to end users are expected as the local term set continues to be employed within the user interface.

Types of information that need to be considered as part of the migration process include:

- Decision support protocols.
- Queries and other data retrieval, aggregation and analysis specifications.

Step 8: Replace excluded or changed AMT v2 components with relevant, active AMT v3 components

8a: Changed v2 components

Consider the following if you have a native AMT v2 implementation and any of your AMT v2 components have changed in v3:

- Where the excluded v2 component has an active replacement v3 component or a clinically suitable, active v3 component is available, then implement the new replacement or suitable v3 component.
 - Refer to the *AMT v3 Association reference set* to find retired concepts and their active replacement concepts.
- Where the excluded v2 component does *not* have an active replacement component, determine whether the component is now out of scope for the AMT v3 model.
 - You should confirm that the removal of this component will not adversely affect your implementation. If adverse impacts are expected, please contact the NCTIS for further guidance.

8b: Unchanged v2 components

There may be changes to description text only with no changes to concept ID for your AMT v2 implemented concepts.

These represent cases where the meaning of the concepts has not changed. You should review and confirm the amended description text remain suitable for the purposes of your implementation.

Step 9: Consider implications of a native implementation for migration

After new AMT v3 components are implemented, the typical product development lifecycle processes such as testing, deployment and maintenance should be undertaken.

From a technical perspective, there are two principal migration issues to consider:

- Maintenance of the integrity and value of pre-existing data recorded using excluded AMT v2 data (i.e. legacy data).
- Maintenance and development of the functionality delivered by software applications that use queries and protocols that include or refer to excluded AMT v2 codes (legacy queries and protocols).

Types of information that need to be considered as part of the migration process include:

- Coded data stored in existing systems.
- Information systems, e.g. software and hardware.
- Decision support protocols.
- Data entry templates.
- Queries and other data retrieval, aggregation and analysis specifications.

Migration does not necessarily mean over-writing legacy coded data with AMT v3 structures. Users are advised to ensure that data stored at the time of data entry is preserved. This is essential for the following reasons: ⁶

- Medico-legal status of an altered clinical record may become degraded.
- The original record may be an invaluable resource, should migration produce unexpected results.
- There may be reporting or historical record keeping requirements.

Please note that there may be downstream effects from any changes found that may impact your end users, including training aspects and change management.

⁶ This passage paraphrases advice given in the *SNOMED CT Technical Implementation Guide* [14].

5 AMT v3 release

5.1 Product Support

Licence holders will be notified when the AMT v3 release becomes available and details will also be published on the NEHTA website.

Contrary to previous advice from NEHTA, there will not be any overlap of AMT release versions once the production AMT v3 release has been made available. Support is available for existing AMT v2 implementations to assist in the migration to v3. This service can be requested by contacting the NEHTA Help Centre at help@nehta.gov.au or call us on 1300 901 001.

Requests for additions or alterations to AMT content will only be considered for AMT v3. These can be made to the NCTIS via the following page: <http://www.nehta.gov.au/our-work/clinical-terminology/request-submission-product-content-changes>.

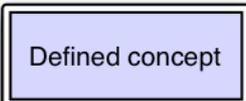
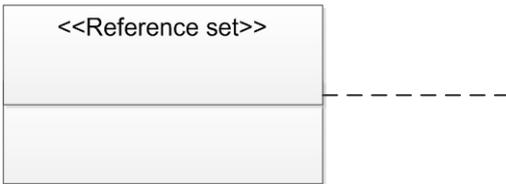
5.2 Terminology browser

A terminology browser is available to review the AMT v3 content. The CSIRO Minnow browser is accessible via <http://research.ict.csiro.au/software/minnow>.

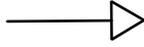
Using this browser alone to manually review a large set of existing v2 mappings would be extremely labour intensive, and is not recommended.

Appendix A AMT v3 model diagram conventions

The AMT v3 model diagram (Figure 2 on p. 11) reflects the Stated Form of AMT. It has been created using a combination of UML syntax and the *SNOMED CT Diagramming Guidelines*.⁷ The non-UML elements used in this diagram are summarised below.

Primitive concept		<p>This diagram element represents a primitive concept.</p> <p>A primitive concept is a concept that does not have sufficient defining relationships to computably distinguish them from more general concepts (supertypes).</p>
Defined concept		<p>This diagram element represents a defined concept.</p> <p>A defined concept is a concept that has sufficient defining relationships to computably distinguish it from other concepts.</p>
Reference set		<p>This diagram element represents a reference set member. The target of the dotted line represents the AMT component (e.g. a concept, description or relationship) that is being referenced by this reference set member.</p> <p>A reference set member is a uniquely identified reference (a row) within a reference set.</p> <p>A reference set is a set of references to AMT components that may represent additional properties of the components, associations between members of the set with content of another nomenclature, classification or knowledge structure. A reference set may also be a logical subset of AMT components grouped for a particular purpose or those that belong to the same concept class.</p> <p>Each reference set is distributed as a distinct text file separate to the RF2 core files.</p>

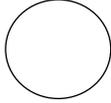
⁷ This document is available via the link http://www.ihtsdo.org/fileadmin/user_upload/Docs_01/Publications/SNOMED_CT_Diagramming_Guideline.pdf.

**IS A
relationship**

This diagram element represents an “IS A” relationship.

A relationship is an association between a source concept and a destination concept. An “IS A” relationship specifies the super-type (or parent) concept for a given subtype (or child) concept. The child concept shares all the definitional attributes of the parent concept, with optional, additional defining characteristics.

The arrow head always points to the parent (super-type) concept.

**Attribute
group**

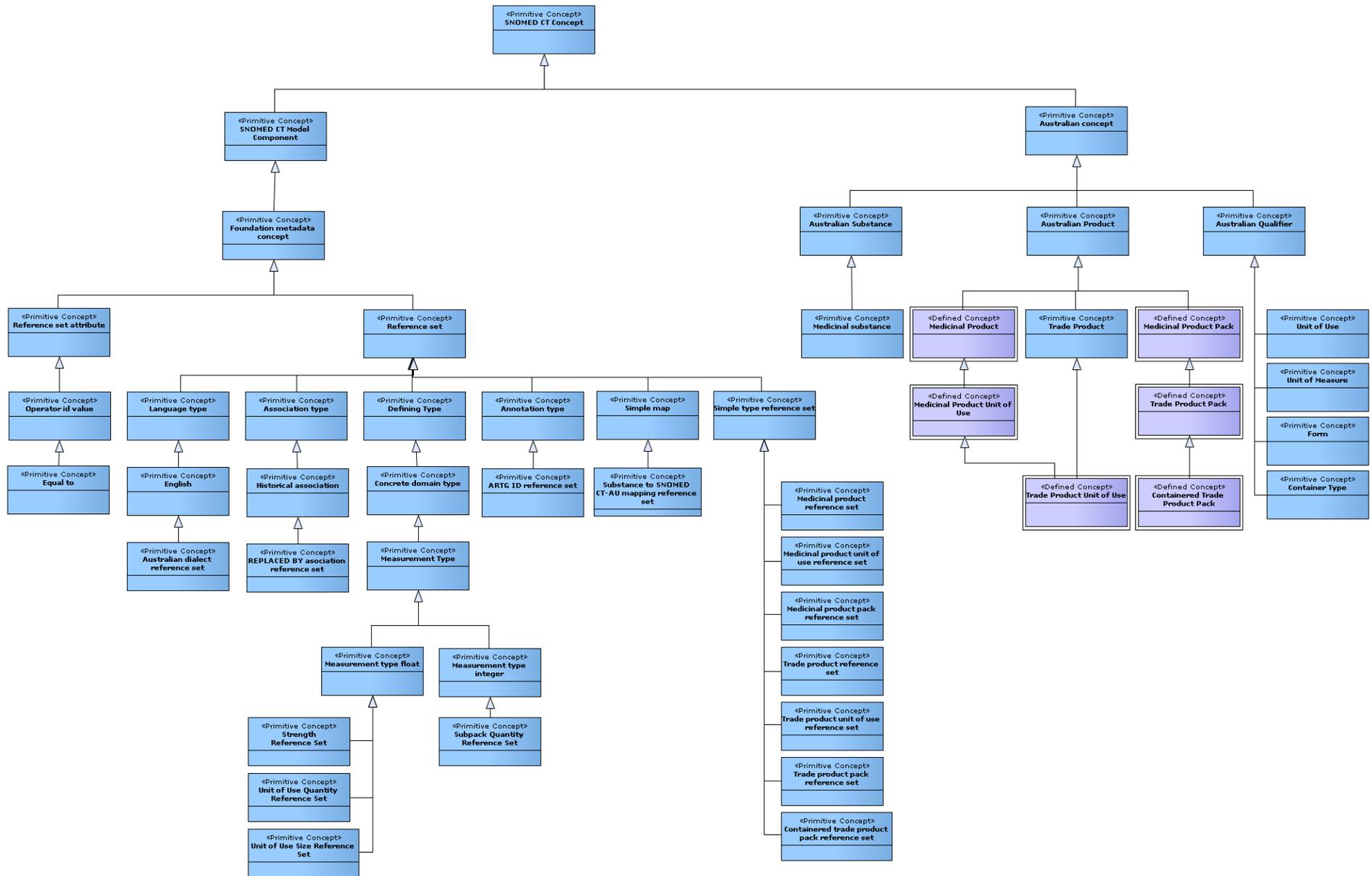
This diagram element represents an attribute group.

An attribute is a relationship that represents a characteristic of the meaning of a concept or the nature of a refinement. An attribute group is a collection of attributes that are logically put together to allow correct interpretation of the meaning of a concept.

Appendix B AMT v3 concept hierarchy

The following diagram is a high level representation of the hierarchies in AMT v3. It depicts the root concept and how the clinical sub-hierarchy, metadata sub-hierarchy and reference sets are structured in AMT v3.

The conventions used in this diagram are summarised in Appendix A.



q

Figure 5: AMT v3 concept hierarchy

Acronyms

Acronym	Description
AMT	Australian Medicines Terminology
ARTG ID	Australian Register of Therapeutic Goods Identifier
BoSS	Basis of Strength Substance
CTPP	Containerised Trade Product Pack
FSN	Fully Specified Name
MP	Medicinal Product
MPP	Medicinal Product Pack
MPUU	Medicinal Product Unit of Use
NCTIS	National Clinical Terminology and Information Service
NEHTA	National E-Health Transition Authority
PT	Preferred Term
RF2	Release Format 2.0
TP	Trade Product
TPP	Trade Product Pack
TPUU	Trade Product Unit of Use

References

1. NEHTA. *AMT v3 Technical Implementation Guide*. Sydney: NEHTA; 2013. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v3-common>.
2. NEHTA. *Australian National Terminology Release Licence Agreement*. Sydney: NEHTA; 2009. 25159043v1. Available from: <http://www.nehta.gov.au/our-work/clinical-terminology/registering-for-a-license/license-agreements>.
3. NEHTA. *AMT v3 Overview and Detailed Business Use Cases*. Sydney: NEHTA; 2013. v1.0. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v3-common>.
4. NEHTA. *AMT Implementation plan 2011-12*. Sydney: NEHTA; 2011. v1.0. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v2-common>.
5. NEHTA. *AMT 2012 Survey results and development roadmap*. Sydney: NEHTA; 2012. v1.0. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v2-common>.
6. NEHTA. *AMT v3 Beta Feedback Summary Results*. Sydney: NEHTA; 2014. 1.0. Available from: <http://www.nehta.gov.au/our-work/clinical-terminology/australian-medicines-terminology/amt-support-material>.
7. NEHTA. *AMT v3 Model Diagram*. Sydney: NEHTA; 2014. v1.0. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v3-common>.
8. NEHTA. *AMT Editorial Rules v3 Model*. Sydney: NEHTA; 2012. 1.0. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v3-common>.
9. NEHTA. *AMT v3 development approach for reference sets*. Sydney: NEHTA; 2013. Beta release, included in terminology release bundle. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v3-beta>.
10. NEHTA. *NCTIS Reference set library*. Sydney: NCTIS; 2013. Release 20131130. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/snomed-ct-au>.
11. NEHTA. *AMT Mapping Requirements*. Sydney: NEHTA; 2012. rev001. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v2-common>.
12. NEHTA. *AMT Mapping Guidelines*. Sydney: NEHTA; 2012. rev001. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v2-common>.
13. NEHTA. *UML Class Diagram: AMT v2 model*. Sydney: NEHTA; 2008. v1.1. Available from: <http://www.nehta.gov.au/implementation-resources/ehealth-foundations/australian-medicines-terminology-v2-common>.
14. IHTSDO. *SNOMED CT Technical Implementation Guide*. Copenhagen: IHTSDO; 2014. January 2014 release. Available from: <http://www.snomed.org/doc>.
15. International Standards Organization. *ISO 17115:2007 Health informatics - Vocabulary for terminological systems*. ISO; 2007. Available from: <http://infostore.saiglobal.com/store/>.

