Sparked

AUCDI

Data for Interoperability

Australian Clinical Data for Interoperability Release 2

Version 1.0 – June 2025

Final

Sparked AU FHIR Accelerator

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Australian Clinical Data for Interoperability Release 2

Document Control

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1. Document Information

1.1. Document Information

Name	Australian Clinical Data for Interoperability Release 2
Release Date	June 2025
Version	V1.0
Release Status	Final
Author	Sparked AU FHIR Accelerator

1.2. Distribution

Name	Title	Date	Version
Sparked Community	N/A	June 2025	V1.0

Community Acknowledgement

We thank all community members – the Sparked Clinical and Technical Design Groups, the Clinical Leads and our founding members who contributed their time, expertise, passion, resources and energy to deliver the Australian Clinical Data for Interoperability.

We look forward to the community continuing to grow and working with you all to share resources and specifications to enable the meaningful use, exchange, and reuse of clinical information.

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2. Introduction

2.1. Purpose of the document

This document defines the specifications for the Australian Clinical Data for Interoperability (AUCDI), Release 2. Designed by the community, this document serves as the standard reference for clinical data design, ensuring interoperability between both existing and future health and care systems.

For information and insights into the context of its development, please visit the AUCDI pages on the Sparked website.

2.2. Intended audience of the document

This document is intended for stakeholders interested in improving health data interoperability in Australia, such as consumers, clinical and technical subject matter experts, healthcare organisations, peak bodies, technology and software industry partners, jurisdictions, and government agencies.

2.3. How to read the document

This document is designed as a library of clinical data groups that define the specific data requirements for AUCDI Release 2. The data groups are organised alphabetically to support ease of use, discovery, and referencing.

Each data group represents one or more data elements about a single, discrete concept. The section below provides examples of how the data groups and elements are represented in the AUCDI.

<Data group name> (e.g., Adverse reaction risk summary)

2.3.1.1. Data group context

Each data group is introduced with a table that:

- Identifies the clinical concept represented by the data group, and
- Describes key attributes relevant to its implementation, including intended use and common misuse.

Table 1. Example context.

Clinical description	A definition or description of the data group concept.
Purpose	An explanation of the reason and objective for the data group.
Use case(s)	Identifies the relevant contexts of use for this data group. For example: Core, Australian Patient summary, or Chronic condition management. For more information about the AUCDI use cases, see the Sparked website.

Collection(s)	Identifies a logical aggregation of data groups, based on shared characteristics or functional purpose. For example: Social determinants of health, Measurements and vital signs, Interventions, and Biomarkers. For more information about the collections, see the Sparked website.
Representation	A description of how a clinician might anticipate the data might be recorded within a clinical information system.
Alias(es)	One or more synonyms for the name of the data group.
Considerations for use	A description of factors that may impact the implementation or use of this data group within a clinical system.
Misuse	Guidance for implementers about possible scenarios or use cases in which this specific data group (as a whole) is not recommended, incorrect, or inappropriate. Where applicable, a suitable alternative data group will be suggested.
References	Cites relevant source standards or information resources that have informed the design and scope of the data group.

2.3.1.2. Concept representation

An image of a mind map for each data group showing all AUCDI data elements.

Each mind map has a legend:

- Nodes displayed as black text on an orange background and containing a green tick icon have been published in AUCDI R1, and
- Nodes displayed as black text on an orange background and containing a green star have been published in AUCDI R2.

Each node in the mind map corresponds to a data element in the data group. Where occurrence constraints are not explicitly stated, they are assumed to be optional and default to a single instance (0..1).

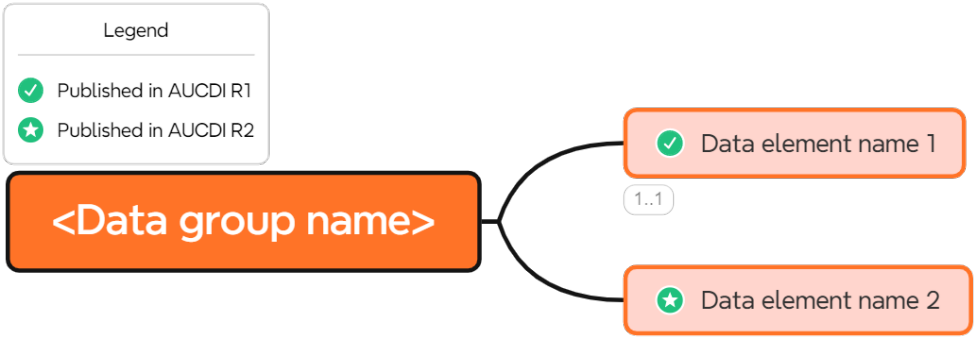

Figure 1. Example concept representation.

2.3.1.3. Information model

Every data group also contains a table that explains the specific attributes for each data element comprising:

Table 2. Example information model.

Data element		
<Data element name>	Description	A description or definition of the name of the data element.
	Use case(s)	Identifies the relevant contexts of use for this data element. For example: Core, Australian Patient summary, or Chronic condition management. For more information about the AUCDI use cases, see the Sparked website.
	Element occurrence	• Optional or mandatory • Single occurrence only or allows more than one occurrence
	Data type	Specifies the permitted data type(s) for capture; if more than one is listed, selection of any is allowed.
	Units	An indication of the units of measure to record properties or dimensions.
	Proposed code system/value set	For CodeableConcept data types, a proposed value set will be recommended or proposed. For example: an agreed value set of SNOMED CT-AU terms limited to the context of the data element.
	Examples	Examples of acceptable data entries may be provided to clarify what information could be recorded in this data element.
	Alias(es)	Identification of one or more alternative terms used in systems to describe a data element.
	Considerations	A description of factors that may impact the implementation or use of this data element within a clinical system.

Table 3. Explanation of data types.

Data type[1]	Description
String	A sequence of Unicode characters, used to record free text as a narrative.
Coding	A direct reference to a code defined by a code system. The code may be part of a terminology value set.
CodeableConcept	A value that is usually supplied by providing a reference to one or more terminologies or ontologies but may also be defined by the provision of text.
dateTime	A date, date and time, or partial date (e.g. just year or year + month) as used in human communication.
Quantity	A measured amount (or an amount that can potentially be measured).
Reference	A reference from one FHIR resource to another.
Timing	A timing schedule that specifies an event that may occur multiple times.

2.3.1.4. For future consideration

Each data group or collection contains a description of how the content might evolve. Specific considerations are highlighted, as well as any items identified as requiring further investigation and discussion are documented.

A mind map of a proposed, comprehensive data group is considered a potential road map for future AUCDI releases and clinical information system evolution is included, where relevant.

Each mind map has a legend:

- Nodes displayed as black text on an orange background and containing a green tick icon have been published in AUCDI Release 1,
- Nodes displayed as black text on an orange background and containing a green star have been published in AUCDI R2, and
- Nodes displayed as grey text on a white background and containing a grey flag are candidate data elements for future AUCDI releases.

Again, each node in the mind map corresponds to a data element in the data group. Where occurrence constraints are not explicitly stated, they are assumed to be optional and default to a single instance (0..1).

[1] Datatypes. FHIR CI-Build. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/datatypes.html.

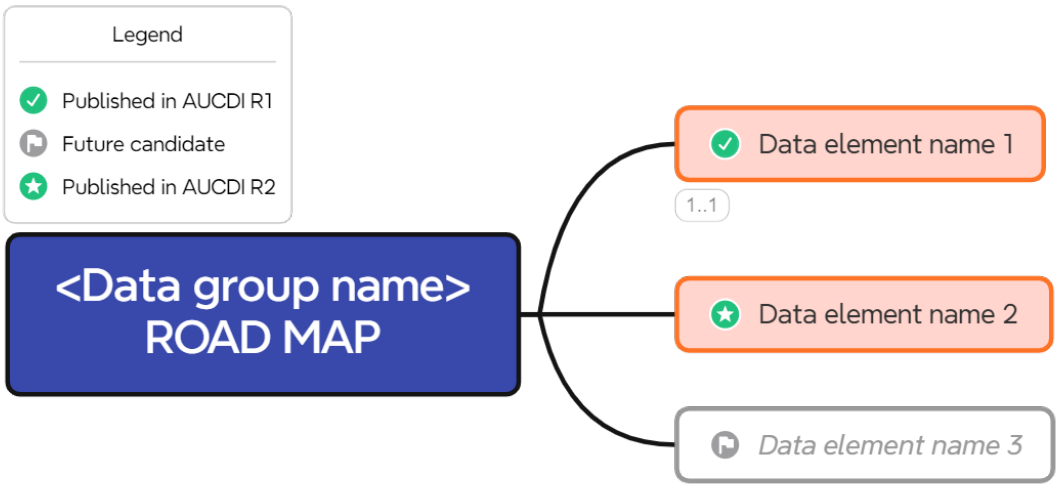

Figure 2. Example concept representation for the proposed road map for a data group depicting data element nodes and legend.

3. AUCDI Release 2 Library

3.1. Adverse reaction risk summary

3.1.1. Data group context

Table 4. Adverse reaction risk summary – Data group context.

Concept description	A summary of a clinical assessment identifying the potential for a harmful or undesirable idiosyncratic physiological reaction, unique to an individual and triggered by exposure to a specific substance.
Purpose	To record: • An assessment of the risk or propensity of a future adverse reaction if exposed, or re-exposed, to an identified substance. • Evidence supporting the risk assessment, such as a summary of each exposure event or genomics test results.
Use case(s)	Core, Patient summary
Representation	Record one instance of this data group per substance within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Adverse reaction, Allergy, Intolerance, Hypersensitivity
Considerations for use	• This data group records a clinician's recommendation to avoid future exposure to a specific substance, with a focus on the assessed exposure risk and the supporting clinical evidence. • In this release of AUCDI, the clinical evidence supporting the risk assessment is limited to an adverse reaction event following exposure to a substance. Support for additional evidence sources such as immunogenetic test results may be added in future releases. • While clinical safety is a key driver for accurately documenting adverse reactions, it is important to acknowledge that such documentation is not always limited to confirmed allergies, hypersensitivities, or intolerances. In practice, clinicians often face situations where the underlying pathophysiology is unknown. Nevertheless, they must still record a recommendation to avoid a specific substance when, in their clinical judgment, re-exposure poses a risk. These entries play a critical role in triggering safety alerts to prevent future harm, with past manifestations serving as essential indicators of potential risk, even in the absence of a confirmed mechanism. • This data group is intended to provide a single place within the health record to document the propensity for the full range of adverse reactions, from trivial to life-threatening, irrespective

	of the underlying physical mechanism. This includes but is not limited to: ○ Immune-mediated: Types I-IV (including allergic reactions and hypersensitivities), or ○ Non-immune-mediated: such as pseudo-allergic reactions, side effects, intolerances, and drug toxicities in individuals with impaired excretion. • Use cases include, but are not limited to: ○ 'Adverse Reaction List', or similar document, containing one or more 'Adverse reaction summary' data groups, ○ Triggering clinical decision alerts when prescribing, dispensing and administering a medication, and ○ To exchange safety-critical adverse reaction information with other healthcare providers. • In AUCDI, all adverse reactions are assumed active in the context of a summary for exchange.
Misuse	• Not to be used to record a diagnosis resulting from an adverse reaction to a substance – use the Problem/Diagnosis data group for this purpose. • Not to be used to record the results of allergy testing. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record the administration of immunotherapy. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used for recording predictable or expected physiological reactions on exposure to physical agents or activities, such as heat, cold, sunlight, vibration, exercise, by infectious agents, or food contaminants. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record predictable, expected, or commonly occurring physiological responses that may be experienced by many individuals under similar conditions, such as: ○ Those triggered by physical agents or activities (e.g. heat, cold, sunlight, vibration, exercise), or ○ Exposure to infectious agents or food contaminants. • Not intended for recording expected physiological responses shared across individuals—such as those triggered by physical

	agents, infectious agents, or food contaminants—as these are not idiosyncratic adverse reactions unique to the individual. • Not to be used to record an adverse event, including failures of clinical processes, interventions, or products. For example, abnormal use, incorrect dosage or maladministration of an agent or substance, mislabelling, overdose, or poisoning. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Adverse reaction risk, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7022. • Adverse reaction event, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.5795. • AllergyIntolerance, HL7 FHIR Resource [Internet]. Health Level Seven International; [accessed 2023 Dec 10]. Available from: https://www.hl7.org/fhir/R4/allergyintolerance-definitions.html. • AU Base Allergy Intolerance, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [accessed 2024 Nov 25]. Available from: https://hl7.org.au/fhir/4.1.0/StructureDefinition-au-allergyintolerance.html. • AllergyIntolerance (IPS), HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2023-12-22]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-AllergyIntolerance-uv-ips.html.

3.1.2. Concept representation

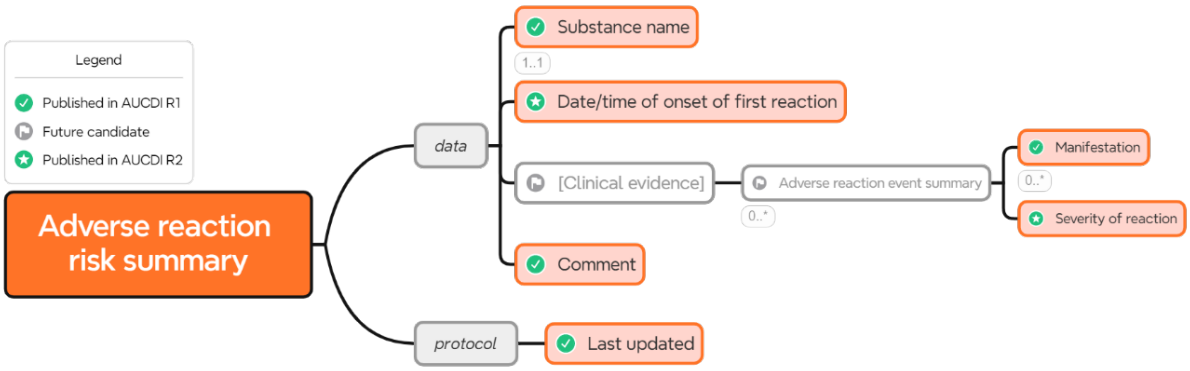

Figure 3. Adverse reaction risk summary - Concept representation.

3.1.3. Information model

Table 5. Adverse reaction risk summary - Information model.

Data elements		
Substance name	Description	Identification of a specific substance, compounded product, combination therapy product, or class of substances that is considered to have a causal link to the adverse reaction.
	Use case(s)	Core, Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Adverse Reaction Agent value set published by the NCTS currently includes all Substances (and classes) within SNOMED CT-AU and all AMT Product (notable) concepts.
	Examples	AMT provides concepts at various granularities from brand to specific substance: • TP: 3738011000036101|Amoxil| • TPUU: 4542011000036104|Amoxil Forte Sugar Free oral liquid| • MP: 27658006|Product containing amoxicillin| • MP: 831021000168104|measles + mumps + rubella live vaccine| • MPUU: 77502011000036108|amidotrizoate meglumine 66 g/100 mL + sodium amidotrizoate 10 g/100 mL solution| • MP: 785368006|Gadoteric acid-containing product| *Note: The above examples reflect the AMT, v4.* Specific substances and non-medicinal substances from SNOMED CT-AU: • 372687004|Amoxicillin| • 764147003|Cephalosporin| • 111088007|Latex| • 256259004|Pollen| • 762952008|Peanut| • 1222501000168103|Vegemite|

		• 348608005|Surgical adhesive tape| • 396014007|Barium sulfate| • 58281002|Gadolinium| • 426722004|Iodinated contrast media|
	Alias(es)	Agent, Class, Product, Drug, Allergen, Medicine

	Considerations	• Substances include but are not limited to:
		  ○ A therapeutic substance administered correctly at an appropriate dosage for the individual, including medications or vaccinations,
		  ○ Food,
		  ○ Material derived from plants or animals,
		  ○ Venom from insect stings and bites, or
		  ○ Physical objects commonly recorded as the proxy for a substance, such as Band-Aids or surgical tape.
		• It is strongly recommended that 'Substance name' be coded with a terminology capable of triggering decision support, where possible. Free text entry should only be permitted if no appropriate coded value is available.

Date/time of onset of first reaction	Description	Specific or approximate timing of the first known occurrence of a reaction to a substance.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	Timing (DateTime, Interval of Date/Time, Interval of Duration), String
	Alias(es)	Onset of risk
	Considerations	• The onset may be represented by an actual date and/or time of onset; an imprecise period during which the onset occurred; the age of the individual at the time of the onset, or a textual description. • Age is represented as a duration of time since birth. • Partial dates are permitted. • For example: ○ 2015

		○ February 2015 ○ 7 February 2015 ○ 7 February 2015, 1:28 pm ○ 2015-02-07T13:28:17-05:00 ○ 1990 - 1995 ○ 3 months old ○ 24 years old ○ 10-15 years old
Manifestation	Description	Symptom, sign or diagnosis observed or associated with the reaction.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Clinical Finding value set published by the NCTS currently includes all clinical findings within SNOMED CT-AU that could manifest as the result of an adverse reaction. Additionally, the Clinical manifestation reference set is a subset of clinical findings that is published as part of SNOMED CT-AU that was developed collaboratively with a number of different health jurisdictions to identify the most commonly encountered reactions.
	Examples	SNOMED CT-AU: • 247472004|Hives| • 267038008|Oedema| • 62315008|Diarrhoea| • 422587007|Nausea| • 39579001|Anaphylaxis|
	Alias(es)	Reaction, Nature of reaction, Clinical manifestation, Sign, Symptom
	Considerations	• It is strongly recommended that 'Manifestation' be coded with a terminology capable of triggering decision support, where possible. Free text entry should only be permitted if no appropriate coded value is available. • This data element has multiple occurrences to allow the recording of more than one manifestation per substance.

		• It should be possible to record the absence of a reaction upon re-exposure to a substance, even when a prior adverse reaction event has been documented. Such instances may prompt further investigation to confirm or refute the previously assumed causal relationship.
Severity of reaction	Description	Clinical evaluation of the overall impact of a reaction event, taking into account all associated manifestations.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	Coding
	Recommended code system/value set	A SNOMED CT severity value set is currently in development.
	Examples	Proposed SNOMED CT-AU value set: • 255604002|Mild| • 6736007|Moderate| • 24484000|Severe|
	Alias(es)	Severity
	Considerations	In clinical practice, severity is assessed based on the impact of the identified manifestation/s, such as distinguishing the relative impact of a mild, moderate, or severe rash. The term 'severity' serves only as a qualifier for the manifestation/s and is not meant to compare impact or suggest equivalency between different manifestations, such as between a severe rash and a severe asthma attack.
Comment	Description	Additional narrative about the adverse reaction risk not captured in other fields.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	string
	Alias(es)	Note
	Considerations	For example: instructions related to future exposure or administration of the Substance, such as administration within an Intensive Care Unit or under corticosteroid cover.
Last updated	Description	The date when this 'Adverse reaction risk summary' data group was last updated.

	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.1.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an adverse reaction to a specified substance.

The published openEHR 'Adverse reaction risk' archetype and the FHIR 'AllergyIntolerance' resource are mature information models that have been implemented globally across a range of clinical settings. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Adverse reaction risk' and 'Adverse reaction event summary' archetypes. The central structure of the mind map presents data elements that describe the overall propensity for risk of an adverse reaction to a substance upon future exposure. Nested within this, the 'Adverse reaction event summary' archetype allows one or more reaction events to be recorded, supporting cumulative information gathering related to each exposure.

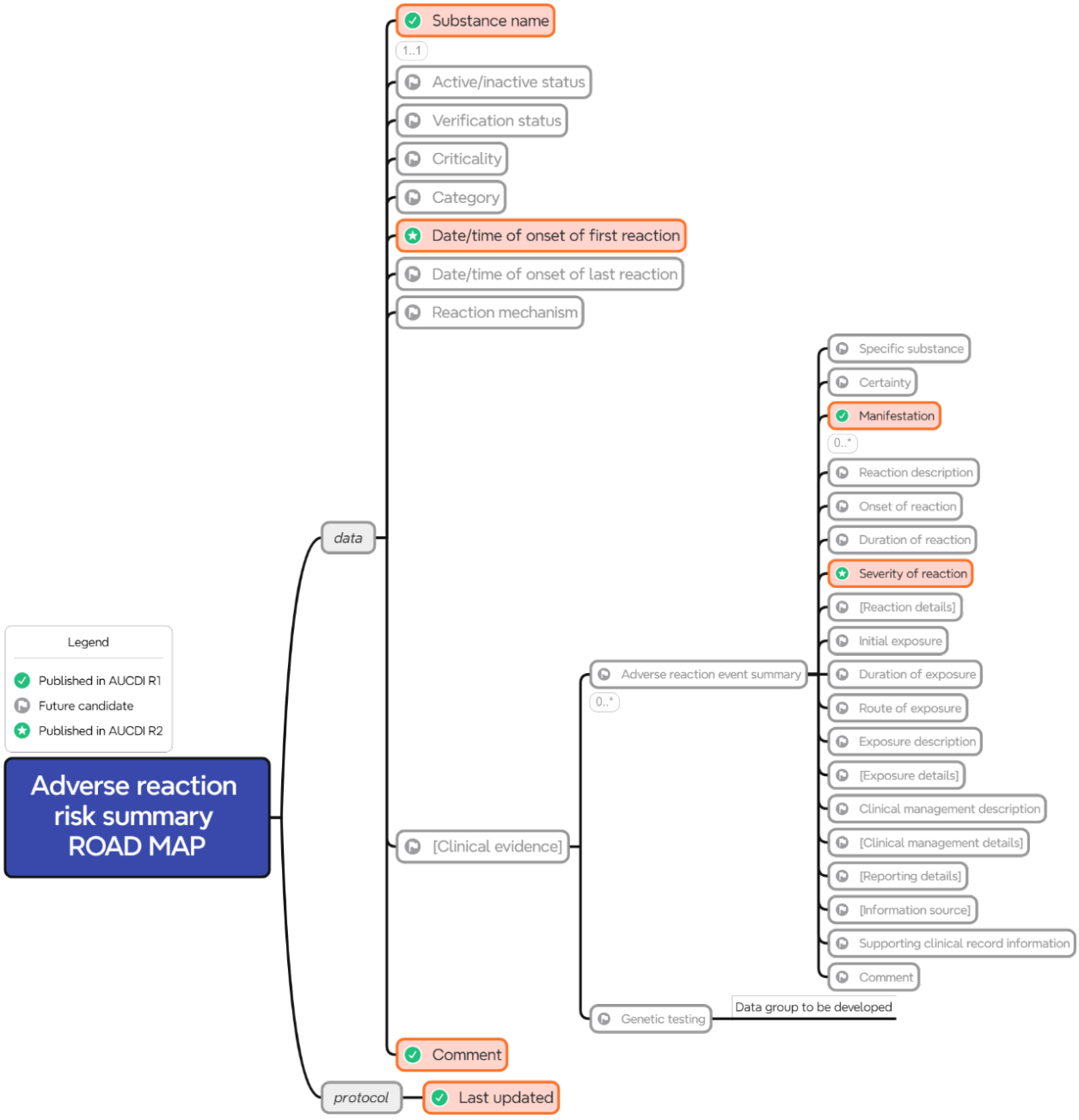

Figure 4. Adverse reaction risk summary data group - Proposed roadmap.

3.2. Alcohol consumption summary

3.2.1. Data group context

Table 6. Alcohol consumption summary - Data group context.

Concept description	Summary information about an individual's pattern of alcohol consumption.
Purpose	To record summary information about an individual's pattern of alcohol consumption.
Use case(s)	Chronic condition management
Representation	Record only one instance of this data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Alcohol summary
Considerations for use	• This data group is designed to support the recording of current and historical patterns of alcohol consumption, without any interpretation of misuse or dependency. • A conclusion about alcohol dependence or potentially harmful consumption can be documented in the 'Problem/Diagnosis summary' data group. • While alcohol consumption is conceptually a form of substance use, it has been deliberately modelled as a standalone data group due to its distinct clinical significance as one of the most prevalent and potentially modifiable health risk behaviours, and its unique harm profile. This separation enables accurate representation of specific alcohol consumption related data elements, such as patterns of consumption across various alcohol-containing products and the binging behaviour as an indicator of risk.
Misuse	• Not to be used to record current or historical patterns of use for substances other than alcohol – use the 'Tobacco smoking summary', 'Substance use summary', or a similar data groups for this purpose. • Not to be used to record the result of a formal assessment or validated tool related to alcohol consumption, misuse or dependence at a specific point in time. The need for a specific data group for each identified assessment tool, such as AUDIT-C, is acknowledged, but has not yet been developed for inclusion in AUCDI. • Not to be used to record a formal assessment of alcohol misuse or dependence - use the 'Problem/Diagnosis summary' data group for this purpose.

	• Not to be used to record an alcohol consumption diary tracking actual or average drinking over defined periods of time. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record an alcohol-related event such as an overdose or poisoning. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Alcohol consumption summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-05]. Available from https://ckm.openehr.org/ckm/archetypes/1013.1.1521

3.2.2. Concept representation

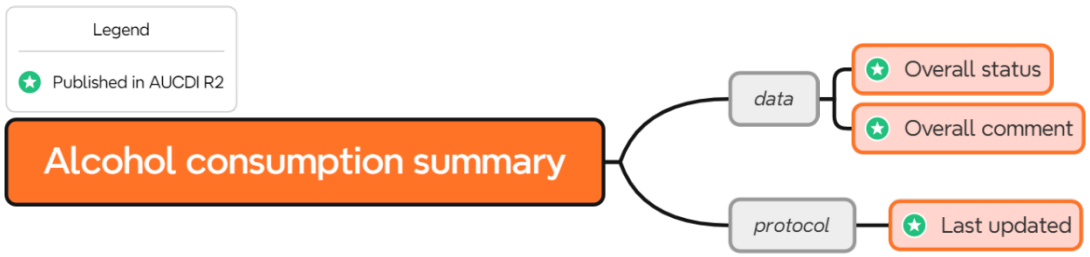

Figure 5. Alcohol consumption summary – Concept representation.

3.2.3. Information model

Table 7. Alcohol consumption summary – Information model.

Data elements		
Overall status	Description	Statement about current consumption for all types of alcohol.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples:	SNOMED CT-AU • 783261004 |Lifetime non-drinker| • 219006|Current drinker| • 82581004|Former drinker|

	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Overall comment	Description	Additional narrative about all alcohol consumption, not been captured in other fields
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias	Note
Last updated	Description	Date when this 'Alcohol consumption summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.2.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an individual's pattern of alcohol consumption.

The draft openEHR 'Alcohol consumption summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Alcohol consumption summary' archetype. The central structure of the mind map presents data elements that describe key aspects of alcohol consumption across an individual's lifetime. Nested within this, a repeatable group of data elements supports more detailed recording about defined episodes of consumption - for example, before and during a pregnancy.

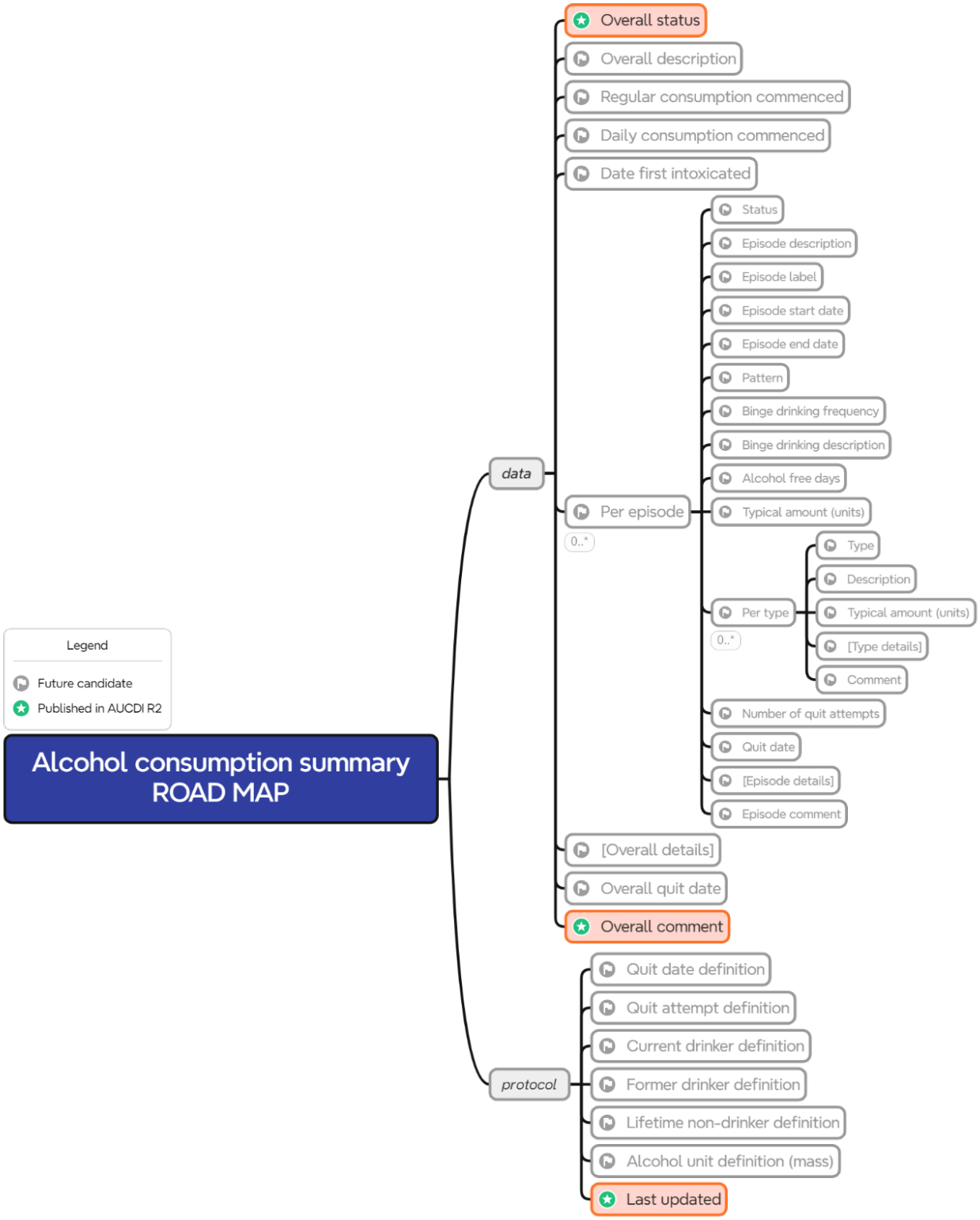

Figure 6. Alcohol consumption summary – Proposed roadmap.

3.3. Blood pressure

3.3.1. Data group context

Table 8. Blood pressure - Data group context.

Concept description	Measurement of the blood pressure in a single artery as a proxy for systemic arterial pressure.
Purpose	To record details of a single blood pressure measurement and its associated parameters.
Use case(s)	Core
Collection	Measurements and vital signs
Representation	Record one instance per observation event within a health record.
Aliases	BP

Considerations for use	• Use to record all measurements of systemic arterial blood pressure, regardless of the method or anatomical site of measurement.
	• Use cases include, but are not limited to:
	  ○ Manual or automated measurements,
	  ○ Self-measurement using a home blood pressure monitor,
	  ○ An emergency assessment of systolic using palpation at the radial artery,
	  ○ Any clinical consultation, or
	  ○ During an exercise stress test.

References	• Blood pressure, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3574. • US Core Blood Pressure Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-blood-pressure.html. • Blood Pressure Panel Profile, Vital Signs with Qualifying Elements Implementation Guide [Internet]. Clinical Information Modeling Initiative, Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/cimi-vital-signs/StructureDefinition-blood-pressure-panel.html. • Blood pressure, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [cited: 2024 May 21]. Available from:

	https://hl7.org.au/fhir/4.0.0/StructureDefinition-au-bloodpressure.html.

3.3.2. Concept representation

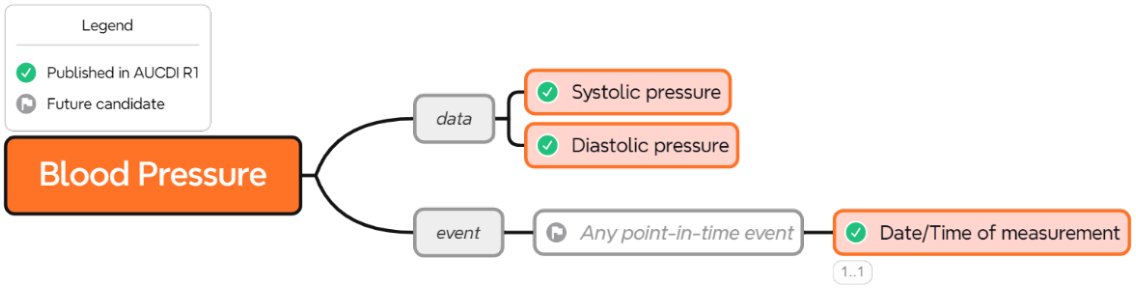

Figure 7. Blood pressure - Concept representation.

3.3.3. Information model

Table 9. Blood pressure - Information model.

Data elements		
Systolic pressure	Description	The peak systemic arterial blood pressure, measured during the contraction phase of the heart.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Systolic
	Considerations	• Units: mm[Hg] • For example: 140 mm[Hg]
Diastolic pressure	Description	The minimum systemic arterial blood pressure, measured during the relaxation phase of the heart.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Diastolic
	Considerations	• UCUM unit: mm[Hg] • For example: 85 mm[Hg]
Date/Time of measurement	Description	The date and time when the blood pressure was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence

	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.3.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a blood pressure measurement.

The published openEHR ‘Blood pressure' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR ‘Blood pressure' archetype.

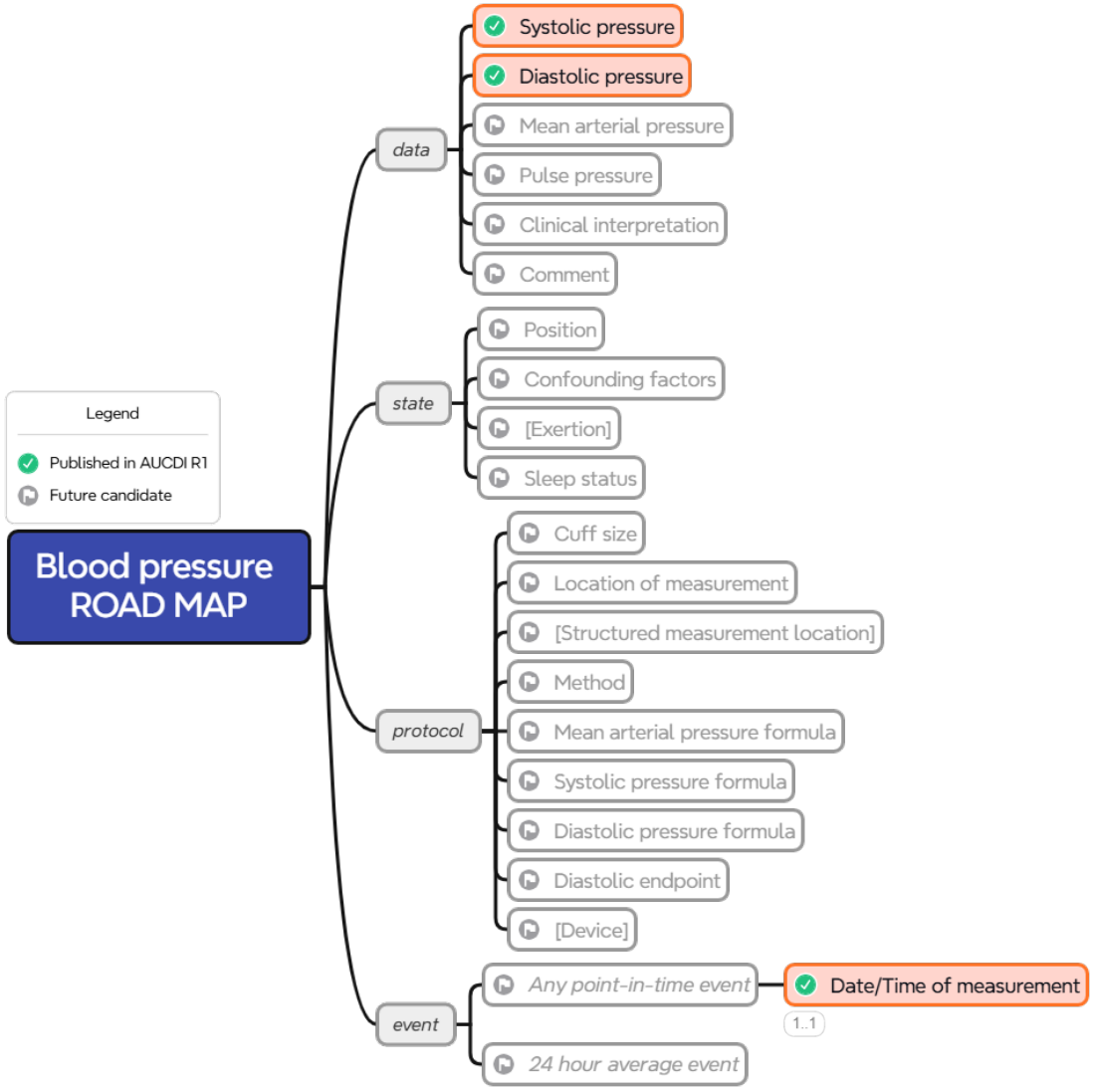

Figure 8. Blood Pressure - Proposed roadmap.

3.4. Body height

3.4.1. Data group context

Table 10. Body height - Data group context.

Data group description	Measurement of the height, or length, of the body measured from the crown of the head to the sole of the foot.
Purpose	To record details of a single body height or length measurement and its associated parameters.
Use case(s)	Core
Collection(s)	Measurements and vital signs
Representation	Record one instance per measurement event within a health record.
Aliases	Height, Length
Considerations for use	Use to record the height of an adult or child is measured with the individual in a standing position; the length of an infant is usually measured lying down.
References	• Height/Length, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3210. • Body height, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [cited: 2024 May 21]. Available from: https://hl7.org.au/fhir/4.0.0/StructureDefinition-au-bodyheight.html. • Body height recommended for collection by the Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edition, updated. East Melbourne, Vic: RACGP, 2018. • US Core Body Height Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-body-height.html. • Body Height Profile, Vital Signs with Qualifying Elements Implementation Guide [Internet]. Clinical Information Modeling Initiative, Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/cimi-vital-signs/StructureDefinition-height.html.

3.4.2. Concept representation

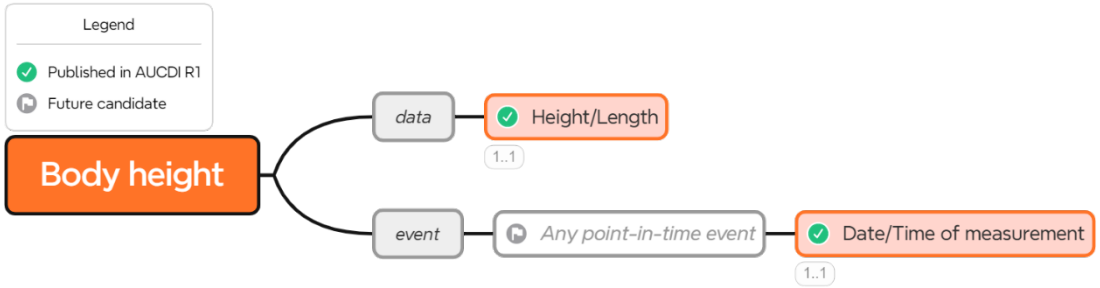

Figure 9. Body height - Concept representation.

3.4.3. Information model

Table 11. Body height - Information model.

Data elements		
Height / Length	Description	The measured distance from the crown of the head to the sole of the foot.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	Quantity
	Aliases	Height, Length

	Considerations	• UCUM unit: cm
		• For example:
		  ○ 45 cm
		  ○ 165 cm

Date/Time of measurement	Description	The date when the height was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.4.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a height or length measurement.

The published openEHR 'Height/Length' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Height/Length' archetype.

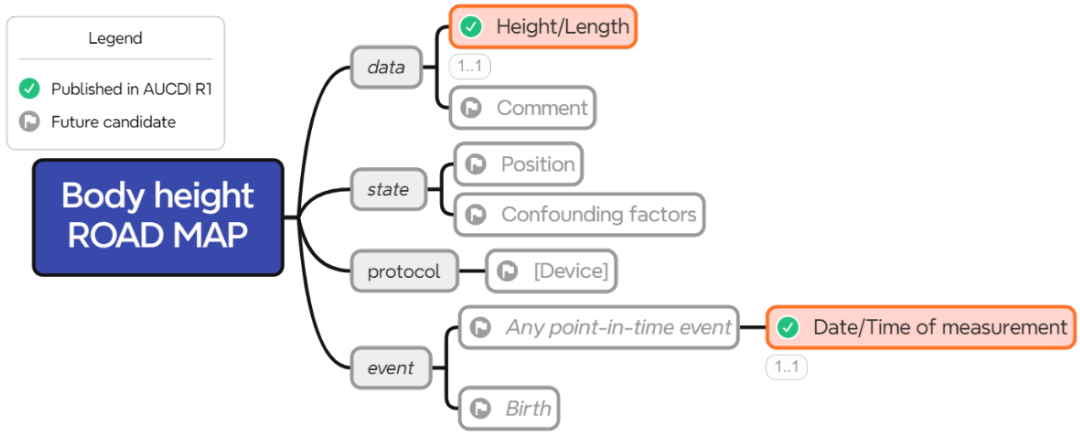

Figure 10. Body height - Proposed roadmap.

3.5. Body temperature

3.5.1. Data group context

Table 12. Body temperature - Data group context.

Concept description	Measurement of body temperature as a proxy for the core body temperature of an individual.
Purpose	To record details of a single body temperature measurement and its associated parameters.
Use case(s)	Core
Collection(s)	Measurements and vital signs
Representation	Record one instance per observation event within a health record.
Aliases	Temperature
Considerations for use	• Use to record temperature of an individual measured at a body site generally accepted as a surrogate for core body temperature, such as the external auditory canal or rectum.
Misuse	• Not to be used to record the temperature of an object outside of the body. The need for a specific data group for

	this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record temperature measurements taken from body sites that are not considered a surrogate for core body temperature, such as the skin surface or peripheral extremities. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Body temperature, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2796. • Body temperature, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [cited: 2024 May 21]. Available from: https://hl7.org.au/fhir/4.0.0/StructureDefinition-au-bodytemp.html. • US Core Body Temperature Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-body-temperature.html. • Body Temperature Profile, Vital Signs with Qualifying Elements Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/cimi-vital-signs/StructureDefinition-body-temperature.html.

3.5.2. Concept representation

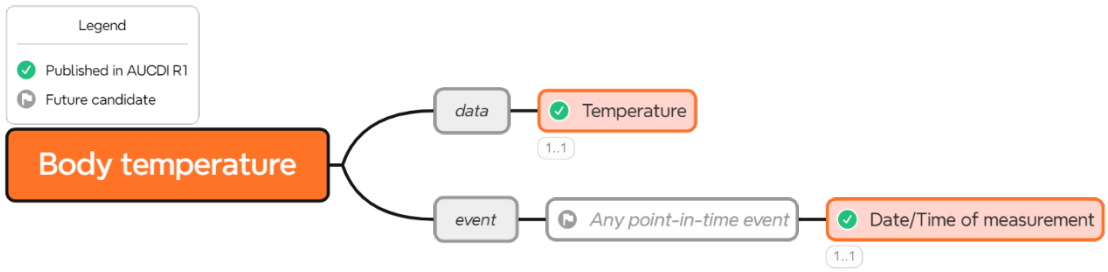

Figure 11. Body temperature - Concept representation.

3.5.3. Information model

Table 13. Body temperature - Information model.

Data elements		
Temperature	Description	The measured body temperature.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	Quantity
	Aliases	Body temperature
	Considerations	• UCUM unit: Cel • For example: ○ 37.5 Cel
Date/Time of measurement	Description	The date and time when the body temperature was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.5.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a temperature measurement.

The published openEHR 'Body temperature' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Body temperature' archetype.

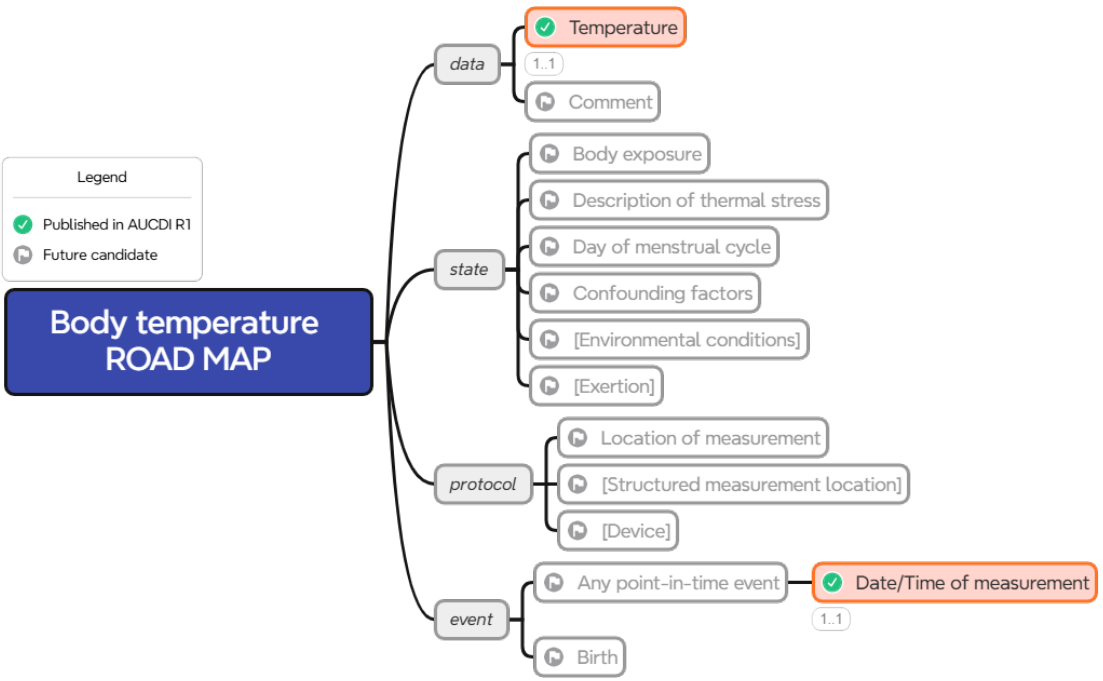

Figure 12. Body temperature - Proposed roadmap.

3.6. Body weight

3.6.1. Data group context

Table 14. Body weight - Data group context.

Concept description	Measurement of the weight of the body.
Purpose	To record details of a single body weight measurement and its associated parameters.
Use case(s)	Core
Collection(s)	Measurements and vital signs
Representation	Record one instance per measurement event within a health record.
Aliases	Bodyweight
Considerations for use	Use cases include but are not limited to: • Self-measured by the individual at home, • A clinician measurement in a clinic/hospital, or • A fitness instructor in a gymnasium.
References	• Body weight, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2960. • Body weight, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [cited: 2024 May 21]. Available from:

	https://hl7.org.au/fhir/4.0.0/StructureDefinition-au-bodyweight.html. • Body weight recommended for collection by the Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edition, updated. East Melbourne, Vic: RACGP, 2018. • US Core Body Weight Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-body-weight.html. • Body Weight Profile, Vital Signs with Qualifying Elements Implementation Guide [Internet [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/cimi-vital-signs/StructureDefinition-body-weight.html.

3.6.2. Concept representation

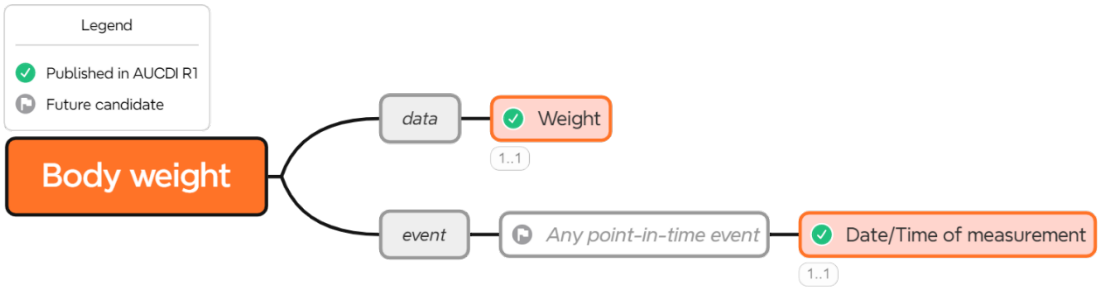

Figure 13. Body weight - Concept representation.

3.6.3. Information model

Table 15. Body weight - Information model.

Data elements		
Weight	Description	The measured weight of the individual.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	Quantity
	Aliases	Bodyweight

	Considerations	• UCUM units: kg or g
		• For example:
		  ○ 3300 g
		  ○ 3.3 kg

		○ 89.2 kg
Date/Time of measurement	Description	The date and time when the weight was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.6.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a single weight measurement.

The published openEHR 'Body weight' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Body weight' archetype.

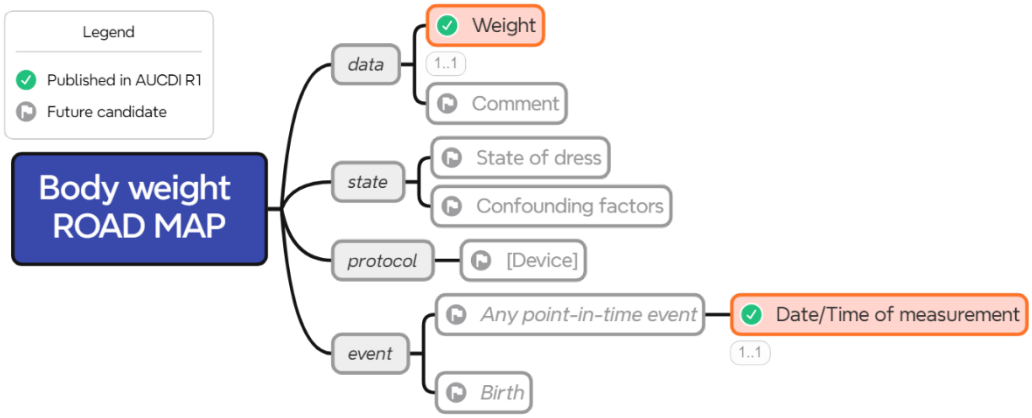

Figure 14. Body weight - Proposed roadmap.

3.7. Education summary

3.7.1. Data group context

Table 16. Education summary - Data group context.

Concept description	Summary information about the educational background of an individual, relevant within a health context, and focused on the bidirectional relationship in which education may influence health, healthcare decision-making, or access to services, and health may impact educational participation and attainment.
Purpose	To record summary information about an individual's educational background, relevant within a health context.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance education update within a health record; changes or update over time are captured as a revision rather than a new entry.

Considerations for use	• This data group can be extended to provide a repeatable 'Education record', as a structured summary about each current or past education qualification or role.
	• The focus of this data group is to record the bidirectional relationship between health and education, including but not limited to:
	  ○ How education may influence health, healthcare decision-making, or access to services, and
	  ○ How health may impact educational participation and attainment.
	• This family of education-related data groups will support the provision of healthcare to the individual in a variety of ways, including, but not limited to:
	  ○ Supporting SDOH initiatives by recognising the impact of education on health and social outcomes,
	  ○ Assessing cognitive abilities and literacy levels to improve health communication and decision-making,
	  ○ Identifying education-related stress, mental health challenges, or learning disabilities,
	  ○ Guiding rehabilitation planning related to education and vocational needs,
	  ○ Directing return-to-learning or return-to-work programs following injury or illness, and
	  ○ Identifying barriers to care, such as language proficiency or health literacy.

Misuse	Not to be used to record information about health education provided to individuals by healthcare providers – use the 'Health education' data group for this purpose.
References	• Education summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-09]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3184. • Education record, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-09]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3718.

3.7.2. Concept representation

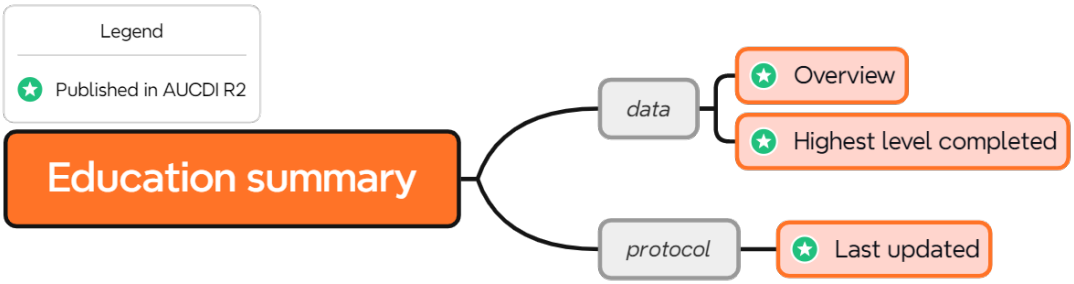

Figure 15. Education summary - Concept representation.

3.7.3. Information model

Table 17. Education summary - Information model.

Data elements		
Overview	Description	Narrative description about the overall education or training history of an individual.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Highest level completed	Description	A classification of the most advanced degree, certification or level of schooling an individual has obtained.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	Australian Standard Classification of Education (ASCED):

		• Doctorate degree • Master degree • Graduate diploma or certificate • Bachelor degree • Diploma or Advanced diploma • Certificate I, II, III or IV • Junior or Senior secondary education • Primary education • Pre-primary education Note: The ASCED classification can provide further granularity if required
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Last updated	Description	The date when this 'Education summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.7.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about an individual's educational background.

The published openEHR 'Education summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Education summary' archetype.

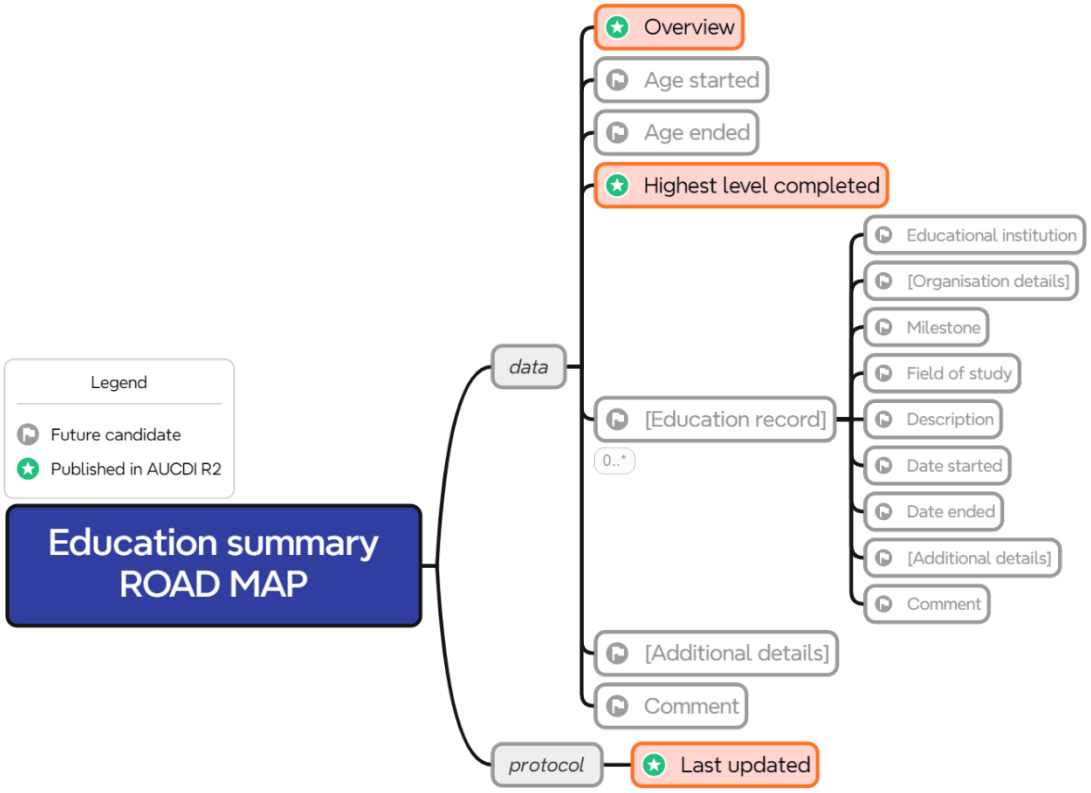

Figure 16. Education summary - Proposed roadmap.

3.8. Encounter

3.8.1. Data group context

Table 18. Encounter - Data group context.

Concept description	Information about the clinical context for a single, discrete clinical consultation or contact with a healthcare provider.
Purpose	To record relevant clinical context as part of the documentation of any clinical encounter event.
Use case(s)	Core
Representation	Record one instance per encounter event within the health record.
Aliases	Consultation
Considerations for use	In AUCDI, the scope of an encounter is intentionally limited to a single, discrete encounter event between an individual and a clinician, excluding an ongoing inpatient episode of care.
Misuse	• Not to be used to record the clinical content captured during an encounter, including but not limited to history, examination findings, test results and a plan of care or recommendation. These clinical details will be captured in other specific data groups. The need for a specific data group for this purpose is acknowledged but have not yet been developed for inclusion in AUCDI.

	• Not to be used to record system information about the logistics and administrative details of each clinical encounter, including but not limited to:
	  ○ Encounter date,
	  ○ Participants,
	  ○ Category of encounter, and
	  ○ Location of encounter.

References	• Reason for encounter, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.290. • US Core Condition Encounter Diagnosis Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://www.hl7.org/fhir/us/core/StructureDefinition-us-core-condition-encounter-diagnosis.html

3.8.2. Concept representation

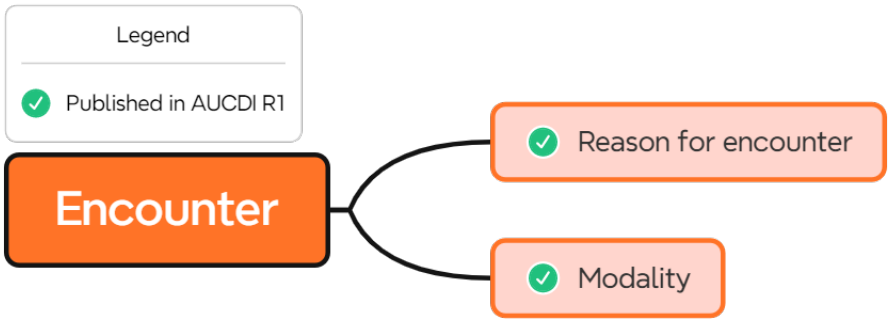

Figure 17. Encounter - Concept representation.

3.8.3. Information model

Table 19. Encounter - Information model.

Data elements		
Reason for encounter	Description	The reason for initiating a healthcare encounter or contact by an individual, as recorded by the clinician during or after the encounter.
	Use case(s)	Core
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Reason For Encounter value set published by the NCTS is a broad reference set including (most) procedures,

		clinical findings, situation with explicit context, and event concepts.
	Examples	SNOMED CT-AU: • 267036007|Dyspnoea| • 30549001|Removal of suture| • 171351004|Driving license medical examination| • 183517000|Referral to paediatrician| • 18876004|Pain in finger| • 418399005|Motor vehicle accident|
	Aliases	Reason for contact, Presenting Problem, Reason for Visit, Chief Complaint
	Considerations	• It is strongly recommended that 'Reason for Encounter' be coded with a terminology. Free text entry should only be permitted if no appropriate coded value is available. • Use to record one or more reasons an individual initiated a healthcare encounter, recorded by the clinician during or after the encounter. • The reason may be for clinical, social, or administrative purposes. • 'Reason for Encounter' is a common phrase used in clinical practice; however, the term is often used in one of two ways - one that refers to an administrative category for the provision of healthcare and the other that reflects clinical or social problems that motivate individuals to seek healthcare. • Not to be used as a de facto diagnosis by the clinician or a conclusion at the end of an encounter. • Not to be used as the 'reason for booking' of any healthcare encounter by the individual before the commencement of the encounter.
Modality	Description	The type of communication or method used to conduct the encounter.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept

	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Aliases	Method, Approach, Encounter type

	Considerations	• It is strongly recommended that 'Modality' be coded with a terminology. Free text entry should only be permitted if no appropriate coded value is available.
		• For example:
		  ○ Face-to-face
		  ○ Telephone Consultation
		  ○ Video consultation
		  ○ SMS
		  ○ Email

3.8.4. For future consideration

The focus for AUCDI has been to include only 'Reason for encounter' and 'Modality' data elements, however, requirements to support other components of an encounter record such as location category (e.g. hospital, residential aged care home, community clinic, home) and encounter category (e.g. ambulatory (outpatient), inpatient, emergency department) may need to be considered in the future.

3.9. Estimated Date of Delivery (EDD) summary

3.9.1. Data group context

Table 20. Estimated Date of Delivery (EDD) summary - Data group context.

Concept description	Estimated date of the delivery of an active pregnancy by one or more methods.
Purpose	To record estimated due date for a pregnancy, calculated or estimated by a one or more methods.
Use case(s)	Patient summary
Representation	Record one instance of this data group per pregnancy within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Estimated due date, Estimated date of birth, Estimated date of confinement, EDD, EDB, EDC
Considerations for use	• Use to record the estimated date of delivery (EDD), calculated or estimated by various methods at different times during a single pregnancy.

	• In AUCDI, this data group currently supports the capture of two types of EDDs:
	  ○ EDD by cycle, and
	  ○ EDD by ultrasound. The EDD by cycle is typically recorded just once per pregnancy. However, the need to record more than one EDD by ultrasound per pregnancy is very common and this is demonstrated in the future road map as a repeating grouping of data elements.

References	• Estimated date of delivery (EDD), Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024-10-18]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.4340. • Observation Pregnancy – Expected Delivery Date (IPS) , HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2024-11-26]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Observation-pregnancy-edd-uv-ips.html.

3.9.2. Concept representation

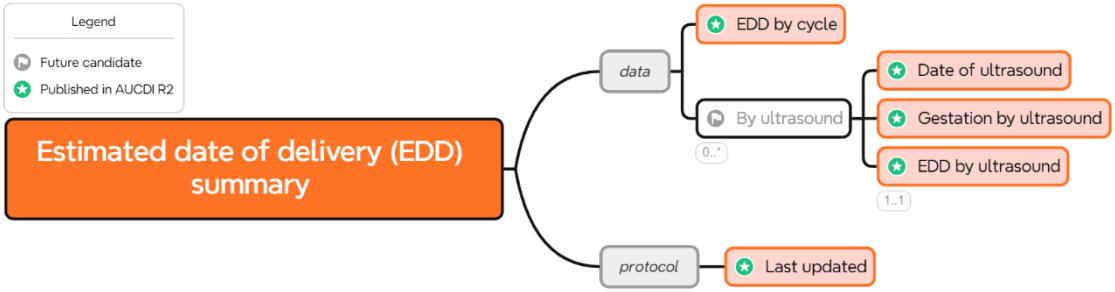

Figure 18. Estimated Date of Delivery (EDD) summary - Concept representation.

3.9.3. Information model

Table 21. Estimated Date of Delivery (EDD) summary - Information model.

Data elements		
EDD by menstrual cycle	Description	The EDD estimated from the onset of the last normal menstrual period using Naegele's Rule.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	date
Date of ultrasound	Description	The date on which the ultrasound scan was carried out.
	Use case(s)	Patient summary

	Occurrence	Optional, single occurrence
	Data type	dateTime
Gestation by ultrasound	Description	The estimated gestation based on foetal parameters measured during the ultrasound scan (in weeks and days).
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	Timing (duration)
	Units	Weeks, days
EDD by ultrasound	Description	The EDD estimated from gestation during a pregnancy ultrasound scan.
	Use case(s)	Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	date
Last updated	Description	Date when this EDD data group was last updated.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	dateTime

3.9.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about different ways clinicians need to record an estimated date of delivery.

The draft openEHR 'Estimated Date of Delivery (EDD) summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Estimated Date of Delivery (EDD) summary' archetype.

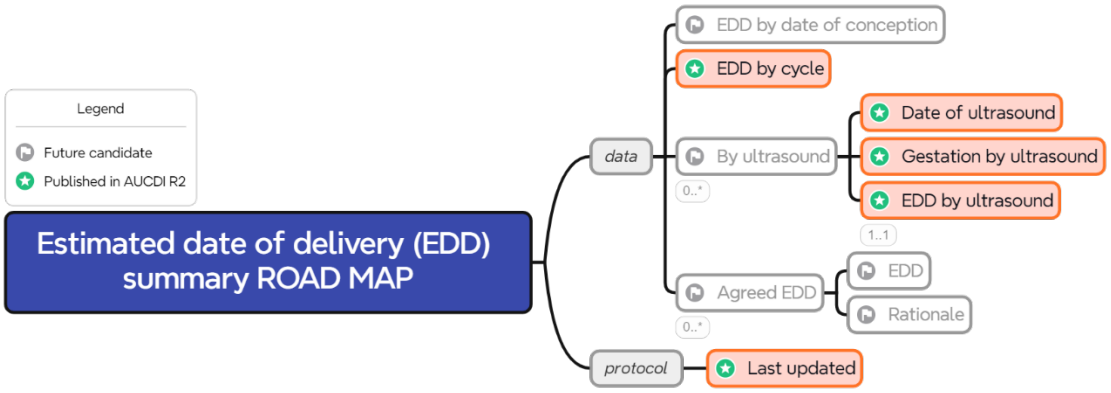

Figure 19. Estimated Date of Delivery (EDD) summary - Proposed roadmap.

3.10. Estimated Glomerular Filtration Rate (eGFR)

3.10.1. Data group context

Table 22. Estimated glomerular filtration rate - Data group context.

Concept description	A calculated measure used to assess the glomerular filtration rate as an indicator of kidney function.
Purpose	To record the value for a single eGFR measurement, excluding details about the measurement event or recording context.
Use case(s)	Core
Collection(s)	Biomarkers
Representation	Record one instance per measurement within a health record.
Aliases	EGFR, Estimated glomerular filtration rate, Estimated GFR
Considerations for use	This data group has been designed as a temporary model as part of a transitional strategy, with the intention that each biomarker will eventually be represented as a formal pathology test result.
References	• Laboratory analyte result, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2881. • US Core Laboratory Result Observation Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-observation-lab.html.

3.10.2. Concept representation

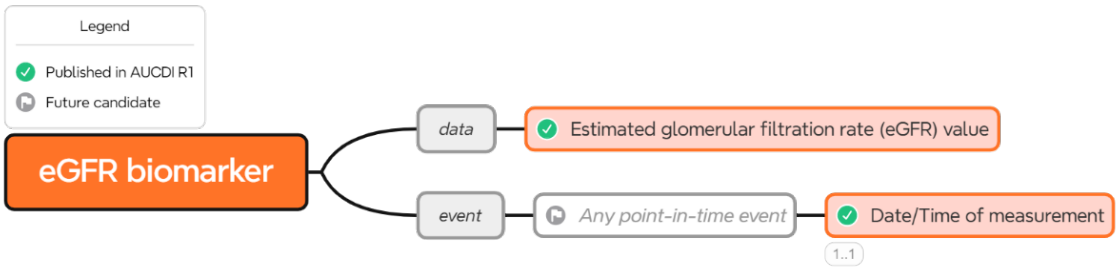

Figure 20. Estimated glomerular filtration rate - Concept representation.

3.10.3. Information model

Table 23. Estimated glomerular filtration rate - Information model.

Data elements		
eGFR	Description	The calculated eGFR measurement.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Estimated glomerular filtration rate, Estimated GFR
	Considerations	• UCUM unit: mL/min/{1.73_m2} • Usually calculated using the CKD-EPI formula • For example: ○ 104 mL/min/1.73m2
Date/Time of measurement	Description	The date and time when the eGFR was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.10.4. For future consideration

The FHIR 'Diagnostic Report' resource and the openEHR 'Laboratory test result' archetype are information models that have been used globally in a broad range of implementations. Despite the apparent differences in scope, they are sufficiently aligned to provide guidance for future enhancement.

3.11. Financial summary

3.11.1. Data group context

Table 24. Financial summary - Data group context.

Concept description	Summary information about the financial circumstances of an individual, focused on determinants that directly influence their health, healthcare decision-making, or access to services.
Purpose	To record summary information about an individual's financial circumstances, relevant within a health context.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance per summary data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Considerations for use	This data group will support provision of healthcare to the individual in a variety of ways including, but not limited to: • Supporting SDOH initiatives by recognising the impact of financial considerations on health and social outcomes, particularly in assessing the impact of financial security and stability for the individual, • Identifying financial issues or barriers that may impact decision-making or delivery of healthcare, • Supporting affordable treatment planning, • Assessing eligibility for financial aid, or • Evaluating economic stress.
Misuse	Not to be used to record financial circumstances that are unrelated to an individual's health or context.
References	• Financial summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-05]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2989.

3.11.2. Concept representation

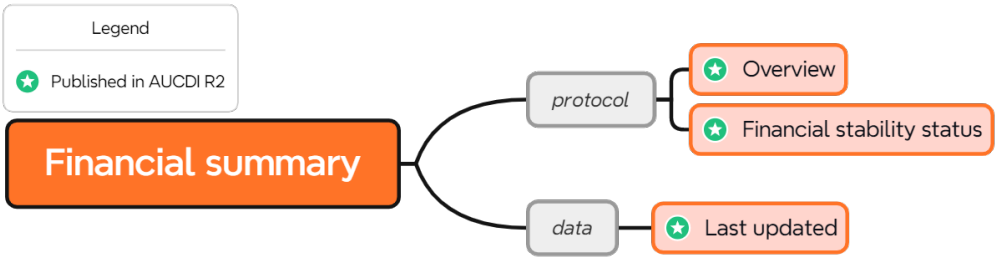

Figure 21. Financial summary - Concept representation.

3.11.3. Information model

Table 25. Financial summary – Information model.

Data elements		
Overview	Description	Narrative description about the financial situation of the individual.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
Financial stability status	Description	An assessment of the individual's ability to consistently meet financial obligations without falling into financial distress.
	Use case(s)	Chronic condition management
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Data type	CodeableConcept
	Examples	SNOMED CT-AU: • 933483611000036103|Financially stable| • 933483631000036107|Mild financial instability| • 933483641000036102|Moderate financial instability| • 933483651000036104|Severe financial instability|
	Considerations	• The concept of 'financial stability' focuses on short to medium term consistency and balance, such as the availability of a steady income, manageable debt, and cash flow that ensure day-to-day financial operations remain stable. This contrasts with 'financial security' which is focused on long-term protection and resilience, ensuring financial well-being even in uncertain times.

		• Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Last updated	Description	The date when this 'Financial summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.11.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about the financial circumstances of an individual that are directly relevant to their health, healthcare decision-making, or access to services.

The draft openEHR 'Financial summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Financial summary' archetype.

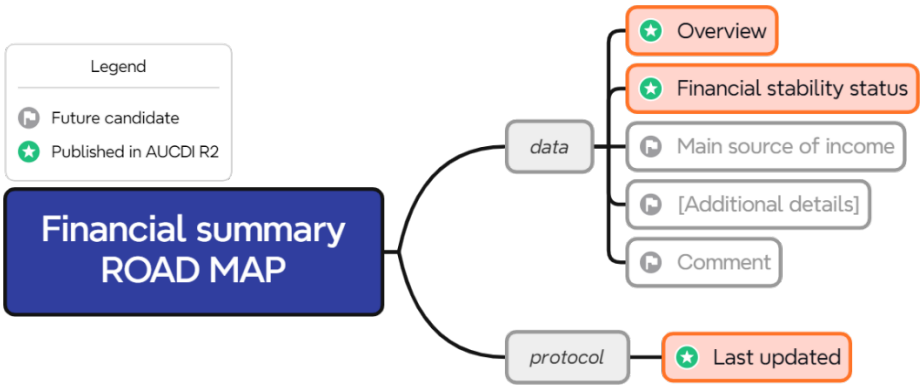

Figure 22. Financial summary - Proposed roadmap.

3.12. Food and nutrition summary

3.12.1. Data group context

Table 26. Food and nutrition summary - Data group context.

Concept description	Overview information about the food consumption and nutritional status of an individual.
Purpose	To record summary information about the food consumption and nutritional status of an individual.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance per data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Considerations for use	This data group will support the provision of healthcare to the individual in a variety of ways, including, but not limited to: • Supporting SDOH initiatives by recognising the impact of food and nutrition on health and social outcomes, • Documenting food security status, • Assessing dietary habits, including food intake, eating patterns, and risk of malnutrition, • Supporting weight management, or • Identifying dietary restrictions or preferences.
Misuse	• Not to be used to record food allergies – use the 'Adverse reaction risk summary' data group for this purpose. • Not to be used to record problems or formal diagnoses related to food or nutrition, such as anorexia or bulimia nervosa – use the 'Problem/Diagnosis summary' data group for this purpose. • Not to be used to record a concern or worry identified by the individual or their clinician – use the 'Health issue' data group for this purpose. • Not to be used to record a food diary, comprising actual food consumption at specified points in time. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Food and nutrition summary, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-05]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2755.

	• Food insecurity [Internet]. The Gravity Project, collaborative public-private initiative (United States). Available from: https://confluence.hl7.org/spaces/GRAV/pages/91994432/Food+Insecurity. • Food instability; Australian Food Story: Feeding the Nation and Beyond. House of Representatives Standing Committee on Agriculture; Parliament of Australia, Canberra [Nov 2023; cited 2025-02-09]. Available from https://www.aph.gov.au/Parliamentary_Business/Committees/House/Agriculture/FoodsecurityinAustrali/Report/Chapter_7_-_Food_insecurity. • Rabbitt, M. P., Reed-Jones, M., Hales, L. J., & Burke, M. P. (2024). Household food security in the United States in 2023 (Report No. ERR-337) [Internet]. U.S. Department of Agriculture, Economic Research Service. https://doi.org/10.32747/2024.8583175.ers. Available from: https://www.ers.usda.gov/publications/pub-details?pubid=109895.

3.12.2. Concept representation

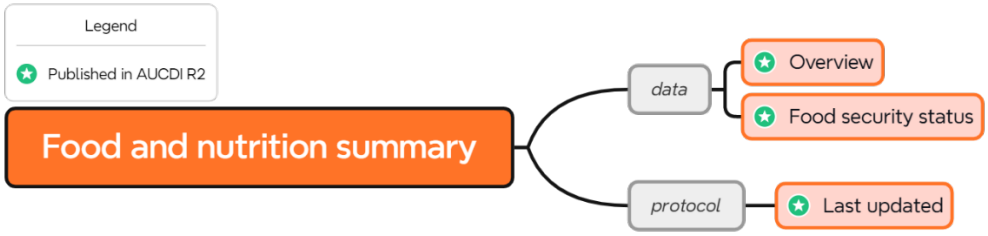

Figure 23. Food and nutrition summary - Concept representation.

3.12.3. Information model

Table 27. Food and nutrition summary - Information model.

Data elements		
Overview	Description	Narrative description about an individual's food consumption and nutritional status.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
Food security status	Description	Assessment about consistent and reliable access by the individual or their family to sufficient, affordable, nutritious, culturally suitable, and safe food obtained in socially acceptable ways.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence

	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU: • 1507531000168108|Food secure| • 1479911000168101|Mild food insecurity| • 1479921000168108|Moderate food insecurity| • 1479931000168106|Severe food insecurity|
	Considerations	• Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available. • This data element has been intentionally designed to record food security within the context of a health record, offering a strengths-based, longitudinal view of an individual's usual state of wellbeing - emphasising stability, resilience, and the absence of unmet needs. This approach supports continuity of care, reduces unnecessary repetition of negative assessments, and enables clinicians to monitor changes over time within the broader context of health. By contrast, food insecurity is typically recorded as a snapshot in risk assessments or reporting tools, which are designed to identify immediate problems, deficits or vulnerabilities that require intervention. These tools are usually point-in-time, problem-focused, and aligned with public health or service delivery objectives—such as identifying risk factors, quantifying unmet needs, or informing resource allocation. • In practice, any risk assessment indicating the absence of food insecurity can be mapped to an equivalent term within this 'Food security status' data element. For example, a finding of no/absent food insecurity would be recorded as 'Food secure' within this data element.
Last updated	Description	The date when this 'Food and nutrition summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence

	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.12.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about an individual's food consumption and nutritional status, potentially including active diets and food preferences or restrictions.

The draft openEHR 'Food and nutrition summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Food and nutrition summary' archetype.

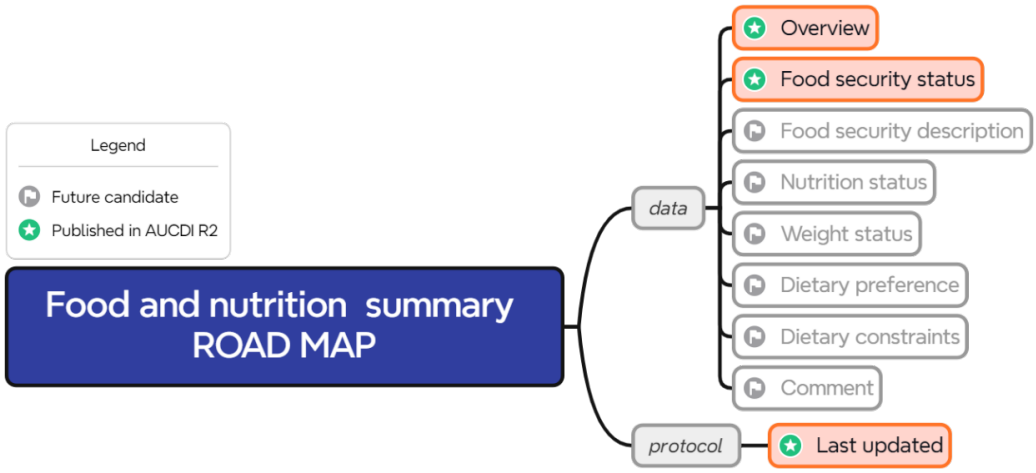

Figure 24. Food and nutrition summary - Proposed roadmap.

3.13. Goal

3.13.1. Data group context

Table 28. Goal – Data group context.

Concept description	A specific future objective intended to improve or maintain an individual's physical, mental, emotional or social well-being.
Purpose	To record details about a single goal and any associated targets and deadlines.
Use case(s)	Chronic condition management
Representation	Record one instance of this data group per goal within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Considerations for use	A goal can be initiated by the clinician or the individual
References	• Goal, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-06]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.124. • Goal, HL7 FHIR Resource [Internet]. Health Level Seven International; [cited: 2025 Feb 06]. Available from: https://hl7.org/fhir/R4/goal.html.

3.13.2. Concept representation

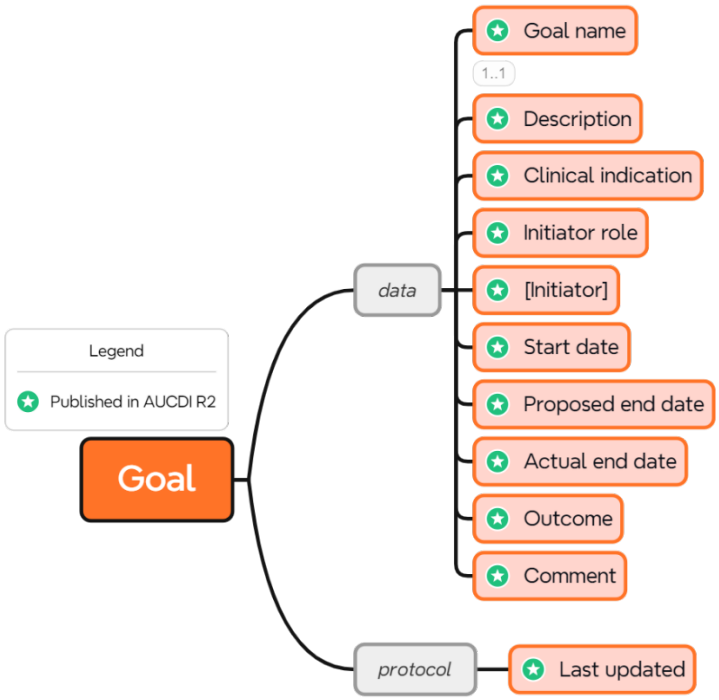

Figure 25. Goal – Concept representation.

3.13.3. Information model

Table 29. Goal - Information model.

Data elements		
Goal Name	Description	The name or focus of the goal or objective.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence.
	Data Type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples	• Reduce blood pressure to 125/85 • Improve diabetes control • HbA1c less than 7.5 • “Travel to London to visit son” • “Lose 10kg before the wedding” SNOMED CT-AU: • 1157021003|Blood oxygen pressure within reference range| • 123823007|Decreased blood oxygen pressure| • 123822002|Increased blood oxygen pressure| • 165679005|Haemoglobin A1c less than 7 percent indicating good diabetic control| • 444074000|Well controlled type 1 diabetes mellitus| • 444110003|Well controlled type 2 diabetes mellitus| • 89362005|Weight loss| • 284979006|Able to put on footwear| • 284282006|Able to use scissor grip| • 285689000|Able to weight-bear on left leg| • 170805002|Wants to lose weight|
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.

Description	Description	A narrative description of the goal, including target/s to be achieved if relevant.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Clinical indication	Description	The health issue, symptom, sign, problem or diagnosis intended to be impacted by achieving the goal.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Clinical Condition value set published by the NCTS currently includes all members of the *Problem/Diagnosis reference set* in SNOMED CT-AU. This includes (most) subtypes of • 272379006|Event| • 243796009|Situation with explicit context| • 404684003|Clinical Finding|
	Examples	SNOMED CT-AU: • 195967001|Asthma| • 46635009|Diabetes Mellitus Type 1| • 102587001|Acute Chest Pain|
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Initiator role	Description	The role of the individual who originally set the goal.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples	• Consumer • Clinician
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.

Initiator	Description	Contact details for the individual or organisation that initiated the goal.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Reference
	Considerations	Clinicians recommended the inclusion of an *Initiator* as a documentation requirement; however, it is intended that formal representation of the *Initiator* will adhere to standardised representations of 'Person' or 'Organisation' already established in national technical specifications.
Start date	Description	The date when the activities designed to achieve the goal were initiated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Examples	For example: • 2026 • February 2025 • 7 February 2025 • 7 February 2025, 1:28 pm • 2025-02-07T13:28:17-05:00
	Alias(es)	Commencement date
Proposed end date	Description	The desired or proposed date for achieving the goal.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	dateTime
	Examples	For example: • 2026 • February 2025 • 7 February 2025 • 7 February 2025, 1:28 pm • 2025-02-07T13:28:17-05:00
Actual end date	Description	The actual date when the goal was achieved or abandoned.
	Use case(s)	Chronic condition management

	Occurrence	Optional, single occurrence
	Data type	dateTime
	Examples	For example: • 7 February 2025 • 7 February 2025, 1:28 pm • 2025-02-07T13:28:17-05:00
Outcome	Description	Single word, phrase or brief description which represents the final outcome achieved.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Example	• Target weight achieved • Target blood pressure achieved • Able to walk 10m unassisted SNOMED CT-AU: • 390802008|Goal achieved| • 390801001|Goal not achieved| • 1162727003|Goal discontinued| • 706906006|No progress toward goal| • 443694000|Type 2 diabetes mellitus uncontrolled|
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Comment	Description	Additional narrative about the goal, not captured in other fields.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias (es)	Note
Last updated	Description	The date when this 'Goal' data group was last updated.
	Use case(s)	Chronic condition management

	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.13.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to a single goal and associated targets.

The published openEHR ‘Goal’ archetype is a mature information model that has been used globally in a broad range of implementations over many years and the FHIR ‘Goal’ resource is designated as maturity level two, for trial use. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR ‘Goal' archetype.

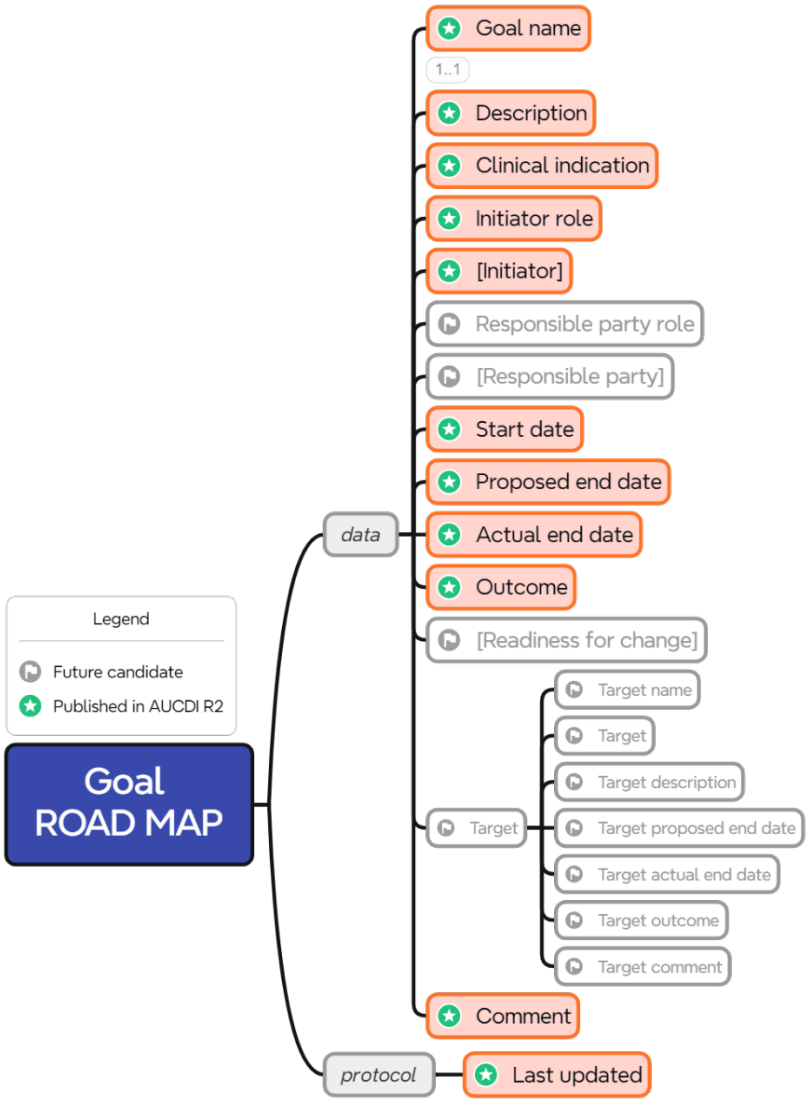

Figure 26. Goal - Proposed roadmap.

3.14. Haemoglobin A1c (HbA1c)

3.14.1. Data group context

Table 30. Haemoglobin A1c - Data group context.

Concept description	A blood test measuring a form of haemoglobin is used to monitor average plasma glucose concentrations over prolonged periods of time.
Purpose	To record the value for a single HbA1c measurement, excluding details about the measurement event or recording context.
Use case(s)	Core
Collection(s)	Biomarkers
Representation	Record one instance per measurement within a health record.
Aliases	• HBA1c • glycated Hb • GHB • glycosylated haemoglobin • glycohaemoglobin
Considerations for use	This data group has been designed as a temporary model as part of a transitional strategy, with the intention that each biomarker will eventually be represented as a formal pathology test result.
References	• Laboratory analyte result, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2881. • US Core Laboratory Result Observation Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-observation-lab.html.

3.14.2. Concept representation

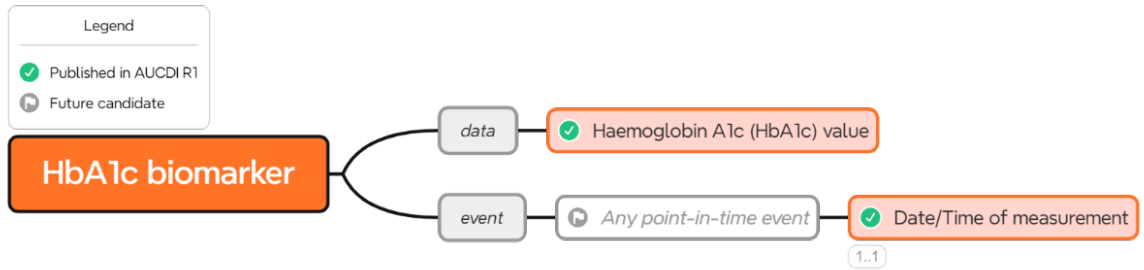

Figure 27. Haemoglobin A1c - Concept representation.

3.14.3. Information model

Table 31. Haemoglobin A1c - Information model.

Data elements		
HbA1c	Description	The measured HbA1c concentration in the blood.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	HBA1c, Glycated Hb, GHB, Glycosylated haemoglobin, Glycohaemoglobin

	Considerations	• UCUM units: mmol/mol or %
		• For example:
		  ○ 40 mmol/mol
		  ○ 5.9%

Date/Time of measurement	Description	The date and time when the HbA1c was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.14.4. For future consideration

The FHIR 'Diagnostic Report' resource and the openEHR 'Laboratory test result' archetype are information models that have been used globally in a broad range of implementations. Despite the apparent differences in scope, they are sufficiently aligned to provide guidance for future enhancement.

3.15. Health education

3.15.1. Data group context

Table 32. Health education - Data group context.

Concept description	Provision of information and resources about health-related topics to improve knowledge and understanding, develop health-related skills, and promote positive changes in behaviour.
Purpose	To record details about the provision of health education at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Chronic condition management
Collection(s)	Interventions
Representation	Record one instance per careflow step or event for each specified education topic in a health record.

Considerations for use	• Use to record a summary of the health education provided to an individual who is receiving healthcare and/or self-managing their own health.
	• Health education can be provided face-to-face or remotely.
	• The scope of health education includes, but is not limited to:
	  ○ Verbal information or advice,
	  ○ A demonstration of a technique, such as administration of subcutaneous heparin or changing a colostomy bag,
	  ○ Guidance to track progress of self-management using a mobile phone application, or
	  ○ Handing out physical material - for example, fact sheets about the risks of a vasectomy.

References	• Health education, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-07]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.1395.

3.15.2. Concept representation

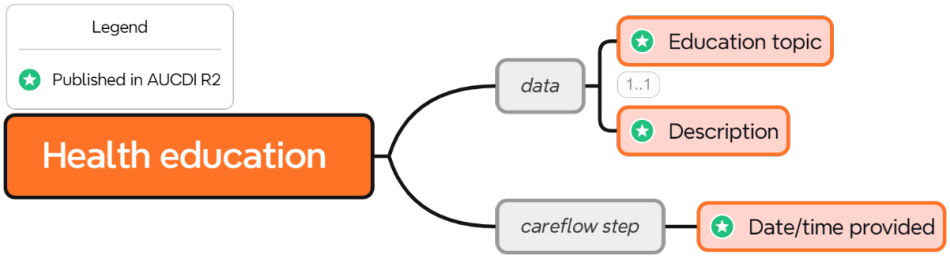

Figure 28. Health education - Concept representation.

3.15.3. Information model

Table 33. Health education - Information Model.

Data elements		
Education topic	Description	Name of the topic of health education.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU • 1308221000168108|Low FODMAP diet advice| • 698610002|Education about self-management of diabetes mellitus| • 225323000|Smoking cessation education|
	Consideration	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Description	Description	Narrative description about the health education, relevant to the active careflow step.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Date/time provided	Description	Point in time when the health education was provided.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence

	Data type	dateTime
	Examples	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.15.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the provision of health education at clinically relevant events in the intervention lifecycle.

The published openEHR 'Health education' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR 'Health education archetype. It includes a list of proposed careflow steps that identify specific events or phases in the process of the provision of education where recording significant information could be beneficial.

Details about the 'Requester' and 'Receiver' highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

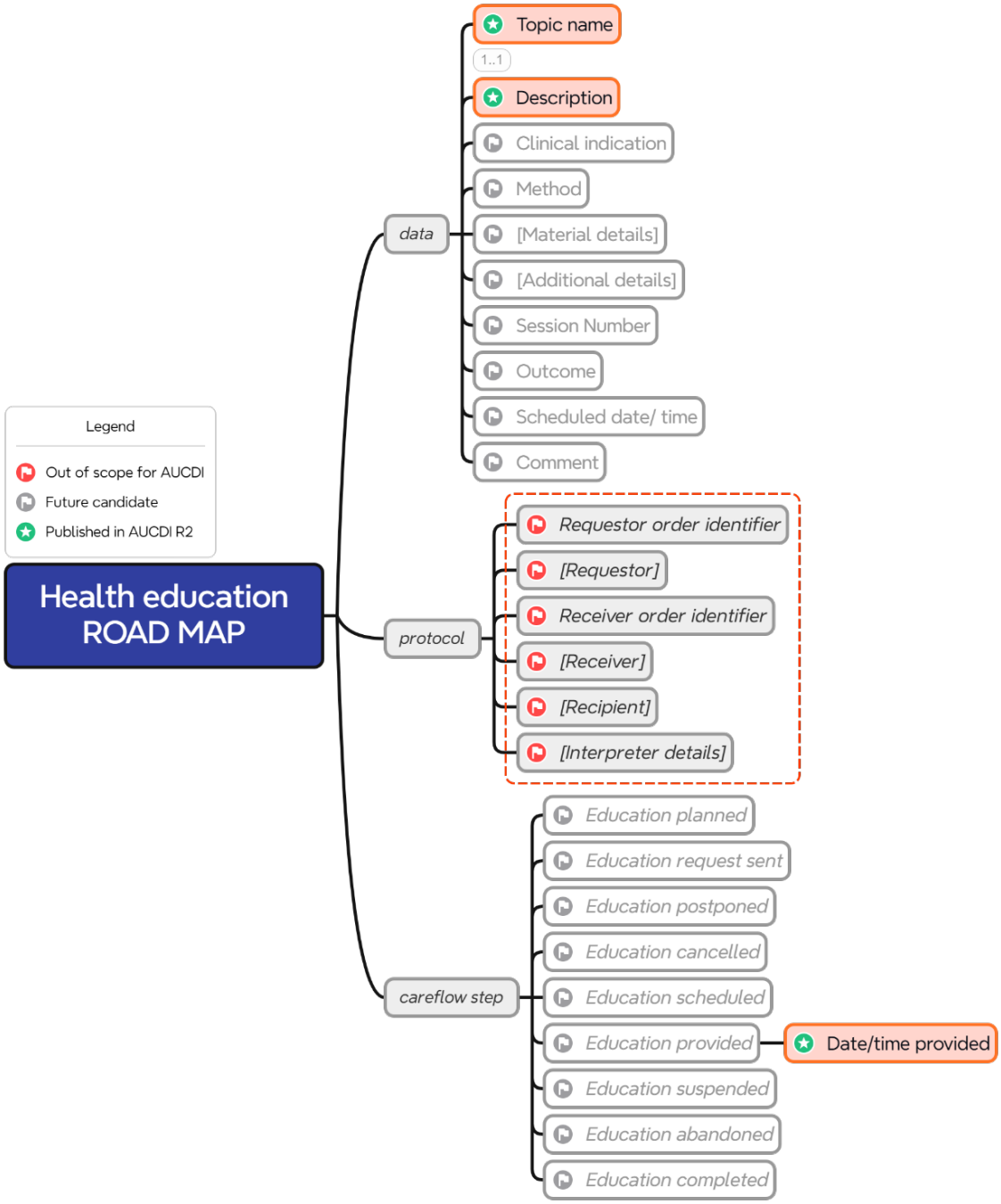

Figure 29. Health education - proposed roadmap.

3.16. Health issue

3.16.1. Data group context

Table 34. Health Issue – Data group context.

Concept description	A concern or worry that can negatively affect an individual's physical, mental, or emotional well-being or quality of life.
Purpose	To record an issue or concern and its impact on an individual's health.
Use case(s)	Chronic condition management
Representation	Record one instance of this data group per health issue within a health record; any changes or updates over time are captured as revisions to the original entry rather than creating a new entry.
Alias(es)	Health concern
Considerations for use	• Typically, these are self-identified or noticed by non-clinicians, focused on capturing the individual's perspective. • The distinction between a health issue and a problem is subtle and may overlap. It is reasonable that an issue identified by the individual is mirrored by the clinician as a problem. • Health issues may be recorded in broad or non-specific descriptive terms or as the name of a specific symptom or sign. • Health issues may prompt an initial medical consultation and guide early clinical discussions. • The health issue as reported by the individual may be mirrored within a 'Reason for encounter'. • If a concern or worry needs to be recorded within a Problem list, it should be recorded using a more specific Problem/Diagnosis data group. • The term "Health concern" is used differently in other standards contexts, such as US Core and CONTSYS, so is not proposed as a name to avoid confusion.
Misuse	• Not to be used to record details about a problem of diagnosis - use the 'Problem/Diagnosis summary' data group for this purpose. • Not to be used to record details about a symptom or sign. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.

	• Not to be used to record details about a health-related event, such as a fall or accident. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Issue, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-06]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.115.

3.16.2. Concept representation

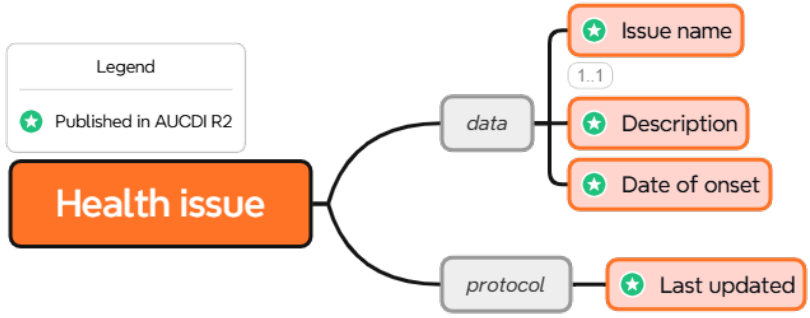

Figure 30. Health Issue – Concept representation.

3.16.3. Information model

Table 35. Health issue - Information model.

Data elements		
Issue name	Description	The name of the concern or worry.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	• Financial strain • Can't walk the length of the driveway • Need to sleep upright in a chair to prevent reflux • Partner is undergoing chemotherapy SNOMED CT-AU: • 315018008|Dizzy spells| • 36163009|Night pain|

		• 301345002|Difficulty sleeping| • 15936461000119100|Stressful work schedule|
Description	Description	Narrative description about the health issue.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Date of onset	Description	The date when the health issue began.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Examples	For example: • 7 February 2015 • 7 February 2015, 1:28 pm 2015-02-07T13:28:17-05:00
Last updated	Description	The date when this 'Health Issue' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 2015 • February 2015 • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.16.4. For future consideration

The scope for 'Health issue' data group is currently considered inclusive of all relevant data elements, however, it may be further expanded in the future if additional clinical requirements are identified.

3.17. Housing summary

3.17.1. Data group context

Table 36. Housing summary - Data group context.

Concept description	Summary information about the characteristics of an individual's housing or residential setting, recorded within a health context, and focused on factors such as physical condition, stability, and tenure that may directly influence their health, healthcare decision-making, or access to services.
Purpose	To record summary information about the individual's housing situation, relevant within a health context.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance per summary data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Accommodation summary

Considerations for use	• This data group is designed to support the neutral recording about individual's physical housing situation, including housing stability and adequacy, without any interpretation or label of the individual being 'homeless'.
	• This family of housing-related data groups will support the provision of healthcare to the individual in a variety of ways, including, but not limited to:
	  ○ Supporting SDOH initiatives by recognising the impact of housing on health and social outcomes, particularly in assessing the suitability and safety of the housing environment for the individual and other occupants,
	  ○ Assessing housing stability and security,
	  ○ Assessing housing adequacy and living conditions, such as:
	  ▪ Access to basic utilities and infrastructure
	  • Reliable access to clean water, electricity and waste disposal,
	  • Reliable and appropriate heating, cooling and food storage/refrigeration, or
	  • Identify internet and phone connectivity, which may impact

	telehealth accessibility and emergency response. ▪ Identify health risks from overcrowding, ▪ Identify unsafe building structures, or ▪ Identify inadequate accessibility. ○ Identifying environmental hazards, such as the presence of mould, lead, asbestos, and pest infestations, or ○ Enable referrals to housing assistance programs, community shelters, or support services for at-risk populations.
Misuse	• Not to be used to record the concept of 'homelessness'. While it is important to identify individuals who need support due to involuntary homelessness, this condition is usually inferred from evidence of low or very low housing stability and/or inadequate living conditions. For those who choose a nomadic lifestyle or willingly live in what may be deemed inadequate housing by others, the label 'homeless' should not be assumed. If homelessness is determined to be a problem requiring clinical or social attention, use the 'Problem/Diagnosis summary' data group for this purpose. • Not to be used to record information about the social and interpersonal aspects of the individual's home environment - use the 'Living arrangement summary' data group for this purpose. • Not to be used to describe the social connections of the individual. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Housing summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-04]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3287. • Person – living arrangement. METEOR metadata online registry; Australian Institute of Health and Welfare, Canberra [cited: 202502-09]. Available from: https://meteor.aihw.gov.au/content/269813.

3.17.2. Concept representation

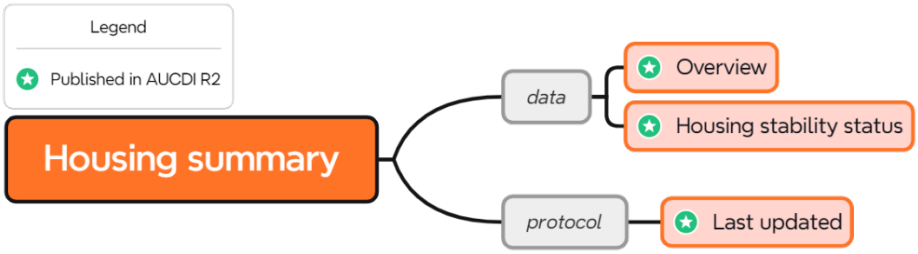

Figure 31. Housing summary - Concept representation.

3.17.3. Information model

Table 37. Housing summary - Information model.

Data elements		
Overview	Description	Narrative description about the physical context and characteristics of an individual's residential setting.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
Housing stability status	Description	An assessment of the extent of consistency and continuity of housing over time.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended codesystem/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU: • 1472091000168102|Stable housing| • 933483581000036105|Mild housing instability| • 933483591000036107|Moderate housing instability| • 933483601000036100|Severe housing instability|
	Considerations	• This data element primarily focuses on whether individuals or households can remain in one location without frequent moves, which can be disruptive and indicative of financial or social instability. • Use of a clinical terminology is recommended whenever possible. Free text entry should be

		allowed only when an appropriate coded value is not available.
Last updated	Description	The date when this 'Housing summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.17.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about aspects of an individual's physical housing situation.

The draft openEHR 'Housing summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Housing summary' archetype. The central structure of the mind map presents data elements that describe key aspects of an individual's overall housing situation. Nested within this, the 'Housing record' archetype supports more detailed documentation of each housing episode. In addition, the openEHR 'Dwelling' archetype can further extend each housing episode by capturing the physical characteristics of the specific dwelling where the individual resides. This may include details such as room configuration, building accessibility, appliances, disability aids, technology, and security features.

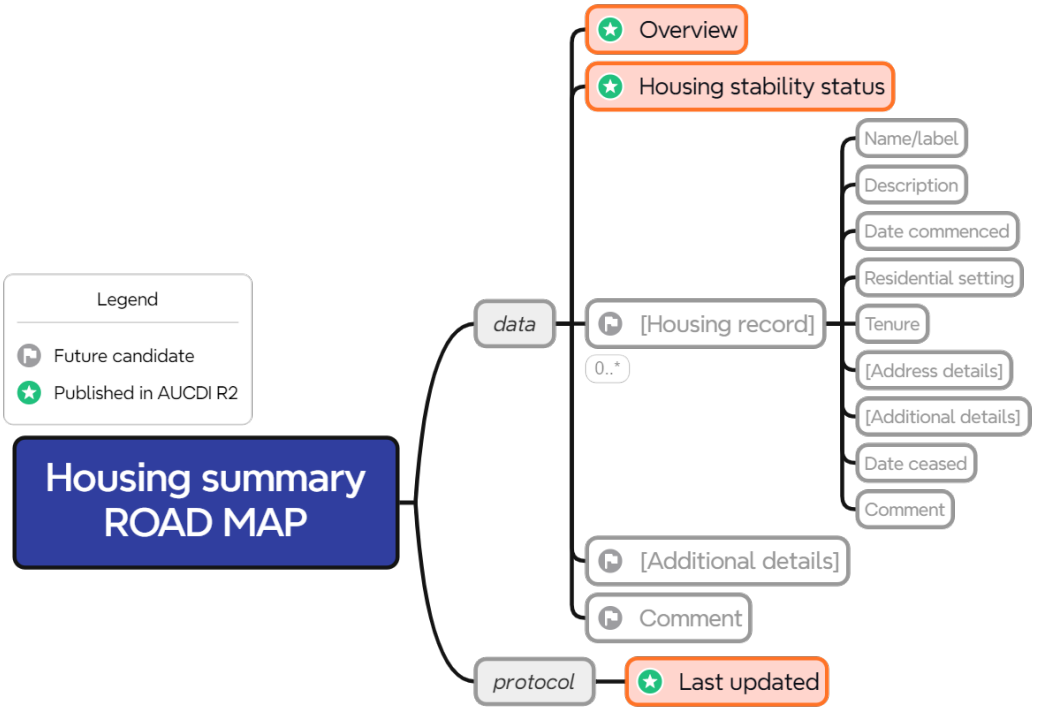

Figure 32. Housing summary - Proposed roadmap.

3.18. Last Menstrual Period (LMP) assertion

3.18.1. Data group context

Table 38. Last Menstrual Period (LMP) assertion - Data group context.

Concept description	An explicit assertion or declaration, usually by a clinician, identifying the first day of the most recent menstrual cycle at a specific point-in-time, commonly used as the basis for clinical decision-making.
Purpose	To record information about the first day of the most recent menstrual cycle for the individual.
Use case(s)	Patient summary
Representation	Record one instance of this data group each time an assertion about a LMP needs to be recorded within a health record.
Alias(es)	Last normal menstrual period, Last normal period, LNMP, LMP, LNP
Considerations for use	• The assertion is usually made by a clinician rather than the individual, as the designation of 'last' and confirmation that the bleeding qualifies as a ‘menstrual period’ carry clinical safety implications.

	• Use the data element 'Certainty' to record the level of certainty that the date of onset was correct. The assumption when recording the onset of the last menstrual cycle is that the menstruation was 'normal' for the individual unless otherwise noted.
	• An assertion should be considered accurate only at the time of assertion. Use case examples:
	  ○ Calculating the expected date of delivery in a pregnancy using Naegele's Rule.
	  ○ To distinguish the onset of the latest 'normal' menstrual cycle when there is an irregular menstrual pattern.

Misuse	• Not to be used to record information about a specific menstrual cycle, a typical menstrual cycle, a history of menstrual cycles or patterns of menstruation over time. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record self-reported, captured in a mobile app or unverified menstrual bleeding events, as incorrect classification as the very specific 'Last menstrual period (LMP)' may have clinical safety implications. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Last menstrual period, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024-10-18]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.5655.

3.18.2. Concept representation

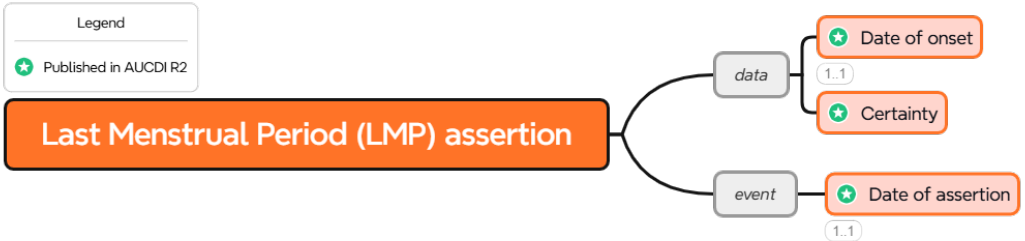

Figure 33. Last Menstrual Period (LMP) assertion- Concept representation.

3.18.3. Information model

Table 39. Last Menstrual Period (LMP) assertion- Information model.

Data elements		
Date of onset	Description	Date of onset of menstrual bleeding.
	Use case(s)	Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	dateTime

	Considerations	• Complete dates are preferred, although partial dates are permitted where a partial or approximate date is useful in the clinical context. For example, in an individual who cannot recall the precise start date of their last menstrual period, especially if they experience infrequent or irregular periods, with their most recent period potentially occurring months or even years ago.
		• For example:
		  ○ 2015
		  ○ February 2015
		  ○ 7 February 2015

Certainty	Description	The level of certainty the date of onset is accurate.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	Proposed value set: • Certain • Uncertain
Date of assertion	Description	Date when the LMP assertion was made.
	Use case(s)	Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	dateTime

	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.18.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an assertion of pregnancy at a specific point in time.

The draft openEHR 'Last menstrual period' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing the 'Pregnancy assertion' data group based on the published openEHR 'Last menstrual period' archetype.

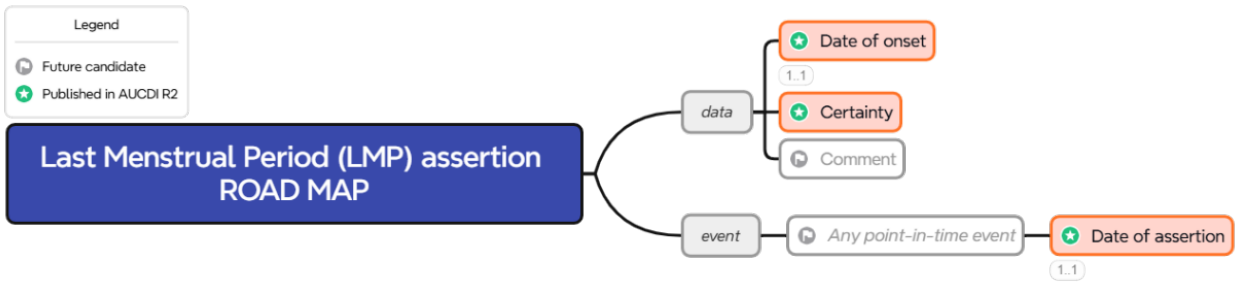

Figure 34. Last Menstrual Period (LMP) assertion - Proposed roadmap.

3.19. Lipids

3.19.1. Data group context

Table 40. Lipids - Data group context.

Concept description	Blood tests used to measure blood lipid concentrations.
Purpose	To record the measured values for each component within a collection of lipid biomarkers, excluding details about the measurement event or recording context.
Use case(s)	Core
Collection(s)	Biomarkers
Representation	Record one instance per measurement within a health record.
Aliases	Lipid profile
Considerations for use	This data group has been designed as a temporary model as part of a transitional strategy, with the intention that each biomarker will eventually be represented as a formal pathology test result.

References	• Laboratory analyte result, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2881. • Lipids recommended for collection by the Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edition, updated. East Melbourne, Vic: RACGP, 2018. • US Core Laboratory Result Observation Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-observation-lab.html.

3.19.2. Concept representation

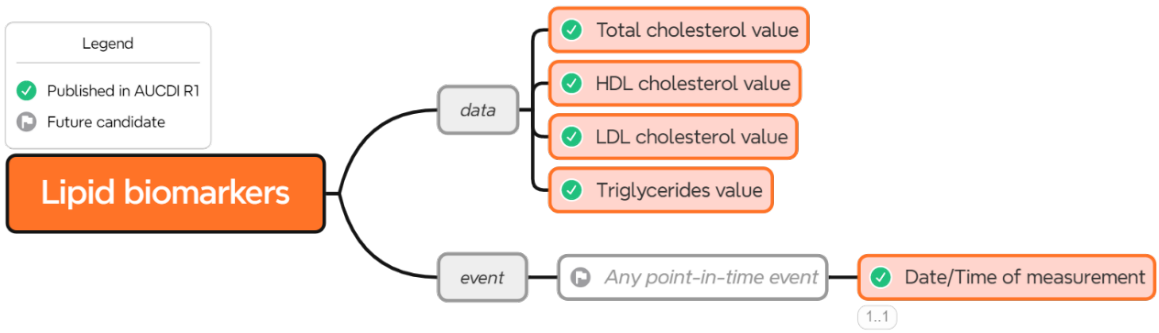

Figure 35. Lipids - Concept representation.

3.19.3. Information model

Table 41. Lipids - Information model.

Data elements		
Total cholesterol	Description	The measured total cholesterol concentration in the blood.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	TC, Chol
	Considerations	• UCUM unit: mmol/L • For example: ○ 5.5 mmol/L
HDL cholesterol	Description	The measured HDL concentration in the blood.
	Use case(s)	Core

	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	HDL, HDLC, HDL-C, High-density lipoprotein cholesterol
	Considerations	• UCUM unit: mmol/L • For example: ○ 1.3 mmol/L
LDL cholesterol	Description	The calculated LDL concentration in the blood.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	LDL, LDLC, LDL-C, Low-density lipoprotein cholesterol
	Considerations	• UCUM unit: mmol/L • For example: ○ 1.8 mmol/L
Triglycerides	Description	The measured triglyceride concentration in the blood.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity (concentration)
	Aliases	Trigs
	Considerations	• UCUM unit: mmol/L • For example: ○ 1.6 mmol/L
Date/Time of measurement	Description	The date and time when the lipids were measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.19.4. For future consideration

The FHIR 'Diagnostic Report' resource and the openEHR 'Laboratory test result' archetype are information models that have been used globally in a broad range of implementations. Despite the apparent differences in scope, they are sufficiently aligned to provide guidance for future enhancement.

3.20. Living arrangement summary

3.20.1. Data group context

Table 42. Living arrangement summary - Data group context.

Concept description	Summary information about the social and interpersonal circumstances of an individual, with a focus on the people they live with, those they care for, and those who may provide care or support to them.
Purpose	To record summary information about the individual's usual living arrangement, relevant within a health context.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance per data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Household summary

Considerations for use	• This data group will support the provision of healthcare to the individual in a variety of ways, including, but not limited to:
	  ○ Supporting SDOH initiatives by recognising the impact of the social and interpersonal aspects of an individual's living situation on their health and social outcomes,
	  ○ Identifying who they live with and the structure of their household, including family members, non-family members, and animals,
	  ○ Assessing social connectedness in the context of the individual's household,
	  ○ Identifying carers, for individuals who are dependent on others for the provision of daily care,
	  ○ Identifying caring responsibilities, for individuals who provide care for other people or animals,
	  ○ Understanding the social and cultural dynamic 'at home',

	○ Support planning for transitions of care back to 'home', or ○ Optimising home health services.
Misuse	• Not to be used to record information about an individual's housing or residential setting - use the 'Housing summary' data group for this purpose. • Not to be used to record details of the physical dwelling or structure where the individual usually lives. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI and a road map for a 'Housing record' data group has been included within the road map for the 'Housing summary data group. • Not to be used to describe the social connections of the individual. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Living arrangement, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-04]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3280.

3.20.2. Concept representation

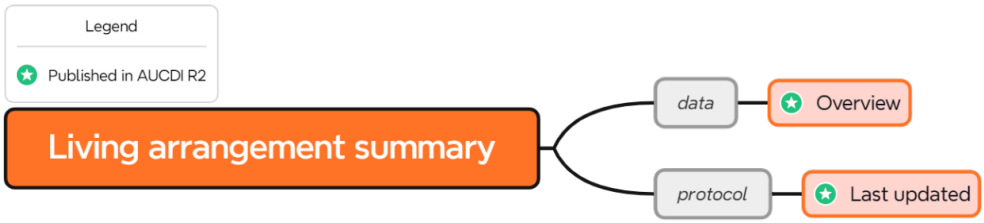

Figure 36. Living arrangement summary - Concept representation.

3.20.3. Information model

Table 43. Living arrangement summary - information model.

Data elements		
Overview	Description	Narrative description about the social and interpersonal aspects within an individual's usual residential setting.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Last updated	Description	The date when this 'Living arrangement summary' data group was last updated.

	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.20.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about the social and interpersonal aspects about an individual's home environment, including whether they live alone or with others and the household composition, including the presence of pets.

The draft openEHR 'Living arrangement summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Living arrangement summary' archetype.

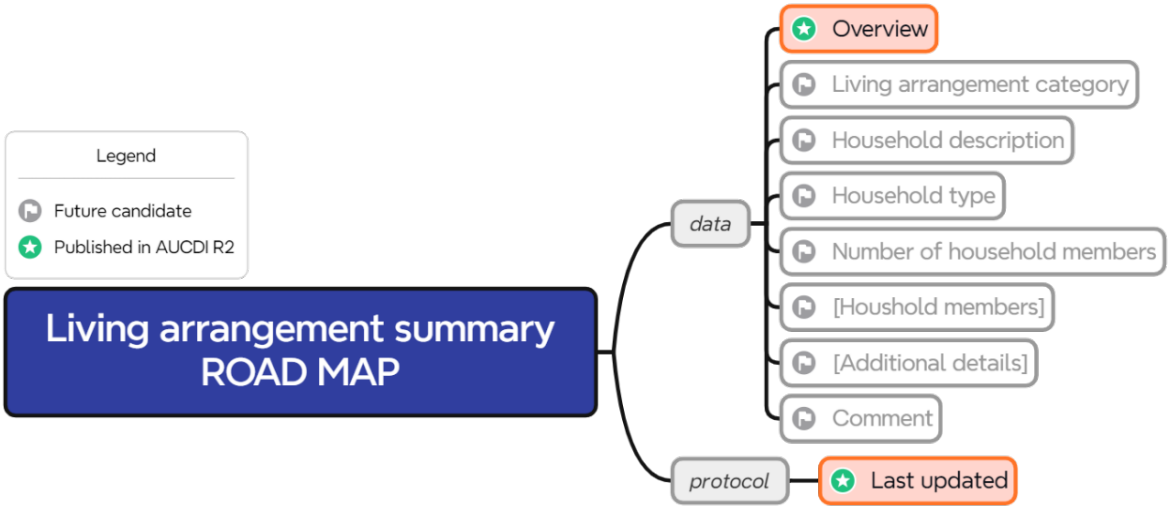

Figure 37. Living arrangement summary - Proposed roadmap.

3.21. Medical equipment supply

3.21.1. Data group context

Table 44. Medical equipment supply – Data group context.

Concept description	Delivery of medical equipment, assistive technologies, consumables, and disposables to support clinical care and activities of daily living for an individual.
Purpose	To record details about the supply of medical equipment at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Chronic condition management
Collection(s)	Interventions
Representation	Record one instance per careflow step or event for each specified type of medical equipment, in a health record.
Alias(es)	Assistive technology supply
Considerations for use	The scope of this data group is focused on the supply of general medical equipment, assistive technologies, consumables, and disposables to the individual. It includes, but is not limited to: • Mobility and communication aids, such as wheelchairs, walkers, crutches, or a hearing aid, • Diagnostic equipment, such as blood pressure monitors, a blood glucose meter, or a pulse oximeter, • Therapeutic devices, such as CPAP machine, a nebuliser, a TENS unit, or an insulin pump, • Hospital beds and accessories, such as bed rails, or a pressure mattress, • Home care supplies, such as oxygen concentrators, IV stands and pumps, blood glucose test strips, incontinence pads, oxygen tubing and masks, or a sharps container, • Prosthetics and orthotics, such as an artificial limb, or braces and supports, or • Safety equipment or modifications, such as shower chairs, grab bars, ramps, stair lifts or vehicle modifications.
Misuse	• Not to be used to information about implantation of devices - use the ‘Procedure’ or ‘Implanted device summary’ data groups for this purpose. • Not to be used to record a summary or longitudinal history about the use of an assistive device, a hearing aid or a wheelchair. The need for a specific data group for this

	purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record details about supply chain or logistics beyond the supply of an identified piece of equipment to an individual. The recording of supply chain logistics is out of scope for AUCDI.
References	• Medical equipment supply, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-05-29]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7897.

3.21.2. Concept representation

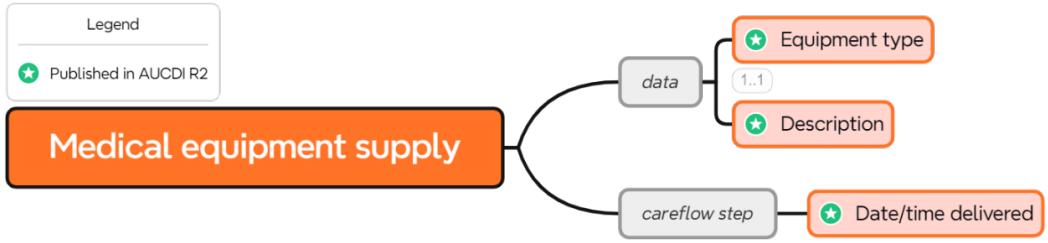

Figure 38. Medical equipment supply - Concept representation.

3.21.3. Information model

Table 45. Medical equipment supply - Information Model.

Data elements		
Equipment type	Description	Name of the type of equipment.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU: • 363753007|Crutches| • 6012004|Hearing aid| • 360008003|Commode| • 701154000|Sleep apnoea pillow| • 182578008|Forearm brace| • 468664004|Enteral feeding pump|

	Consideration	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Description	Description	Narrative description about the medical equipment supply, applicable to the careflow step.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Date/time delivered	Description	Point in time when the medical equipment was delivered to the individual.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.21.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the supply of medical equipment at clinically relevant events in the intervention lifecycle.

The published openEHR 'Medical equipment supply' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR 'Medical equipment supply'. It includes a list of proposed careflow steps that identify specific events or phases in the process of the provision of education where recording significant information could be beneficial.

Details about the 'Requester', 'Receiver' and 'Recipient' highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

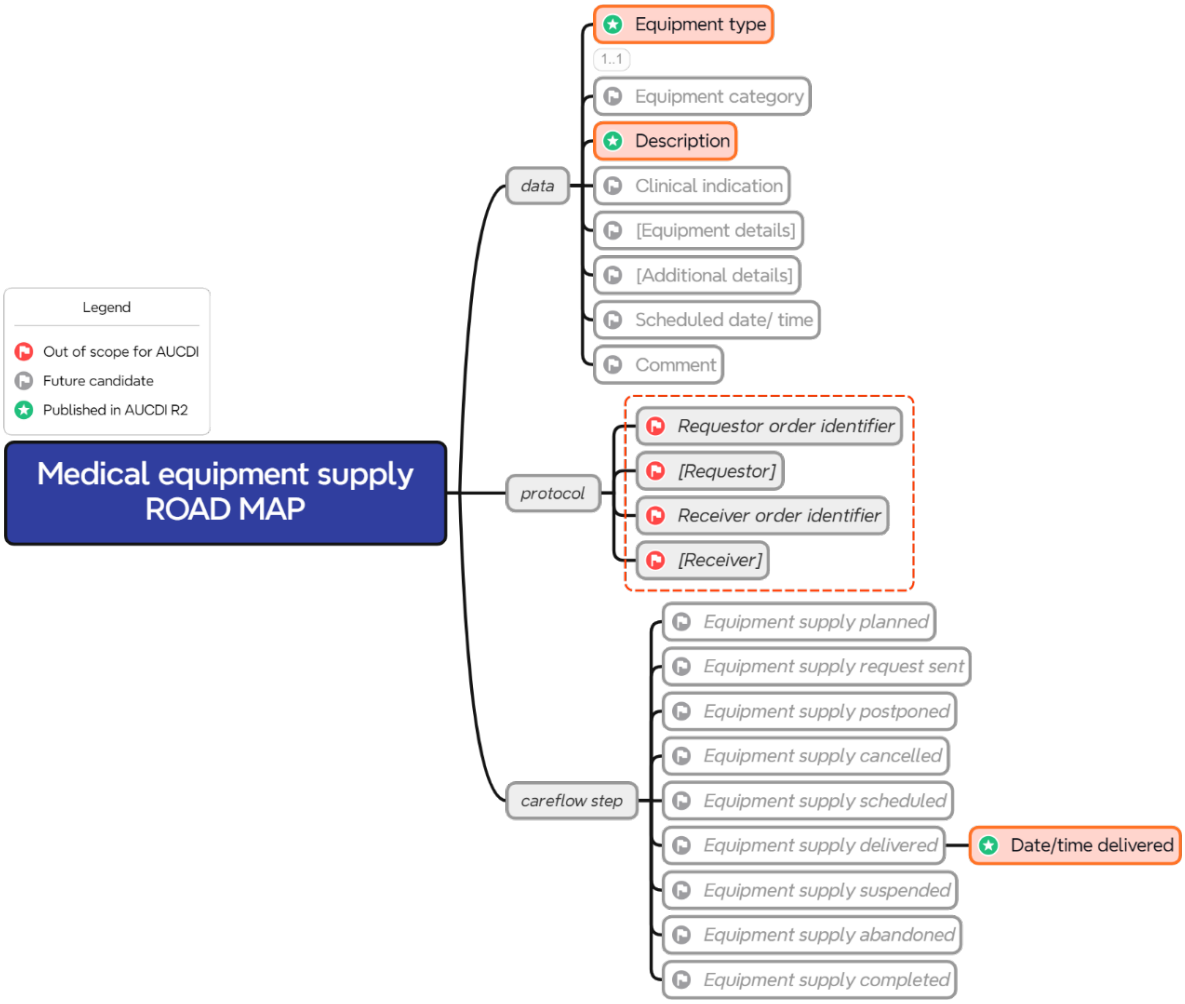

Figure 39. Medical equipment supply - Proposed roadmap.

3.22. Medication use statement

3.22.1. Data group context

Table 46. Medication use statement - Data group context.

Concept description	An assertion about the current use of a single medication by an individual.
Purpose	To record an assertion about the current use of a single medication.
Use case(s)	Core, Patient summary
Representation	Record one instance of this data group per medication, including complex medication regimes that require a sequence of varying therapeutic directions.
Alias(es)	Medication statement, Medication snapshot
Considerations for use	• In this context, ‘medication’ describes a wide range of items that may be prescribed or obtained 'over the counter'. This includes, but is not limited to:

	○ A single pharmaceutical item or agent, ○ An extemporaneous preparation, ○ A combination therapy product, ○ A nutritional product, or ○ Another therapeutic item used to treat or prevent disease, such as a bandage or dressing containing an antimicrobial agent. • In this release, the inclusion of extemporaneous or compounded preparations is restricted to simple formulations where the 'Medication name', 'Strength', and 'Form' can be precisely recorded with the current data group. More complex preparations, particularly those that require separate specification of each component substance's name, strength, and quantity, fall outside the scope. • The source of information may be an individual, their carer or a clinician. • This data group is designed to align with data groups representing medication orders, dispensing events or administrations. However, it has been constrained to represent only essential information necessary for exchange or summary purposes. • The data group should be considered up to date only at the time of authoring. • A medication statement can be made by an individual, which can be made by the individual themselves, their carer, or a clinician. • Use cases include, but are not limited to: ○ A 'Current medication list' or similar document containing one or more 'Medication use statement' data groups, ○ Exchange a snapshot of current medications during a transition of care, ○ Document a list of current medications on admission to hospital, ○ The medication component of a specialist referral, and ○ The basis for a medication review.
Misuse	• Not to be used to record summary or persistent information about past use of a medication. The need for a specific data

	group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record a medication order. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record information about a specific medication administration or dispensing activity. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record vaccination administration – use the 'Vaccination administration' data group for this purpose.
References	• MedicationStatement, HL7 FHIR Resource [Internet]. Health Level Seven International; [accessed 2023 Dec 10]. Available from: https://hl7.org/fhir/R4/medicationstatement.html. • AU Base Medication Statement, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [accessed 2024 Nov 26]. Available from: https://build.fhir.org/ig/hl7au/au-fhir-base/StructureDefinition-au-medicationstatement.html. • MedicationStatement (IPS), HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2024-11-26]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-MedicationStatement-uv-ips.html. • Medication statement, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.4949. • Medication details, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024-01-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.5947. • Therapeutic direction, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024-01-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2753. • Dosage, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024-01-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.5948. • Timing - daily, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited:

	2024-01-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2245.

3.22.2. Concept representation

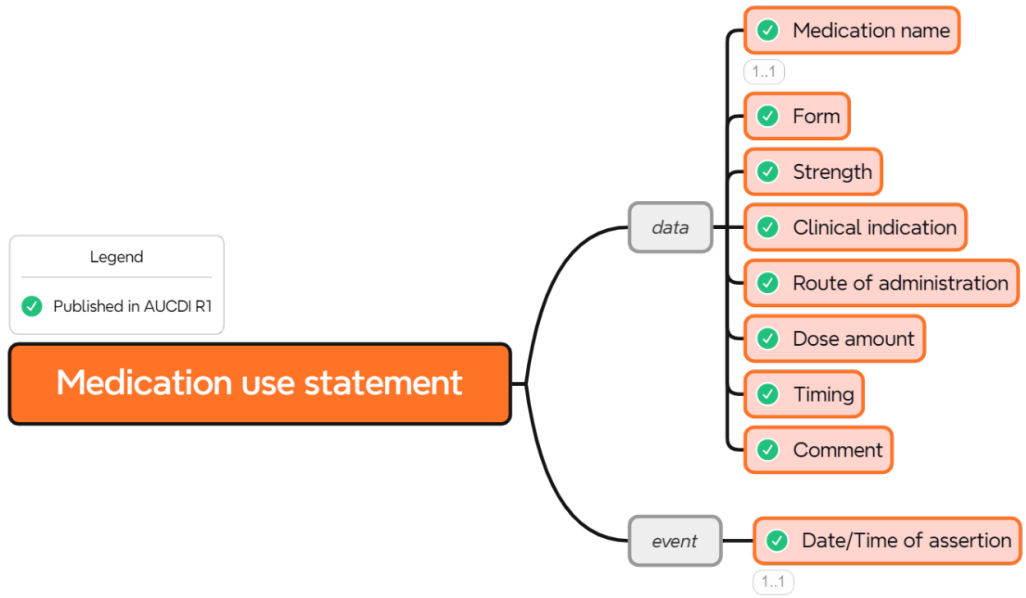

Figure 40. Medication use statement – Concept representation.

3.22.3. Information model

Table 47. Medication use statement - Information model.

Data elements		
Medication name	Description	Name of the medication.
	Use case(s)	Core, Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Australian Medication value set published by the NCTS includes all Australian Medicines Terminology (AMT) product concepts that may be used for the identification of a medicine, vaccine or other therapeutic good.
	Examples	AMT: • 4126011000036109|Plaquenil| • 3322011000036101|Coumadin| • 1490851000168109|Ibrutinib 420 mg tablet| • 81001011000036103|Rectinol ointment, 50 g, tube|

		• 169071000036106|dressing hydrofibre with silver 10 cm x 10 cm dressing|
	Alias(es)	Drug name, Medicine name
	Considerations	It is strongly recommended that 'Medication name' be coded with a terminology capable of triggering decision support, where possible. Free text entry should only be used if there is no appropriate terminology available or for customised extemporaneous preparations.
Form	Description	The physical presentation or formulation of the medication.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Medication Form value set published by the NCTS includes values that represent the physical dose form of a medication from SNOMED CT-AU and AMT.
	Examples	SNOMED CT-AU: • 63011000036109|Tablet| • 111011000036103|Cream| • 201011000036102|Inhalation powder|
	Considerations	• It is strongly recommended that 'Form' be coded with a terminology. Free text entry should only be permitted if no appropriate coded value is available. • Record if not specified within a coded 'Medication name' value.
Strength	Description	The amount of the active ingredient in the medication.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Alias(es)	Concentration

	Considerations	• Record only if not specified within a coded 'Medication name' value.
		• For example:
		  ○ 2mg/5ml
		  ○ 100mg/tablet

Route of administration	Description	The route by which the medication is administered into the body.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Route of Administration value set published by NCTS includes concepts from SNOMED CT-AU that describe the route by which a medication may be administered.
	Examples	SNOMED CT-AU: • 47625008|Intravenous route| • 26643006|Oral route| • 6064005|Topical route|
	Alias(es)	Route
	Considerations	It is strongly recommended that Route of administration be coded with a terminology. Free text entry should only be permitted if no appropriate coded value is available.
Dose amount	Description	The amount of medication administered at one time.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Alias(es)	Dosage
	Considerations	• The combination of dose amount and dose frequency are both needed to represent a single dose of a medication. While more than one dose amount/dose frequency combinations may be needed to represent a medication order accurately, each combination can only comprise one instance of a 'Dose amount' with one instance of a 'Dose frequency'. • For example: ○ 1 mg ○ 1.5 ml ○ 0.125 g ○ 1-2
Dose timing	Description	The intended timing or frequency of medication administration.
	Use case(s)	Core, Patient summary

	Occurrence	Optional, single occurrence
	Data type	Timing
	Alias(es)	Timing, Frequency

	Considerations	• The combination of dose amount and dose frequency is needed to represent a single dose of a medication. While more than one dose amount/dose frequency combinations may be needed to represent a medication order accurately, each combination can only comprise one instance of a 'Dose amount' with one instance of a 'Dose frequency'.
		• For example:
		  ○ Three times a day
		  ○ PRN
		  ○ Before bedtime

Clinical indication	Description	The clinical symptom, sign or diagnosis that necessitates the medication use.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, multiple occurrences
	Data type	Codeable text
	Recommended code system/value set	The Medication Reason Taken value set published by the NCTS is a broad reference set including clinical findings, procedures, situation with explicit context, and event concepts.
	Examples	SNOMED CT-AU: • 3723001|Arthritis| • 128053003|Deep venous thrombosis| • 40993007|Burn of ankle| • 105629000|Chlamydial infection| • 444400000|Exposure to Streptococcus|
	Alias(es)	Reason for medication, Reason for prescription, Reason for prescribing
	Considerations	This data element has multiple occurrences to allow the recording of more than one clinical indication per medication.
Comment	Description	Additional narrative about the medication item not captured in other fields.

	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Note
	Considerations	• Should not be used for free text duplication or alternative to other data elements. • For example: ○ "Gets confused if prescribed a generic brand."
Date of assertion	Description	The date when the medication use was asserted.
	Use case(s)	Core, Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.22.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to a statement of current medication use, including complex dosage regimens, including variable doses and timings.

The FHIR 'Medication Statement' resource is an information model that has been implemented globally across a range of clinical settings and the openEHR 'Medication Statement' archetype is a draft archetype that has been informed by the FHIR 'Medication Statement' resource and known use cases. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Medication statement' archetype.

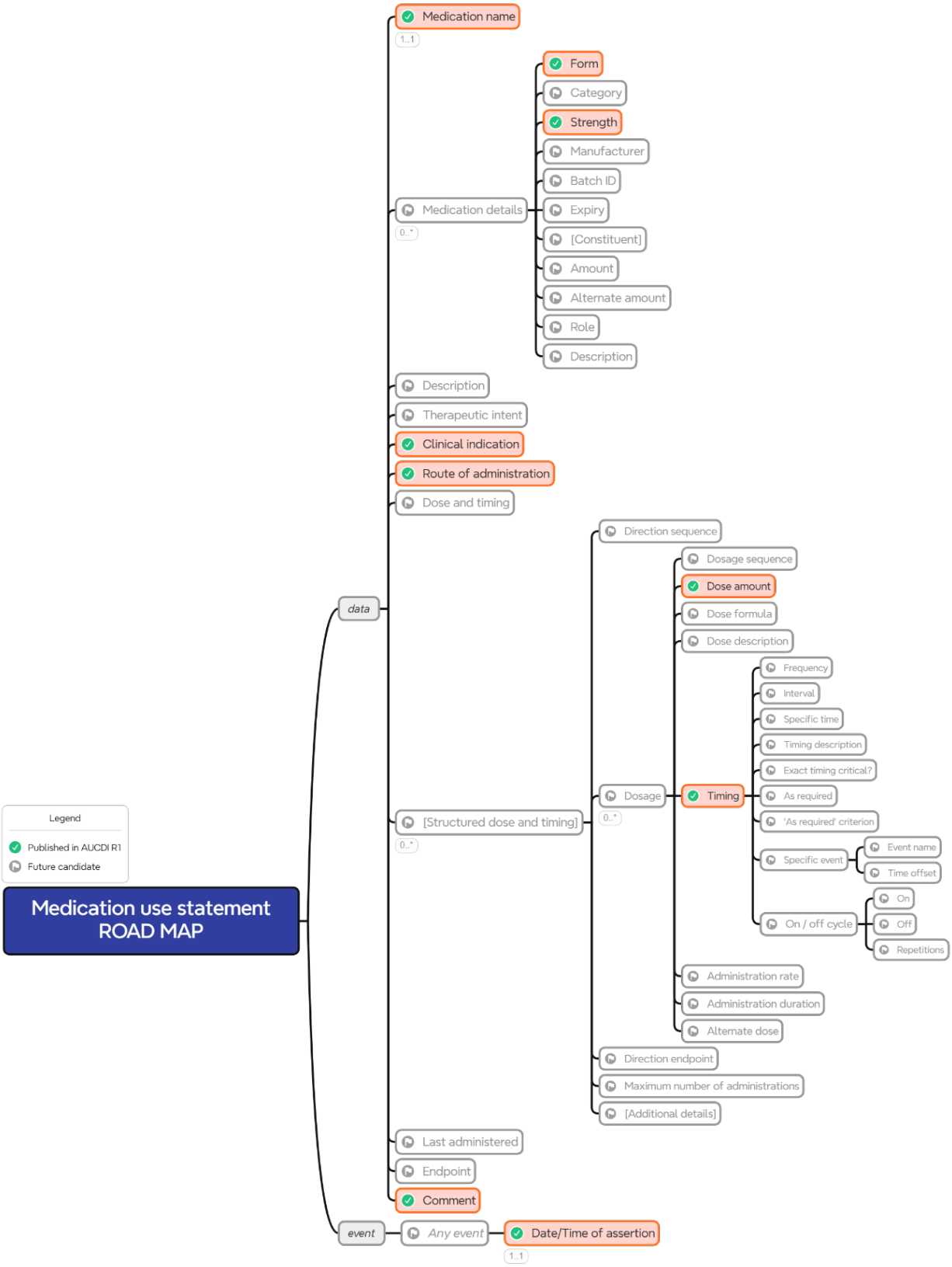

Figure 41. Medication use statement - Proposed roadmap.

3.23. Occupation summary

3.23.1. Data group context

Table 48. Occupation summary - Data group context.

Concept description	Summary information about regular, meaningful, and purposeful activities or roles that occupy an individual's time and contribute to their identity and societal participation, regardless of financial compensation.
Purpose	To record summary information about an individual's current or historical occupations, relevant within a health context.
Use case(s)	Chronic condition management
Collections(s)	Social determinants of health
Representation	Record one instance per summary data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Employment summary

Considerations for use	• The scope of 'occupation' in this data group extends beyond traditional paid employment to include activities such as caregiving, volunteering, studying, and pursuits typically associated with retirement. It excludes leisure or recreational pursuits, such as hobbies.
	• This data group can be extended to provide a repeatable 'Occupation record', as a structured summary about each job or role, either current or past. Multiple occupation records can be active at any one time, to allow descriptions of more than one concurrent occupation or role.
	• A record of previous occupation episodes may form the basis of an occupational health and safety history.
	• This family of occupation-related data groups will support the provision of healthcare to the individual in a variety of ways, including, but not limited to:
	  ○ Supporting SDOH initiatives by recognising the impact of daily meaningful activity on health and social outcomes,
	  ○ Supports identifying social and economic factors that influence well-being,
	  ○ Aid in understanding demands on their time that may impact health,

	○ Assessments of current or past occupational health risk related to different types of work environments or job roles, ○ Providing context for workplace-related injuries or conditions, or ○ Supports documentation and planning related to workplace injuries or modifications needed for return-to-work programs.
Misuse	• Not to be used to record financial summary information, relevant in a health context - use the 'Financial summary' data group for this purpose. • Not to be used for detailed descriptions of a health risk or hazardous exposure in the workplace. The need for specific data groups for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Occupation summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-09]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2965. • Occupation record, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-09]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2380.

3.23.2. Concept representation

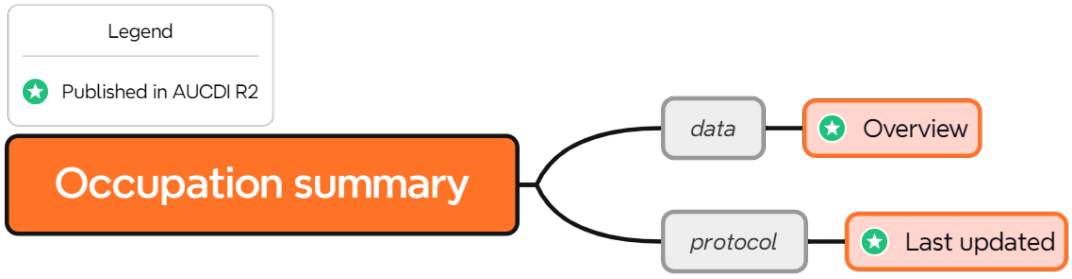

Figure 42. Occupation summary - Concept representation.

3.23.3. Information model

Table 49. Occupation summary - Information model.

Data elements		
Overview	Description	Narrative description about the occupation history of the individual.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence

	Data type	String
Last updated	Description	The date when this 'Occupation summary' was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.23.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about an individual's current and historical occupations.

The published openEHR 'Occupation summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Occupation summary' archetype.

The central structure of the mind map presents data elements that describe key aspects related to the current occupational roles and activities. Nested within this, the openEHR 'Occupation record' archetype supports more detailed documentation of each specific job or role.

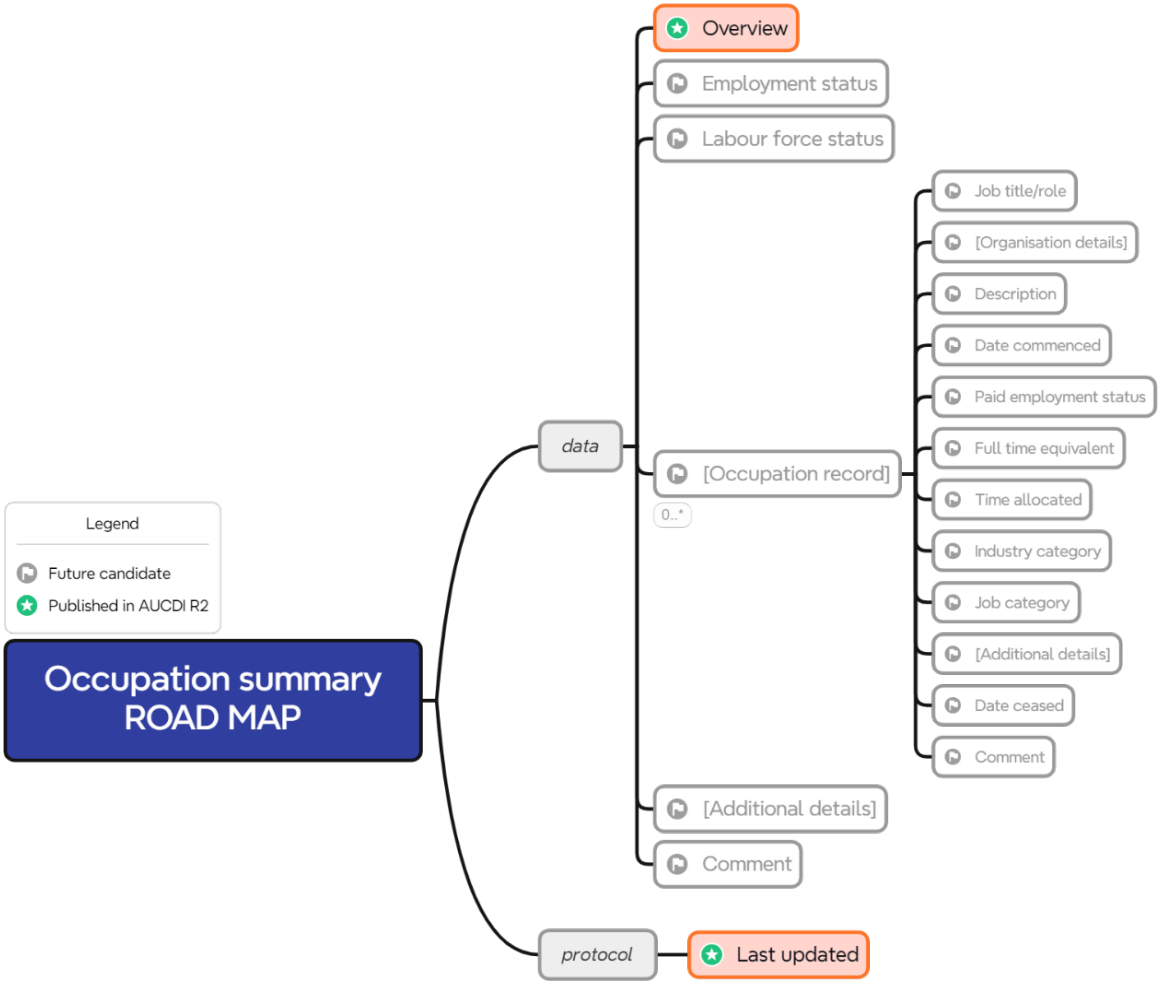

Figure 43. Occupation summary - Proposed roadmap.

3.24. Physical activity summary

3.24.1. Data group context

Table 50. Physical activity summary - Data group context.

Concept description	Summary information about an individual's typical patterns of physical activity.
Purpose	To record summary information about an individual's typical patterns of physical activity.
Use case(s)	Chronic condition management
Collection(s)	Social determinants of health
Representation	Record one instance per data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Considerations for use	This data group will support the provision of healthcare to the individual in a variety of ways, including, but not limited to:

	• Supporting SDOH initiatives by recognising the impact of physical activity on health and social outcomes, • Risk assessment related to sedentary behaviour, • Assessing the impact of the individual's level of physical activity on all aspects of health and wellness, including chronic conditions, mental health and preventive health practices, • Customising rehabilitation programs, • Promoting healthy ageing, • Facilitating behavioural change, or • Encouraging community engagement.
Misuse	Not to be used to record an exercise log that tracks specific activities at a single point in time or across defined intervals. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	Physical activity summary, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-05]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2877.

3.24.2. Concept representation

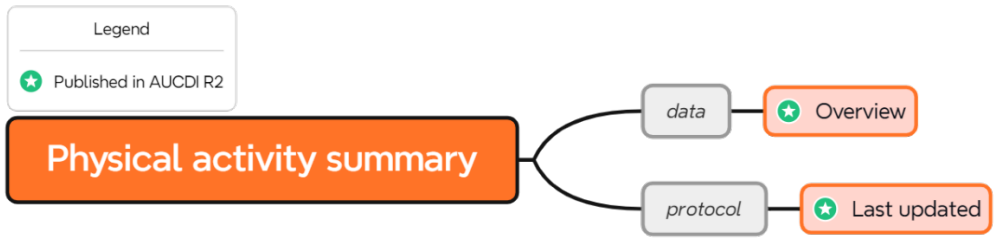

Figure 44. Physical activity summary - Concept representation.

3.24.3. Information model

Table 51. Physical activity summary - Information model.

Data elements		
Overview	Description	Narrative description about an individual's usual patterns of physical activity.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String

Last updated	Description	The date when this 'Physical activity summary' data group was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.24.4. For future consideration

As with many AUCDI data groups related to social determinants of health (SDOH), this data group has been intentionally designed with minimal, generic content—serving as both a placeholder and a foundation for future development. Ongoing consultation with domain experts is expected to guide the inclusion of additional structured elements to support the recording of more specific and clinically relevant data about an individual's food consumption and nutritional status, potentially including active diets and food preferences or restrictions.

The draft openEHR 'Physical activity summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Physical activity summary' archetype.

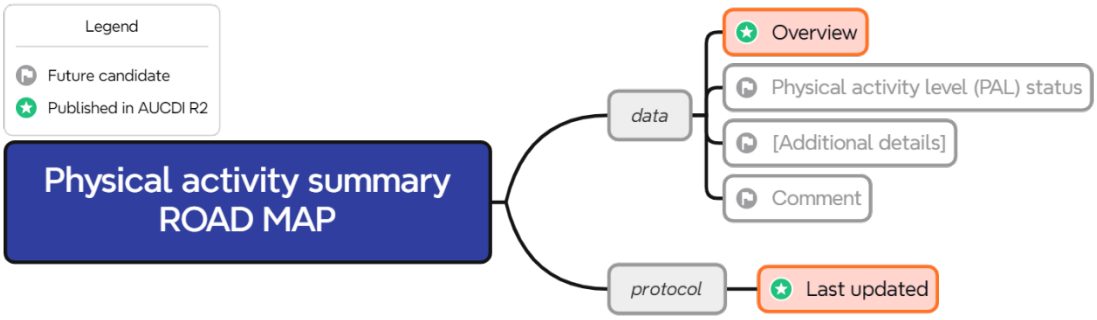

Figure 45. Physical activity summary - Proposed roadmap.

3.25. Physical assistance

3.25.1. Data group context

Table 52. Physical assistance - Data group context.

Concept description	Hands-on support provided by a caregiver to enable an individual to complete a task they cannot perform independently and/or safely due to a limitation in strength, mobility, coordination, communication, cognition, or sensory abilities, such as visual or auditory impairments.
Purpose	To record details about the provision of physical assistance at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Chronic condition management
Collection(s)	Interventions
Representation	Record one instance per careflow step or event for each specified assistance type in a health record.
Considerations for use	The scope of this data group includes a wide range of physical assistance, including but not limited to activities of daily living: • Mobility assistance – such as walking, standing, or transferring, • Personal activities and hygiene – such as bathing, dressing, grooming, and toileting, • Feeding assistance, • Therapeutic exercises – such as hands-on support during physical therapy exercises or rehabilitation activities, or • Use of assistive devices – such as helping with the use of mobility aids, prosthetic device, or communication devices.
Misuse	Not to be used to record other types of assistance, other than physical or hands-on support. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	Physical assistance, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-05-29]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7899.

3.25.2. Concept representation

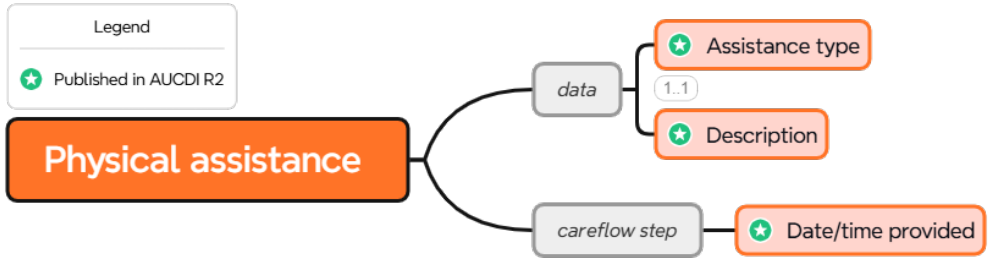

Figure 46. Physical assistance - Concept representation.

3.25.3. Information model

Table 53. Physical assistance - Information model.

Data elements		
Assistance type	Description	Name of the specific type of physical support or help required.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples	• Washing hair • Toileting • Transfer from wheelchair to car • Use of a communication device SNOMED CT-AU: • 464338006|Assistive bathing sponge| • 710803000|Assistance with mobility|
	Consideration	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Description	Description	Narrative description about the physical assistance, relevant to the active careflow step.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Explanation or account
Date/time provided	Description	Point in time when the physical assistance was provided.
	Use case(s)	Chronic condition management

	Occurrence	Optional, single occurrence
	Data type	dateTime
	Examples	For example: • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.25.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the provision of physical assistance at clinically relevant events in the intervention lifecycle.

The published openEHR 'Physical assistance' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR 'Physical assistance'. It includes a list of proposed careflow steps that identify specific events or phases in the process of the provision of education where recording significant information could be beneficial.

Details about the 'Requester', 'Receiver' and 'Recipient' highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

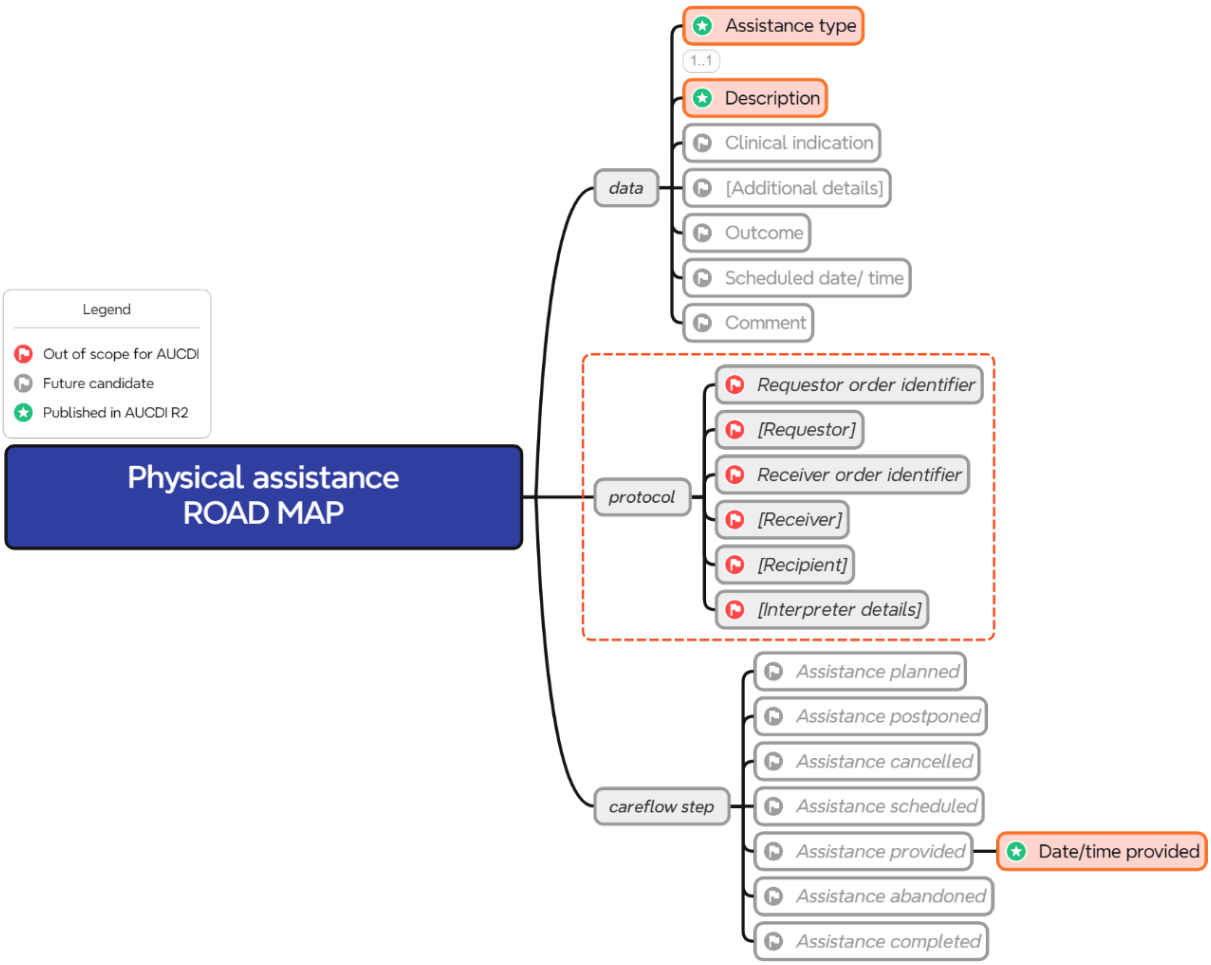

Figure 47. Physical assistance - Proposed roadmap.

3.26. Pregnancy assertion

3.26.1. Data group context

Table 54. Pregnancy assertion - Data group context.

Concept description	A statement or declaration by a clinician about the known pregnancy state of the individual at a specific point-in-time, to be used as the basis for clinical decision-making.
Purpose	To record a pregnancy assertion, which is to be considered accurate only at the date and time of assertion.
Use case(s)	Patient summary
Representation	Record one instance of this data group each time a pregnancy assertion needs to be recorded within a health record.
Alias(es)	Pregnancy state, Pregnancy situation
Considerations for use	• Use to record a statement or declaration about the pregnancy status of the individual at a specific point in time. • This data group is very deliberately defined as the recording of an assertion, a careful clinical statement made by a

	clinician about whether they believe, based on their best knowledge, that an individual is pregnant or not pregnant. • An assertion should be considered accurate only at the time of assertion. For example, an assertion that an individual is pregnant is needed to diagnose an ectopic pregnancy, however, they should no longer be pregnant following surgery. Similarly, an assertion that an individual is not pregnant, based on history taking and a urine pregnancy test result, may need to be revised shortly after if a blood test for pregnancy returns positive. • 'May be pregnant' is not usually offered as a value, much less recorded in the health record, as this is every clinician's default assumption for any woman of child-bearing age, until proven otherwise. • Asserting that an individual is pregnant is relatively straightforward and safe to do on the basis of evidence such as a positive urine or blood test or physical examination findings. Typically, the consequences of an error in this scenario lead to overly cautious treatment choices, which are unlikely to cause clinical harm. However, the opposite situation where a clinician needs to assert that an individual is not pregnant is often not a straightforward or safe determination. Incorrectly asserting that the individual is not pregnant can have significant clinical consequences if it results in clinical management choices that can cause harm to a pregnant woman or to the foetus in an unrecognised pregnancy. • Absolute exclusion of pregnancy is possible only in limited cases, such as after the confirmed absence or removal of both ovaries and the uterus. In most other situations, clinicians can only make a determination of 'not pregnant' based on a combination of history taking, physical examination, diagnostic testing and clinical judgment. Any statement of pregnancy exclusion should include the clinician's rationale or justification, which may reference contemporaneous test results, an organ inventory or a past history of diagnoses and procedures.
Misuse	• Not to be used to record summary information about a single pregnancy or the phase of an active pregnancy, such as preconception, pregnant, or postpartum. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record details about procedures performed during a pregnancy, for example a Caesarean section or an instrumental delivery - use the 'Procedure' data group for this purpose.
References	• Pregnancy assertion, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited:

	2024-10-18]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.4720. • Observation Pregnancy - Status (IPS), HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2024-11-26]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Observation-pregnancy-status-uv-ips.html.

3.26.2. Concept representation

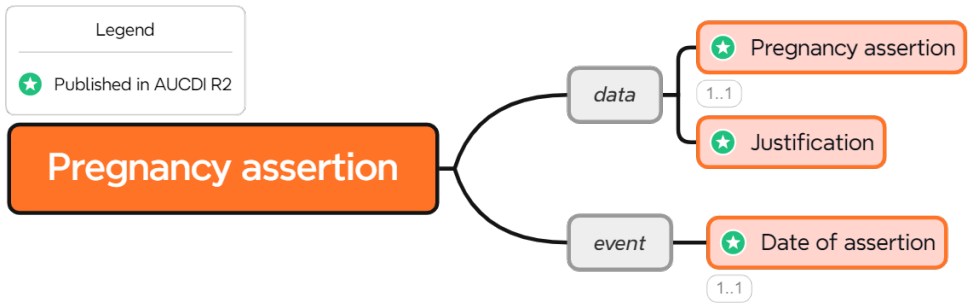

Figure 48. Pregnancy assertion - Concept representation.

3.26.3. Information model

Table 55. Pregnancy assertion - Information model.

Data Elements		
Pregnancy assertion	Description	A statement or declaration about the pregnancy status of the individual at a specified point in time.
	Use case(s)	Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	Coding
	Recommended code system/value set	A SNOMED CT value set is currently in development.
	Examples	SNOMED CT-AU: • 77386006|Pregnant| • 60001007|Not pregnant|
	Alias(es)	Pregnancy status, Pregnancy state
Justification	Description	Narrative description of the justification or rationale for the assertion.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence

	Data type	string
	Alias	Rationale
Date of assertion	Description	The date and time when the pregnancy assertion was made.
	Use case(s)	Patient summary
	Occurrence	Mandatory, single occurrence
	Data type	dateTime
	Consideration	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.26.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an assertion of pregnancy at a specific point in time.

The draft openEHR 'Pregnancy assertion' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing the 'Pregnancy assertion' data group based on the published openEHR 'Pregnancy assertion' archetype.

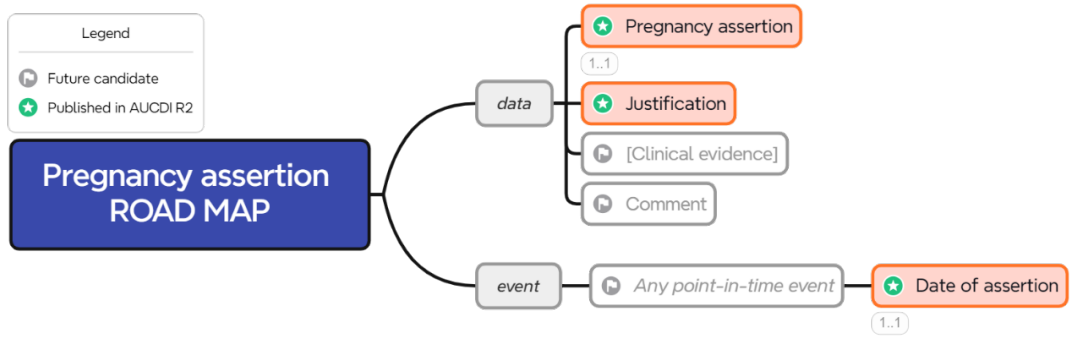

Figure 49. Pregnancy assertion - Proposed roadmap.

3.27. Problem/Diagnosis summary

3.27.1. Data group context

Table 56. Problem/diagnosis summary - Data group context.

Concept description	A summary or overview of a single health condition, injury, disability, or any other issue that impacts the physical, mental and/or social well-being of an individual.
Purpose	To record summary information about a single problem or diagnosis.
Use case(s)	Core, Patient summary
Representation	Record one instance of this data group per problem or diagnosis within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Condition

Considerations for use	• Traditionally, differentiating between problems and diagnoses has been difficult because they often exist on a continuum, both conceptually and in practice. As clinical evidence accumulates, what begins as a 'problem' may develop into a definitive 'diagnosis.' Adopting a unified data group for both facilitates the collection of clinical evidence and recognises the dynamic and interconnected nature of their relationship. Both problems or diagnoses can be recorded using this same data model without distinguishing and labelling them as one or the other. The recording pattern is closely aligned, and what may initially be considered a ‘soft’ problem may evolve towards a formal diagnosis as more clinical evidence is discovered.
	• Use cases include, but are not limited to:
	  ○ Recording a diagnosis as the conclusion of a consultation note,
	  ○ A 'Problem List', ‘Medical history’ or similar document, containing one or more ‘Problem/Diagnosis summary’ data groups, or
	  ○ Triggering clinical decision support related to preventive health and chronic disease management.

Misuse	• Not to be used to record the evolving clinical details of a single pregnancy. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record an adverse reaction risk to a specified substance – use the ‘Adverse reaction risk summary’ data group where the focus of the data group is

	on the 'Substance' (for example, penicillin or insulin) which causes the reaction.
References	• Problem/Diagnosis, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.169. • Condition, HL7 FHIR Resource [Internet]. Health Level Seven International; [accessed 2023 Dec 10]. Available from: https://hl7.org/fhir/R4/condition.html. • AU Base Condition, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [accessed 2024 Nov 26]. Available from: https://hl7.org.au/fhir/4.2.2-ballot/StructureDefinition-au-condition.html. • Condition (IPS), HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2024-12-26]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Condition-uv-ips.html.

3.27.2. Concept representation

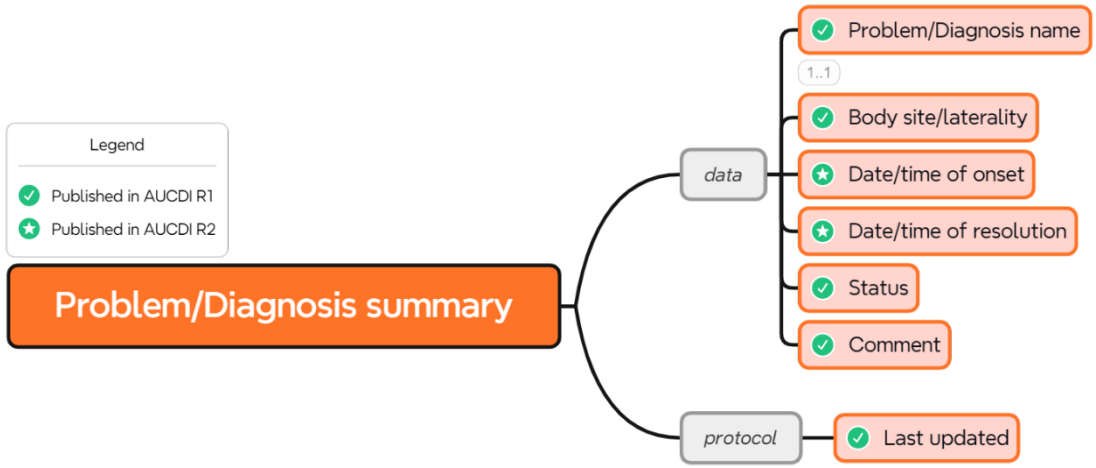

Figure 50. Problem/diagnosis summary - Concept representation.

3.27.3. Information model

Table 57. Problem/diagnosis summary - Information model.

Data elements		
Problem / Diagnosis name	Description	Identification of the problem or diagnosis by name.
	Use case(s)	Core, Patient summary
	Occurrence	Mandatory, single occurrence.
	Data type	CodeableConcept
	Recommended code system/value set	The Clinical Condition value set published by the NCTS currently includes all members of the *Problem/Diagnosis reference set* in SNOMED CT-AU. This includes (most) subtypes of • 272379006|Event| • 243796009|Situation with explicit context| • 404684003|Clinical Finding|
	Examples	SNOMED CT-AU: • 195967001|Asthma| • 46635009|Diabetes Mellitus Type 1| • 11687002|Gestational diabetes mellitus| • 34430009|Rupture of uterus| • 13746004|Bipolar disorder| • 307608006|Ewing's sarcoma of bone| • 254837009|Malignant neoplasm of breast| • 44465007|Sprain of ankle| • 112981000119107|Bilateral osteoarthritis of knees| • 238575004|Allergic contact dermatitis|
	Alias(es)	Condition name
	Considerations	It is strongly recommended that the 'Problem/Diagnosis name' be coded with a terminology capable of triggering decision support, where possible. Free text entry should only be permitted if no appropriate coded value is available.
Body site	Description	The anatomical location or body structure where the 'Problem or diagnosis' is manifested including laterality.
	Use case(s)	Core, Patient summary

	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Body Site value set published by the NCTS is a subset of the SNOMED CT-AU Body structure hierarchy. It includes anatomical structures (including acquired structures) with laterality but excludes morphologic abnormalities, and cellular and intercellular structures.
	Examples	SNOMED CT-AU: • 761920005|Bone structure of shaft of right humerus| • 51636004|Left ankle| • 38033009|Amputation stump| • 110501003|Upper outer quadrant of left breast|
	Alias(es)	Anatomical location
	Considerations	• Specification of 'Body site' is recommended when it is necessary to provide additional clarity about the Problem/Diagnosis and the 'Problem/Diagnosis name' does not include or imply a specific body site. • This data element has multiple occurrences to allow the recording of more than one body site for each problem or diagnosis – for example, to record multiple skin sites affected by a rash. • It is strongly recommended that the 'Body site' be coded with a terminology, where possible. Free text entry should only be permitted if no appropriate coded value is available.
Date/time of onset	Description	Specific or approximate timing when symptoms or signs of the problem or diagnosis were first observed.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	Timing (DateTime, Interval of Date/Time, Interval of Duration)
	Considerations	• Precise documentation of when symptoms or signs first appeared is critical in the management of some acute clinical conditions, such as the initiation of thrombolytics within hours of the onset of a stroke. For other conditions with a more gradual onset, like Type 2 diabetes or cancer, this information, even if imprecise, can help estimate

		the duration the condition was present before it was formally diagnosed. • Symptom/sign onset may be represented by an actual date and/or time of onset; an imprecise period during which the onset occurred; or the age of the individual at the time of the onset. • Age is represented as a duration of time since birth. • Partial dates are permitted. • For example: ○ 2015 ○ February 2015 ○ 7 February 2015 ○ 7 February 2015, 1:28 pm ○ 2015-02-07T13:28:17-05:00 ○ 1990 - 1995 ○ 3 months old ○ 24 years old ○ 10-15 years old
Date/time of resolution	Description	Specific or approximate timing when a clinician asserts that the problem or diagnosis is completely and permanently resolved.
	Use case(s)	Patient summary
	Occurrence	Optional, single occurrence
	Data type	Timing (DateTime, Interval of Date/Time, Interval of Duration)
	Considerations	• Only a clinician can confirm the complete and permanent resolution of a problem or diagnosis, usually based on evidence. • Resolution of a problem or diagnosis can be determined in various ways, such as the elimination of an infective organism from the body after antimicrobial treatment, or the absence of any signs of malignancy following an appropriate number of years without active cancer. • If a 'Date/time of resolution' is recorded, however, the individual experiences a recurrence or reactivation, then this date will be removed and

		the whole data group updated to reflect an accurate summary of the problem or diagnosis. • The timing may be represented by an actual date and/or time of resolution; an imprecise period during which the resolution occurred; or the age of the individual at the time of the resolution. • Age is represented as a duration of time since birth. • Partial dates are permitted. • For example: ○ 2015 ○ February 2015 ○ 7 February 2015 ○ 7 February 2015, 1:28 pm ○ 2015-02-07T13:28:17-05:00 ○ 1990 - 1995 ○ 3 months old ○ 24 years old ○ 10-15 years old
	Misuse	Not to be used to record the 'Onset of remission'. Information regarding the timing of the onset of any single episode of remission should be documented separately, potentially within a repeatable grouping that allows for recording multiple instances of 'Date of remission' alongside an associated 'Date of reactivation or recurrence' to accurately track episodes of the disease.
Status	Description	A clinical assertion whether a problem or diagnosis is currently active or inactive.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	Coding
	Recommended code system/value set	Coded terms for 'Status' will be selected from a value set, yet to be determined, and limited to the following two values: • Active: a current, ongoing health condition that requires active treatment or management, or

		• Inactive: a health condition that has resolved, is in remission, or no longer requires active treatment or management.
	Alias(es)	Clinical status
Comment	Description	Additional narrative about the problem or diagnosis not captured in other fields.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Note
Last updated	Description	The date when this 'Problem/Diagnosis summary' data group was last updated.
	Use case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.27.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a specified problem or diagnosis.

The published openEHR ‘Problem/Diagnosis’ archetype and the FHIR ‘Condition’ resource are mature information models that have been implemented globally across a range of clinical settings. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR ‘Problem/Diagnosis’ archetype.

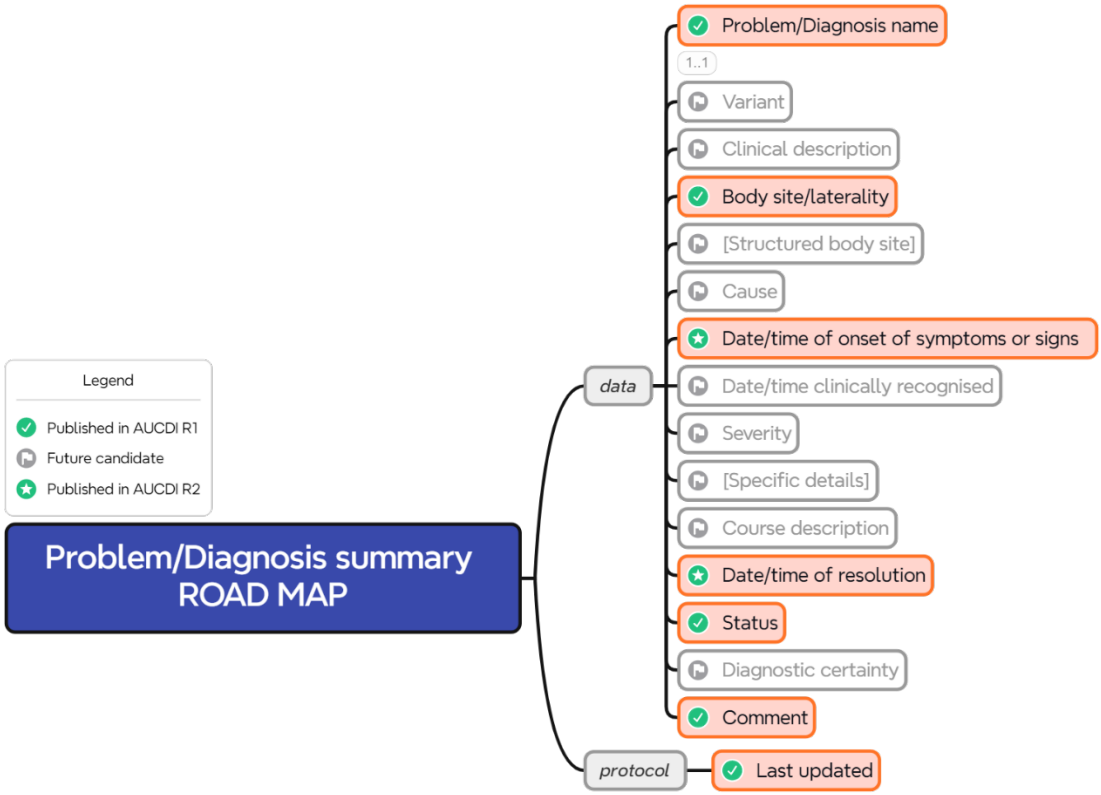

Figure 51. Problem/Diagnosis summary - Proposed roadmap.

3.28. Procedure

The definition of a procedure is challenging, as it is often used inconsistently across healthcare settings and professions. In clinical terminologies such as SNOMED CT, the scope of their procedure hierarchy is extremely broad - encompassing not only traditional clinical interventions but also services such as patient transportation, day care, home modification, or exercise.

However, within the AUCDI specification, the Procedure data group has a narrower, clinically focused scope. It is specifically designed to capture activities performed on an individual to diagnose, treat, or manage a health condition, often involving invasive or potentially harmful techniques. In this context, there is no precise boundary defining what constitutes a procedure; it is likely there will be some grey zones will that require clinical judgement and discretion—such as procedures carried out as part of a diagnostic investigation, or a rectal exam and associated proctoscopy carried out as part of routine physical examination.

In the published AUCDI R1 and AU eRequesting Data for Interoperability (AUeReqDI) R1 specifications, this data group was previously named ‘Procedure completed event’. It included only the data required to document a procedure that had been performed, maintaining simplicity in the model during the early stages of AUCDI development.

In this AUCDI R2 specification, the data group name has been updated to the more inclusive ‘Procedure’, reflecting an expanded scope to support documentation of a broader range of procedure-related events. This change responds to evolving clinical requirements to record not only the performance of a procedure, but also key events throughout its progression - from planning through to completion. It also accommodates the need to capture deviations from the intended

pathway, such as differences between the procedure ordered and the one actually performed, or interruptions to the intended pathway, including postponement, cancellation, or abandonment.

As a result, the previously published 'Date/time performed' data element is now specifically associated with the 'Procedure performed' careflow step. This approach enables detailed tracking of a procedure's progress over time—beyond a simple status—and enhances traceability and accountability for clinical governance, quality assurance, and potential research use.

This careflow-based approach is being extended to other intervention types in the AUCDI R2 specification through the inclusion of a careflow step in the mind map for each current published intervention. Further careflow steps have been proposed in future roadmap mind maps to support evolving clinical workflows and documentation requirements.

3.28.1. Data group context

Table 58. Procedure - Data group context.

Concept description	A clinical procedure is an intentional intervention to diagnose, treat or manage a health condition, often involving invasive or potentially harmful techniques requiring skin or mucosal penetration or tissue manipulation.
Purpose	To record details about the performance of a procedure at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Core, Patient summary, Chronic condition management
Collection(s)	Interventions
Representation	Record one instance per careflow step for each procedure recorded in a health record.
Alias	Operation, Intervention, Surgery

Considerations for use	• Use to record not only the performance of a procedure, but also key events throughout its lifecycle - from planning through to completion. This data group also accommodates the ability to record deviations from the original pathway, such as differences between the procedure ordered and the one actually performed, or interruptions to the intended pathway, including postponement, cancellation, or abandonment.
	• Use cases include, but are not limited to:
	  ○ Recording a procedure performed as part of a Consultation note or Operation note,
	  ▪ A curated 'Procedure list', 'Surgical history' or similar document containing one or more 'Procedure' data groups, or

	○ To exchange critical information about past operations or procedures with other healthcare providers.
Misuse	• Not to be used to record vaccination administration – use the 'Vaccination' data group for this purpose. • Not to be used to record problem/diagnosis – use the 'Problem/Diagnosis summary' data group for this purpose. • Not to be used to record information about the imaging component of an imaging procedure. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record procedures or services that are out of scope for this data group even though they are found in some procedure-related terminology hierarchies. For example: non-clinical or administrative concepts such as patient transportation, care services, home modification or exercise.
References	• Procedure, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.204. • AU Core Procedure, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [accessed 2025 Feb 11]. Available from: https://build.fhir.org/ig/hl7au/au-fhir-core/StructureDefinition-au-core-procedure.html. • Procedure profile, International Patient Summary Implementation Guide, [Internet]. Patient Care Working Group, Health Level Seven International; [cited: 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Procedure-uv-ips.html.

3.28.2. Concept representation

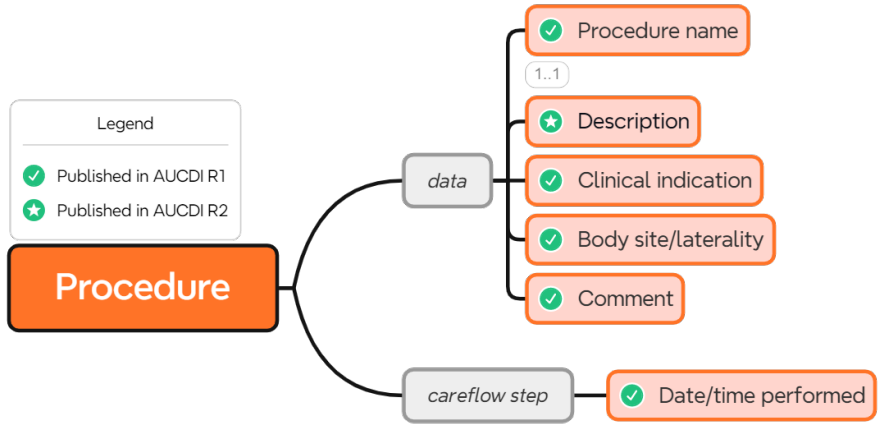

Figure 52. Procedure – Concept representation.

3.28.3. Information model

Table 59. Procedure – Information model.

Data elements		
Procedure name	Description	Identification of the procedure by name.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Procedure value set published by the NCTS currently includes all Procedure concepts within SNOMED CT-AU. Groupers that are considered artefacts of the terminology and not useful for clinical records are excluded.
	Examples	SNOMED CT-AU: • 232722009|Coronary artery bypass grafts x 4| • 1424371000168108|Implantation of continuous glucose monitoring system| • 54866009|Initial implantation of cardiac single-chamber device| • 312681000|Bone density scan| • 239592001|Forefoot amputation| • 34309001|Drainage of tonsil| • 307998000|Excision of pigmented skin lesion| • 428923005|Radiotherapy to breast| • 229488002|Lymphoedema massage| • 386565009|Postural drainage therapy| • 182531007|Dressing of wound| • 312733004|Debridement of foot ulcer| • 229412005|Mobilisation of thoracic spine| • 305105009|Therapeutic hip adductor stretching| • 397964005|Bronchial suction via tracheostomy| • 1234817009|Changing of drainage bag|
	Alias (es)	Operation name, Intervention
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
	Description	Narrative description about the procedure.

Clinical description	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Clinical indication	Description	The clinical symptom, sign or diagnosis that necessitates the procedure.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Reason For Encounter value set published by the NCTS is a broad reference set including (most) clinical findings, situation with explicit context, and event concepts.
	Examples	SNOMED CT-AU: • 102587001|Acute Chest Pain| • 59848001|Obstructive jaundice| • 33261009|Abscess of tonsil| • 80201000119103|Atypical pigmented lesion|
	Alias	Reason for procedure
	Considerations	• This data element has multiple occurrences to allow the recording of more than one clinical indication per procedure. • Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Body site/laterality	Description	The anatomical location or body structure where the procedure was performed.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	CodeableConcept
	Recommended code system/value set	The Body Site value set published by the NCTS is a subset of the SNOMED CT-AU Body structure hierarchy. It includes anatomical structures (including acquired structures) with laterality but excludes morphologic abnormalities and cellular/intercellular structures.
	Examples	SNOMED CT-AU: • 761920005|Bone structure of shaft of right humerus|

		• 51636004|Left ankle| • 38033009|Amputation stump| • 110501003|Upper outer quadrant of left breast|
	Alias(es)	Anatomical location
	Considerations	• Specification of 'Body site' is only required when the 'Procedure name' does not include or imply a specific body site. • This data element has multiple occurrences to allow the recording of more than one body site for each named procedure – for example, to record multiple related skin sites requiring excision of pigmented lesions in one procedure. • Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Date/time performed	Description	The date when the procedure was performed.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime

	Considerations	• Partial dates are permitted.
		• For example:
		  ○ 2015
		  ○ February 2015
		  ○ 7 February 2015
		  ○ 7 February 2015, 1:28 pm
		  ○ 2015-02-07T13:28:17-05:00

Comment	Description	Additional narrative about the procedure and careflow step not captured in other fields.
	Occurrence	Optional, single occurrence
	Data type	string

3.28.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the performance of a procedure at clinically relevant events in the intervention lifecycle.

The published openEHR 'Procedure' archetype and the FHIR 'Procedure' resource are mature information models that have been used globally in a broad range of implementations over many

years. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR ‘Procedure' archetype. It includes a list of proposed careflow steps that identify specific events or phases in the process of carrying out a procedure where recording significant information could be beneficial. This approach supports the documentation of both ad-hoc procedures and the systematic tracking of the progress of a procedure carried out in response to a specific order or request.

Details about the ‘Requester’, ‘Receiver,’ and identifiers, highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

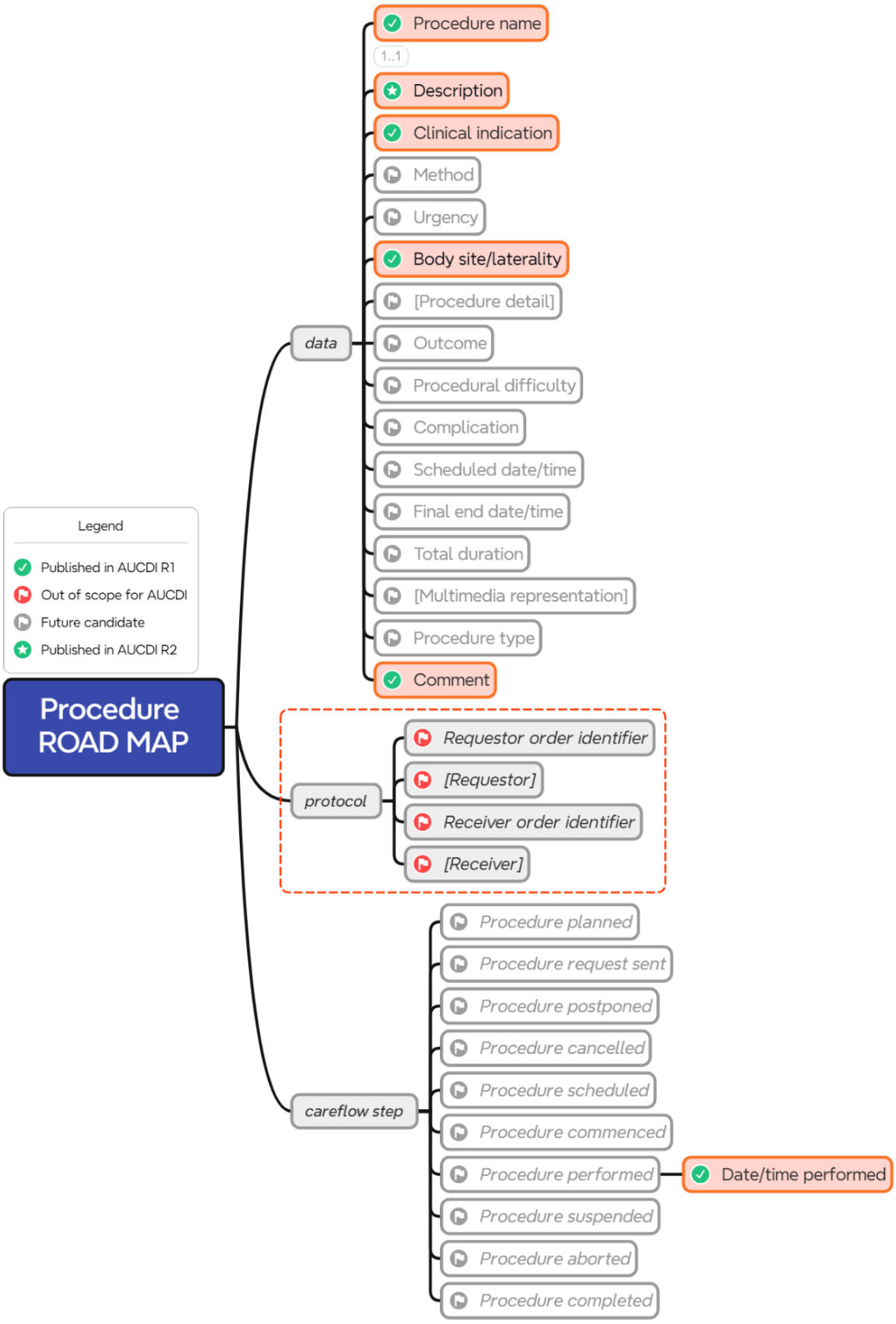

Figure 53. Procedure - Future roadmap.

3.29. Psychosocial therapy

3.29.1. Data group context

Table 60. Psychosocial therapy - Data group context.

Concept description	A therapeutic approach that integrates psychological and social strategies to improve mental health and emotional well-being, strengthen interpersonal relationships, and support positive behavioural change.
Purpose	To record details about the provision of psychosocial therapy at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Chronic condition management
Collection(s)	Interventions
Representation	Record one instance per careflow step or event for each specified therapy type in a health record.
Alias(es)	Social therapy, Psychotherapy, Social prescription, Therapeutic support

Considerations for use	• The scope of this data group includes a wide range of psychological and social therapies, not limited to:
	  ○ Cognitive Behavioural Therapy (CBT),
	  ○ Dialectical Behavior Therapy (DBT),
	  ○ Narrative therapy,
	  ○ Family Therapy,
	  ○ Group Therapy,
	  ○ Social Skills Training,
	  ○ Assertiveness training,
	  ○ Anger management,
	  ○ Interpersonal Therapy (IPT),
	  ○ Grief counselling,
	  ○ Motivational Interviewing,
	  ○ Crisis Intervention,
	  ○ Mindfulness-based stress reduction,
	  ○ Art therapy, or
	  ○ Music therapy.
	• The target of the therapy may be the individual, their family or a group.

Misuse	Not to be used to record health education - use the 'Health education' data group for this purpose.
References	• Psychosocial Therapy, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-05-29]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7903.

3.29.2. Concept representation

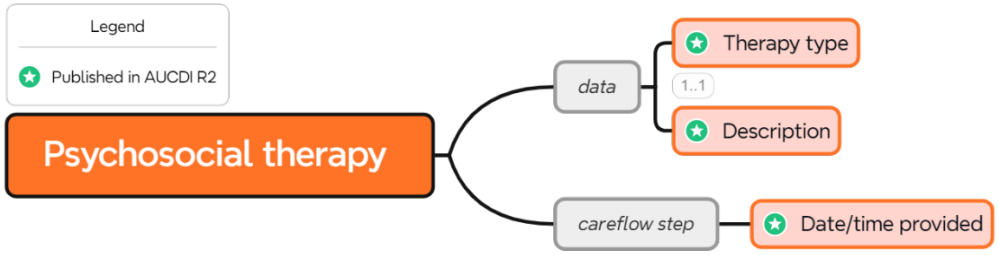

Figure 54. Psychosocial therapy - Concept representation.

3.29.3. Information model

Table 61. Psychosocial therapy - Information model.

Data elements		
Therapy type	Description	Name of the type of therapy.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU: • 1037611000168108|Mindfulness-based cognitive therapy| • 405780009|Dialectical behaviour therapy| • 228574008|Assertiveness training| • 702471009|Functional family therapy| • 171006007|Grieving counselling| • 24172008|Crisis intervention| • 21065008|Music therapy| • 228559006|Social skills training|

	Consideration	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Description	Description	Narrative description about the psychosocial therapy, relevant to the active careflow step.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Date/time provided	Description	Point in time when the therapy was supplied.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Examples	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.29.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the provision of psychosocial therapy at clinically relevant events in the intervention lifecycle.

The published openEHR 'Psychosocial therapy' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR 'Psychosocial therapy'. It includes a list of proposed careflow steps that identify specific events or phases in the process of the provision of education where recording significant information could be beneficial.

Details about the 'Requester', 'Receiver' and 'Recipient' highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

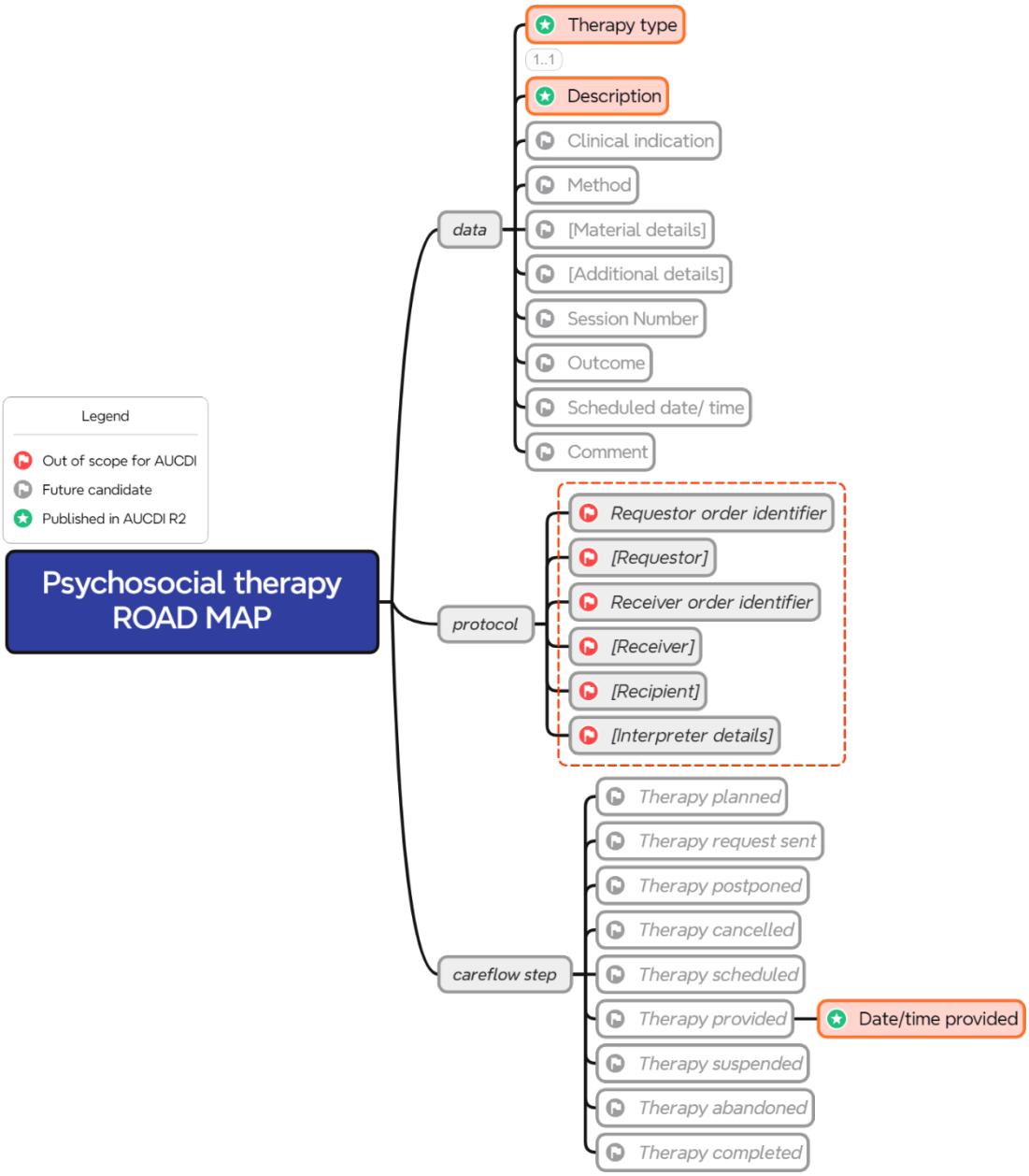

Figure 55. Psychosocial therapy - Proposed roadmap.

3.30. Pulse

3.30.1. Data group context

Table 62. Pulse - Data group context.

Concept description	A pressure wave observed in an artery, generated as the heart pumps blood through the circulatory system.
Purpose	To record findings about a series of arterial pulses, observed at a single, specified arterial site.
Use case(s)	Core
Collection(s)	Measurements and vital signs
Representation	Record one instance per observation event within a health record.
Considerations for use	• Use to record both observed and measured parameters related to an identified arterial pulse at a specific point in time. • Observations of the arterial pulse should be recorded separately from those of the heartbeat, as clinicians often compare heart rate and pulse rate to support or exclude certain diagnoses.
Misuse	Not to be used to record information about the heartbeat or heart rate, which should only be observed centrally at the heart, rather than inferred from peripheral pulse observations. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.

References	• Pulse, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 Feb 08]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7153.
	• Note the similar profiles, but conceptually separate:
	  ○ US Core Heart Rate Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-heart-rate.html.
	  ○ US Heart Rate Profile, Vital Signs with Qualifying Elements Implementation Guide [Internet]. Clinical Information Modeling Initiative, Health Level Seven International. [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/cimi-vital-signs/StructureDefinition-heart-rate.html.

3.30.2. Concept representation

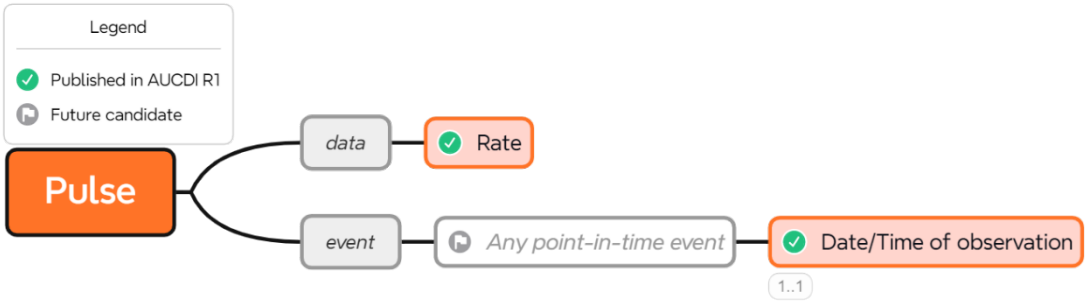

Figure 56. Pulse - Concept representation.

3.30.3. Information model

Table 63. Pulse - Information model.

Data elements		
Pulse rate	Description	The measured rate of an arterial pulse.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Pulse
	Considerations	• UCUM units: {#}/min or {beats}/min • For example: ○ 72 beats/min
Date/Time of observation	Description	The date and time when the pulse was observed.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.30.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a pulse observation.

The published openEHR 'Pulse' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Pulse' archetype.

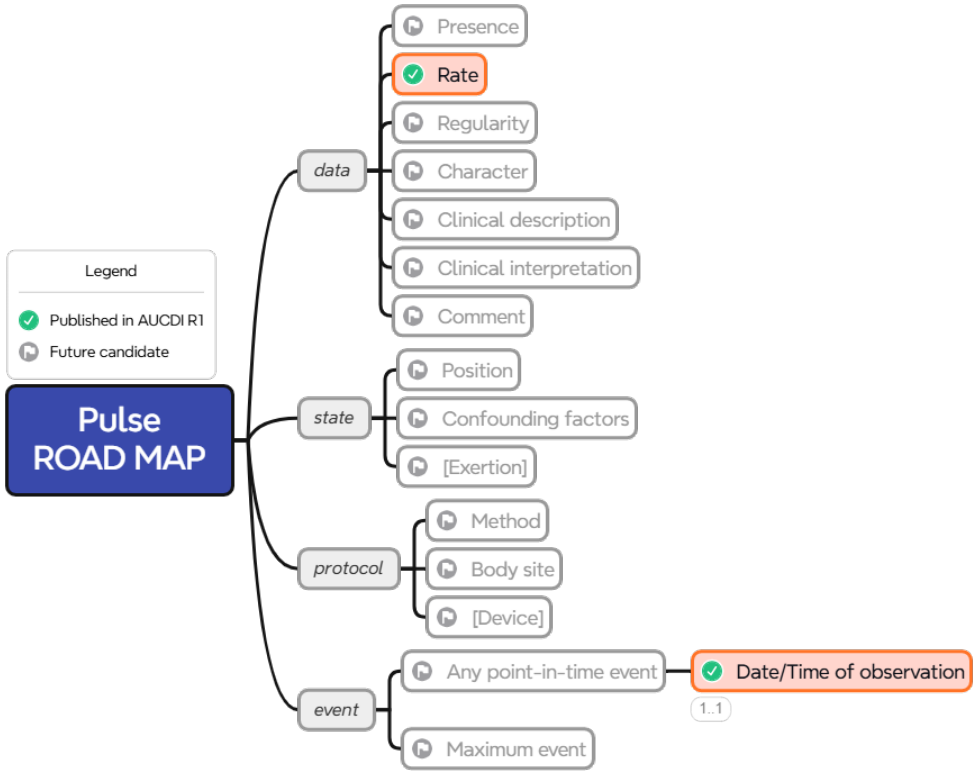

Figure 57. Pulse - Proposed roadmap.

3.31. Respiration

3.31.1. Data group context

Table 64. Respiration - Data group context.

Data group description	The rate and characteristics of spontaneous breathing by an individual.
Purpose	To record details from a single observation of respirations.
Use case(s)	Core
Collections(s)	Measurements and vital signs
Representation	Record one instance per observation event within a health record.
Considerations for use	Use to record the observed and measured characteristics of spontaneous breathing by an individual, including respiratory rate, depth and rhythm.
References	• Respiration, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.4218.

	• Respiration rate, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [cited: 2024 May 21]. Available from: https://hl7.org.au/fhir/4.0.0/StructureDefinition-au-resprate.html.

3.31.2. Concept representation

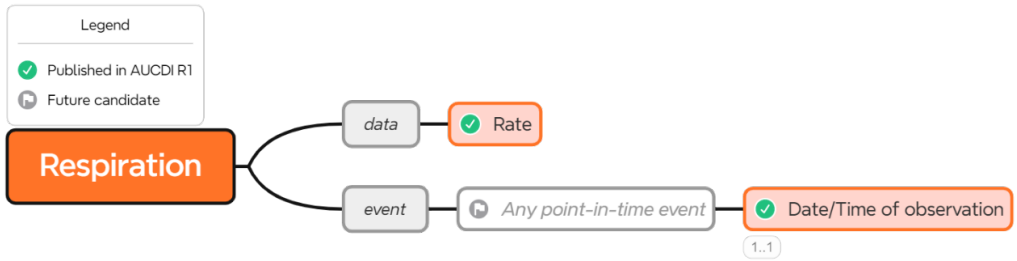

Figure 58. Respiration - Concept representation.

3.31.3. Information model

Table 65. Respiration - Information model.

Data elements		
Rate	Description	The measured frequency of spontaneous breathing.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Respiration rate, Respiratory rate
	Considerations	• UCUM unit: {#}/min • For example ○ 16 /min
Date/Time of observation	Description	The date and time when the respiration was observed.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.31.4.

3.31.5. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a respiration observation.

The published openEHR 'Respiration' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Respiration' archetype.

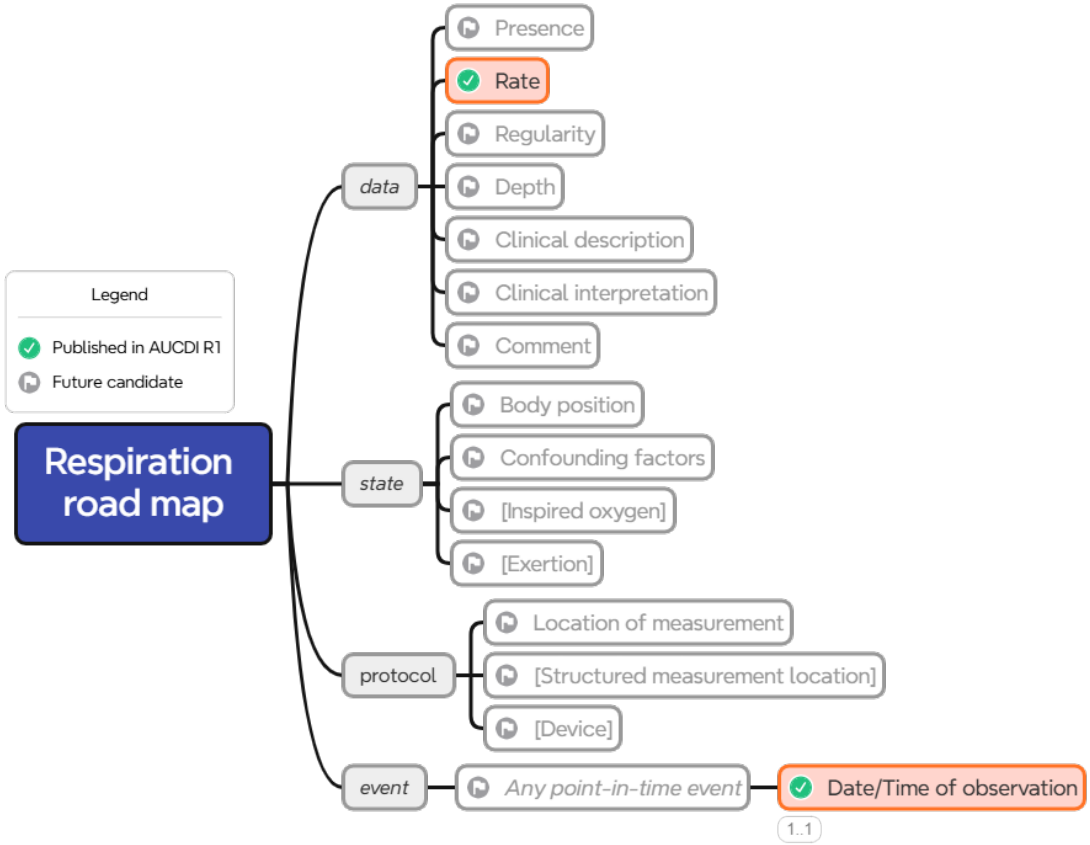

Figure 59. Respiration - Proposed roadmap.

3.32. Service request

The 'Service request' data group serves as a universal, foundational framework for requesting any type of health-related service or activity, which may be fulfilled by a clinician, organisation, or agency. It contains a core set of common data elements that underpin many typical healthcare requests, making it highly adaptable for use across both clinical and social care contexts, including more complex use cases such as follow-up planning and coordination.

This generic data group has been used as the foundation for developing purpose-specific customisations for AUeReqDI R1 for the 'Pathology test request' and 'Medical imaging request' data groups, demonstrating both its versatility and reusability. While the core data elements remain consistent, each specialisation includes additional fields tailored to its specific use case. It is anticipated that future AUCDI releases will potentially continue this approach to address emerging clinical use cases.

3.32.1. Data group context

Table 66. Service request - Data group context.

Concept description	Request for a health-related service to be delivered by a clinician, an organisation**,** or an agency.
Purpose	A generic framework for a request for a health-related service to be delivered by a clinician, an organisation, or an agency.
Use case(s)	Chronic condition management

Representation	• Record one instance of this data group for each unique request, including those with multiple components.
	• Each request contains:
	  ○ One or more 'Activity' groups, each containing the clinical data elements that describe a specific activity. For example, multiple related services to be performed simultaneously by the same service provider or a sequence of related services being carried out by the same service provider over time; and
	  ○ A single Protocol, which contains the non-clinical data elements applicable to all 'Activity' groups within the request.

Alias(es)	Referral, Order

Considerations for use	• Use to record a request for a health-related service to be delivered by a clinician, an organisation**,** or an agency.
	• This generic data group has been designed as a framework that can be used as the basis for a wide range of requests.
	• Examples include:
	  ○ A referral to a specialist clinician for assessment, treatment or a second opinion,
	  ○ Transfer of care to an emergency department,
	  ○ Hourly vital signs monitoring,
	  ○ Provision of home services from a municipal council, or
	  ○ A request for a follow-up service:
	  ▪ With the same clinician, organisation, or agency, such as a blood pressure check in 1 week or a plaster check in 24 hours, or
	  ▪ With a different clinician, organisation or agency, such as a post-operative outpatient review in 6 weeks.

- If multiple services are to be requested and the information recorded in the 'Protocol' is identical, create a separate 'Activity' instance within this data group for each service component and send as a single service request.
- If multiple services are to be requested and the information recorded in the 'Protocol' is different, create a separate instance of this data group for each service and send as multiple service requests.
- Implementation examples:
    1. Referral to a Respiratory physician
        - **Service Name:** Sleep apnoea assessment
        - **Clinical Indication**: Sleep apnoea
        - **Clinical Context:** A narrative description highlighting clinically significant issues such as snoring and poor concentration during the previous 12 months. Also identifying recent weight gain and the death of their spouse six months ago.
    2. Ordering a series of education sessions with a Diabetes nurse educator
        - **Service Name:** Diabetes education
        - **Clinical Indication:** Type 1 Diabetes mellitus
        - **Clinical Context:** A narrative description of the patient being newly diagnosed with diabetes, with a focus on the need for initial education and instruction in insulin administration.
    3. Ordering a meal home-delivery service from the municipal council
        - **Service Name:** Meals on Wheels Program
        - **Clinical Indication**:
            - Emphysema, and
            - General frailty
        - **Clinical Context:** A narrative description about the individual's dietary needs and overall health condition.
    4. Requesting post-operative follow-up appointment
        - **Service Name:** Postoperative follow-up visit
        - **Clinical Indication:** Cataract surgery

	• **Clinical Context:** Routine post-operative follow-up • **Timing:** If '6 weeks' is entered as the proposed timing for the appointment in the User Interface, the clinical system can automatically record the date six weeks from today in the 'Timing' data element.
Misuse	• Not to be used to represent a request for a pathology test - use the purpose-specific 'Pathology test request' data group for this purpose. • Not to be used to represent a request for a medical imaging examination – use the purpose-specific 'Medical imaging request' data group for this purpose.
References	• Service request, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 09]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.614. • ServiceRequest, HL7 FHIR Resource [Internet]. Health Level Seven International; [cited: 2024 May 09]. Available from: https://hl7.org/fhir/R4/servicerequest.html.

3.32.2. Concept representation

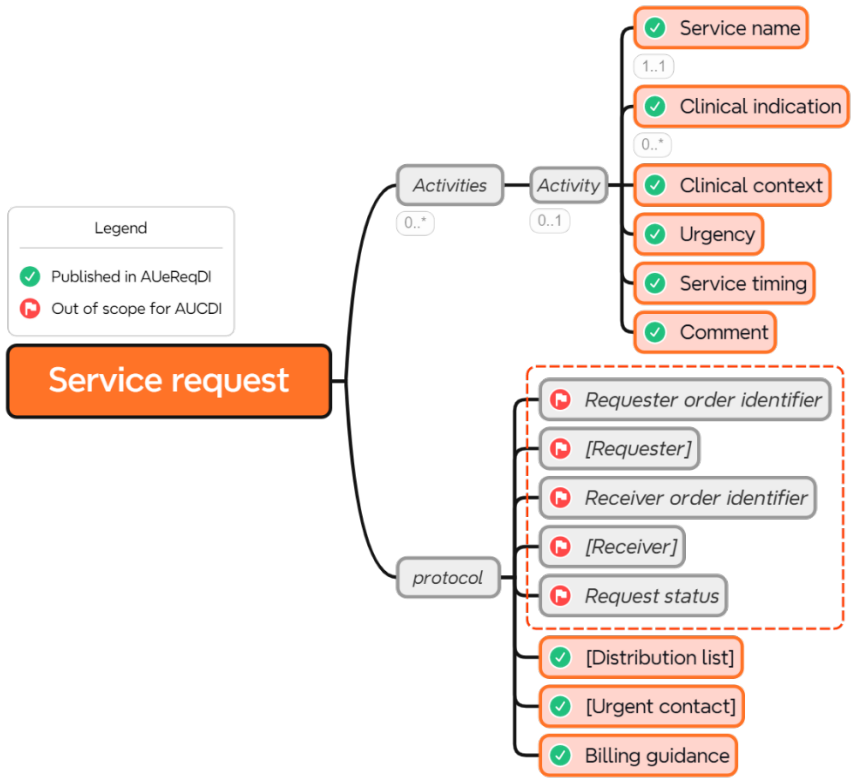

Figure 60. Service Request - Concept representation.

- Details about the 'Requester', 'Receiver,' identifiers and 'Request status', highlighted in the red box and with a red flag, are assumed to be included within any Service request implementation. Specification of these parties, identifiers and the request status are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).
- The 'Distribution list' and 'Urgent contact' data elements are included within scope of the data group due to strong clinician demand but are not explicitly represented in AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked TDG in appropriate FHIR IGs.
- The 'Billing guidance' data element is also included within the scope of the data group due to strong clinical demand, as described in this AUCDI specification. This inclusion enables the sending clinician to recommend a payment method to the receiving service, which is particularly helpful when the clinician is aware of financial hardship. However, it is important to note that the representation of actual billing or payment transactions is explicitly excluded from the scope of AUCDI and should defer to a standardised national approach.

3.32.3. Information model

Table 67. Service request - Information model.

Data elements		
Service name	Description	The name of the service requested.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Proposed code system / value set	The Procedure value set published by the NCTS is a value set containing a broad range of procedures and clinical interventions that can be associated with a person.
	Examples	SNOMED CT-AU: • 183681001|Arrange Meals on Wheels| • 385765002|Hospice care management| • 164783007|Ambulatory blood pressure recording| • 444638005|Screening for skin cancer| • 103750000|Sleep apnoea assessment| • 439740005|Postoperative follow-up visit|
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Clinical indication	Description	The symptom, sign or diagnosis that prompts the need for the requested service.

	Occurrence	Optional, multiple occurrences
	Use case(s)	Chronic condition management
	Data type	CodeableConcept
	Proposed code system / value set	The Reason for Request value set published by the NCTS is a broad reference set including clinical findings, procedures, situation with explicit context, and event concepts.
	Examples	SNOMED CT-AU: • 46635009|Type 1 diabetes mellitus| • 87433001|Pulmonary emphysema| • 418399005|Motor vehicle accident| • 275109007|FH: Bowel cancer|
	Alias(es)	Reason for service
	Considerations	Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available.
Clinical context	Description	Narrative information providing an overview of the individual's current clinical situation.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Clinical notes
	Considerations	• This data element describes the broader clinical background or circumstances related to the request, supporting the service provider in making informed decisions about service delivery. • Historically, many paper forms featured a section labelled ‘Clinical notes’ to document relevant background content for each service request. This data element has been purposefully named 'Clinical context' to semantically differentiate it from the more generic 'Comment' which allows clinicians to record any additional information not captured in semantically specific data elements.
Urgency	Description	Recommended priority level for delivery of the service.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Coding

	Proposed code system / value set	A SNOMED CT value set is to be developed. Proposed values: • 25876001|Emergency| • 103391001|Urgent| • 50811001|Routine|
	Considerations	• Specific definitions of emergency and urgent will vary between clinical contexts, clinical systems, and the nature of the request itself. • If more precise timing is required, use the 'Timing' data element.
Service timing	Description	Requested timing for provision of the service.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Timing or String
	Considerations	This data element supports recording the intended timing for the service in a variety of formats, ranging from precise details, such as a specific date and time, to textual descriptions, such as 'Next available'. The Timing data type also supports handling complex scheduling scenarios, including recurring services.
Comment	Description	Additional narrative about the service request not captured in other fields.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Note
Distribution list	Description	Contact details of one or more clinicians, organisations or agencies that need to be informed of the outcome of this service request.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrence
	Data type	Reference
	Alias(es)	cc list
	Considerations	Clinicians recommended the inclusion of a 'Distribution List' as a documentation requirement, so it has been incorporated as a concept in AUeReqDI. However, it is intended that formal representation of the 'Distribution list' will adhere to standardised representations of

		healthcare providers already established in national technical specifications. For example: other healthcare providers who need to be notified of outcomes or available reports.
Urgent contact	Description	Contact details of one or more designated contact people or organisations for urgent notifications.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrence
	Data type	Reference
	Considerations	• Details about each urgent contact can include their name, organisation, role, and preferred method of communication for urgent or emergency notifications concerning this request. • Clinicians recommended the inclusion of an 'Urgent contact' as a documentation requirement, so it has been incorporated as a concept in AUeReqDI. However, it is intended that formal representation of the 'Urgent contact' will adhere to standardised representations of healthcare providers already established in national technical specifications. • Use this data element if the outcome of the request requires an urgent or emergency response by the requester or requesting organisation, or if the requestor is not contactable at the time of testing and an alternative contact is nominated. • While the occurrence of the data element is singular, the 'Reference' data type will permit more than one contact to be recorded.
Billing guidance	Description	A recommendation from the requester to the receiver regarding the payment method for the service.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Considerations	• For example: 'Private', Medicare', DVA, or 'Private health insurance'. • Clinicians may suggest a billing recommendation in specific circumstances, such as advising bulk billing for a patient experiencing financial hardship. • Use of a clinical terminology is recommended whenever possible. Free text entry should be

		allowed only when an appropriate coded value is not available.t

3.32.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a service request.

The published openEHR ‘Service request’ archetype and the FHIR ‘ServiceRequest’ resource are mature information models that have been used globally in a broad range of implementations over many years. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR ‘Service request’ archetype. Each node in the mind map corresponds to an element from the archetype. Where occurrence constraints are not explicitly stated, they are assumed to be optional and default to a single instance (0..1).

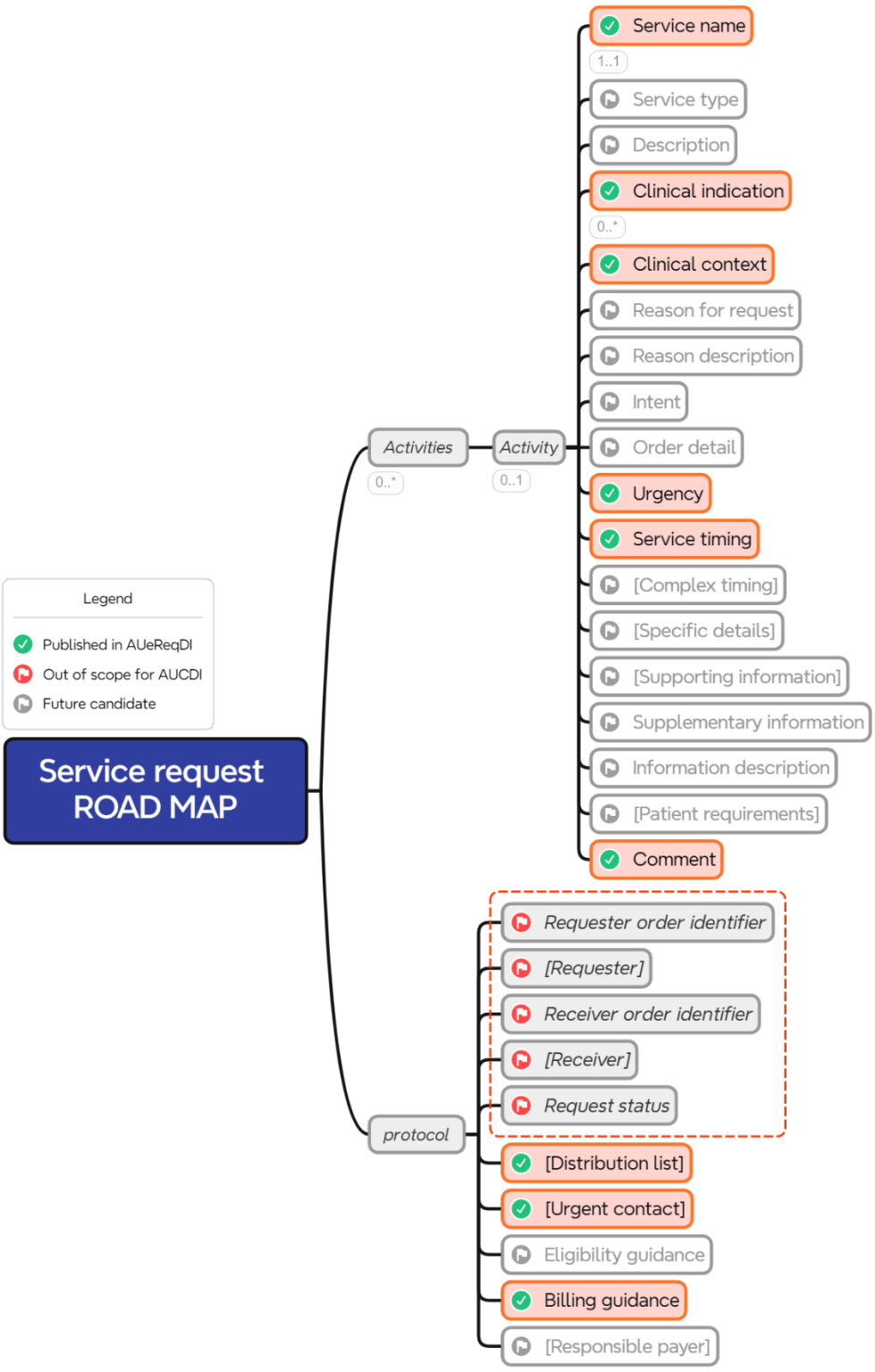

Figure 61. Service request - Proposed roadmap.

3.33. Sex and gender summary

3.33.1. Data group context

Table 68. Sex and gender summary - Data group context.

Concept description	A collection of clinically significant concepts related to the sex and gender of an individual.
Purpose	To record information related to sex and gender to ensure safe and appropriate clinical care and support respectful communication.
Use Case(s)	Core, Patient summary
Representation	Record one instance of this data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias	Sex, Gender
Considerations for use	Use cases for this data group include, but are not limited to: • As a foundation for personalised medical treatment, supporting both biological- and gender-specific health needs, and improving assessment of disease risk and outcomes, or • Facilitate healthcare accessibility, delivery and communication that acknowledges and incorporates the differences in health needs, experiences, and outcomes across different genders, and facilitate research and public health monitoring.
References	• Gender, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-12]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.3715. • US Core Birth Sex Extension, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-birthsex.html. • McClure RC, Macumber CL, Kronk C, Grasso C, Horn RJ, Queen R, Posnack S, Davison K. Gender harmony: improved standards to support affirmative care of gender-marginalized people through inclusive gender and sex representation. J Am Med Inform Assoc. 2022 Jan 12;29(2):354-363. doi: 10.1093/jamia/ocab196. Erratum in: J Am Med Inform Assoc. 2021 Nov 25; PMID: 34613410; PMCID: PMC8757317. • HL7 Cross Paradigm Implementation Guide: Gender Harmony - Sex and Gender Representation, Edition 1 [Internet]. HL7 International; [accessed 2024-10-01].

	Available from: https://build.fhir.org/ig/HL7/fhir-gender-harmony/branches/main/index.html.

3.33.2. Concept representation

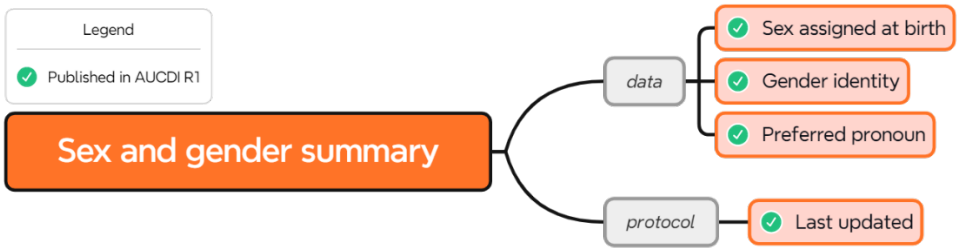

Figure 62. Sex and gender summary - Concept representation.

3.33.3. Information model

Table 69. Sex and gender summary - Information model.

Data elements		
Sex assigned at birth	Description	The sex of an individual, as determined by inspection of external genitalia or diagnostic testing at birth or early infancy.
	Use Case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	Coding
	Recommended code system/value set	The Biological Sex value set published by NCTS includes SNOMED CT-AU concepts that represent the biological sex of an individual.
	Examples	SNOMED CT-AU: • 248152002|Female| • 32570681000036106|Indeterminate| • 32570691000036108|Intersex| • 248153007|Male|
	Alias(es)	Birth sex, Natal sex
	Considerations	• The code value 'Indeterminate' will usually only be recorded at birth or in early infancy as a temporary value until further investigation, including diagnostic testing, enables one of the other three values to be assigned. • The term 'Sex assigned at birth' usually reflects the clinical observation of the infant's external

		genitalia made at birth by the clinician, as recorded in the infant's birth record. • 'Sex assigned at birth' is assumed to be reliable in the majority of births and will not change unless an error is determined by subsequent testing. Any error in 'Sex assigned at birth' should be corrected as a new version. • The 'Sex assigned at birth' in a birth record is usually the source of information for the 'Sex' or 'Birth sex' on the infant's original Birth Certificate document. However, as the 'Sex' can be legally changed on birth certificates and other official documents, birth certificates should not be considered to be an equivalent of 'Sex assigned at birth'. • Other designations related to sex, such as types of 'Legal sex', can change throughout the individual's lifetime and can differ from 'Sex assigned at birth'.
Gender identity	Description	The individual's internal perception of their gender.
	Use Case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Gender Identity Response value set published by NCTS includes SNOMED CT-AU concepts that may be used to represent a response for an individual's gender.
	Examples	SNOMED CT-AU: • 446151000124109|Identifies as male gender| • 446141000124107|Identifies as female gender| • 33791000087105|Identifies as nonbinary gender|
	Alias(es)	Gender, Gender identification
	Considerations	• It is strongly recommended that 'Gender identity' be coded, where possible. Free text entry should be permitted if no appropriate coded value is available.
Pronoun/s	Description	Pronouns specified by the individual.
	Use Case(s)	Core, Patient summary
	Occurrence	Optional, single occurrences
	Data type	CodeableConcept

	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.

	Considerations	• It is desirable that 'Pronouns' be coded with a terminology, if available. Free text entry is permitted if no appropriate coded value is available.
		• To be used when speaking directly to the individual or referring to the individual in written documentation.
		• This data element has multiple occurrences to allow the recording of more than one group of pronouns to be used.
		• For example:
		  ○ she/her/her/hers/herself;
		  ○ they/them/their/theirs/themselves; or
		  ○ xe/xem/xyr, ze/hir/hirs, and ey/em/eir

Last updated	Description	The date when this 'Sex and gender summary' data group was last updated.
	Use Case(s)	Core, Patient summary
	Occurrence	Optional, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.33.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information on the various ways aspects of an individual's sex and gender can be represented within clinical systems.

The published openEHR 'Gender' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Gender' archetype.

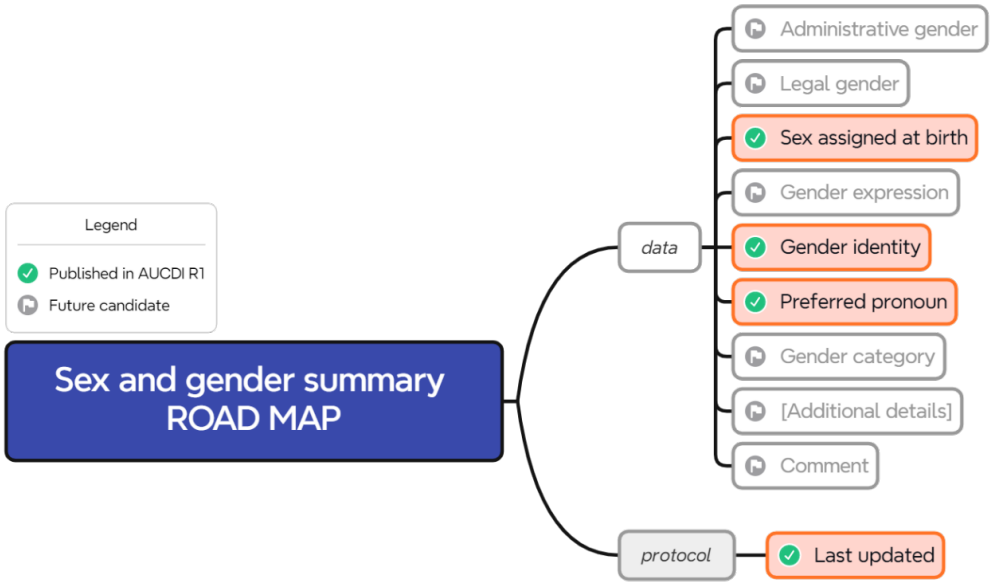

Figure 63. Sex and gender summary - Proposed roadmap.

3.34. Substance use summary

3.34.1. Data group context

Table 70. Substance use summary - Data group context

Concept description	Summary information about an individual's pattern of use of a specific substance or class of substances that may harm an individual's health or social well-being.
Purpose	To record summary information about an individual's pattern of use of a specific substance or class of substances that may harm an individual's health or social well-being.
Use Case(s)	Chronic condition management
Representation	Record only one instance of this data group per substance in the health record; any changes or updates over time are captured as revisions to the original entry rather than creating a new entry.
Considerations for use	• This data group is designed to support the recording of current and historical patterns of use for an identified substance or class of substances, across all forms and routes of administration, without any interpretation of misuse or dependency. • Substances within the scope of this data group include harmful or potentially addictive substances, as well as prescribed or over-the-counter medications used outside of recommended therapeutic purposes, at an inappropriate or unsafe dosage, or in ways that do not comply with regulatory guidelines.

	• Examples of substances that may be recorded using this data group include, but are not limited to:
	  ○ Caffeine,
	  ○ Nicotine,
	  ○ Psychostimulants,
	  ○ Barbiturates,
	  ○ Benzodiazepines
	  ○ Cannabis,
	  ○ Hallucinogens,
	  ○ Opioids,
	  ○ GHB,
	  ○ MDMA,
	  ○ Sniffing of hydrocarbons or other solvents,
	  ○ “Bath salts",
	  ○ Laxatives used to control weight,
	  ○ Beta blockers used to relieve anxiety and tremor in athletes, or
	  ○ Androgenic anabolic steroids used to enhance performance in power athletes, such as sprinters and weightlifters.
	• Use to record information about prescribed or over-the-counter medications that are supplemented with the same substance or medication obtained from alternative, informal or unregulated sources. In this situation, record the pattern of use from all sources.

Misuse	• Not to be used to record information about prescribed or over-the-counter medications that are only used for recommended therapeutic purposes, at an appropriate and safe dosage, and in accordance with regulatory guidelines - use the ‘Medication use statement’ or a similar data group for this purpose. • Not to be used to record the result of a formal assessment or validated tool related to substance use, misuse or dependence at a specific point in time. The need for a specific data group for each identified tool is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record a formal assessment of dependence to a specified substance. Use the ‘Problem/Diagnosis summary’ data group for this purpose.

	• Not to be used to record a substance use diary which tracks actual or average use over defined periods of time. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record a substance-related event such as accidental administration of a substance or medication, overdose or poisoning. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record current or historical patterns of tobacco smoking - use the 'Tobacco smoking summary' data group for this purpose. • Not to be used to record current or historical patterns of smokeless tobacco use, such as chewing tobacco. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record current or historical patterns of alcohol consumption - use the 'Alcohol consumption summary' data group for this purpose. • Not to be used to record current or historical patterns of use for a single vaping liquid, which may contain one or more substances. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record summary information or monitor the cumulative dose of a medication. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
References	• Substance use summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2025-02-05]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.354.

3.34.2. Concept representation

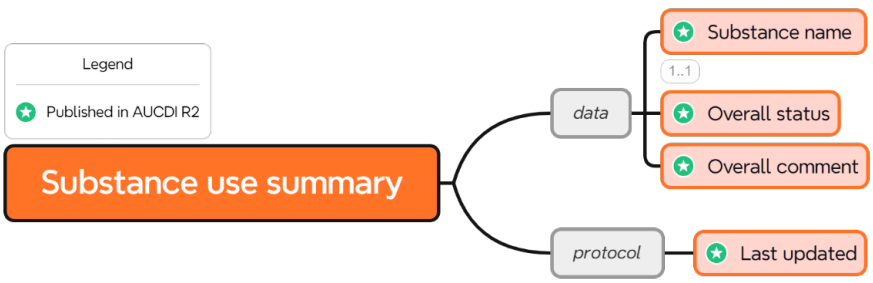

Figure 64. Substance use summary - Concept representation.

3.34.3. Information model

Table 71. Substance use summary information model.

Data elements		
Substance name	Description	The name of the substance or class of substance.
	Use case(s)	Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system / value set	The Substance value set published by the NCTS is a broad reference set that supports the representation of a broad range of substances.
	Examples	• Hairspray • Anabolic steroids • Crystal meth • "Nangs" SNOMED CT-AU: • 387085005|Cocaine| • 229006007 |Hallucinogenic mushrooms| • 398705004|Cannabis| • 387494007|Codeine| • 387264003|Diazepam| • 31086004|Petrol| • 412231002|Kava extract| • 55452001|Oxycodone| • 373492002|Fentanyl|
	Considerations	It is strongly recommended that 'Substance name' be coded with a terminology capable of triggering decision support, where possible. Free text entry should only be permitted if no appropriate coded value is available.
Overall status	Description	Statement about current use of the substance, for all forms and all routes of administration.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	CodeableConcept

	Recommended code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however, there is currently no NCTS value set recommended for this data element.
	Examples	Proposed new SNOMED CT-AU codes: • 32506021000036107 |Lifetime non-user of substance| • 90000000000020700 |Current drug-user| • 900000000000207008 |Former user of substance|
	Considerations	• Use of a clinical terminology is recommended whenever possible. Free text entry should be allowed only when an appropriate coded value is not available. • It is not expected that clinicians will need to record 'Lifetime non-user' against one or more substances as part of routine clinical documentation, as it typically provides limited clinical value. However, in certain situations, recording 'non-use' as a clinically relevant negative may be important—for instance, to confirm that a patient who uses one substance is not using a related or commonly associated one.
Overall comment	Description	Additional narrative about overall use of the substance, not previously captured in other fields.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
Last updated	Description	The date when this 'Substance use summary' was last updated.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.34.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an individual's pattern of use of a specified substance.

The draft openEHR 'Substance use summary' archetype serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Substance use summary' archetype.

The central structure of the mind map presents data elements that describe key aspects of substance use across an individual's lifetime. Nested within this, a repeatable group of data elements supports more detailed recording of defined episodes of use - for example, before and during a pregnancy.

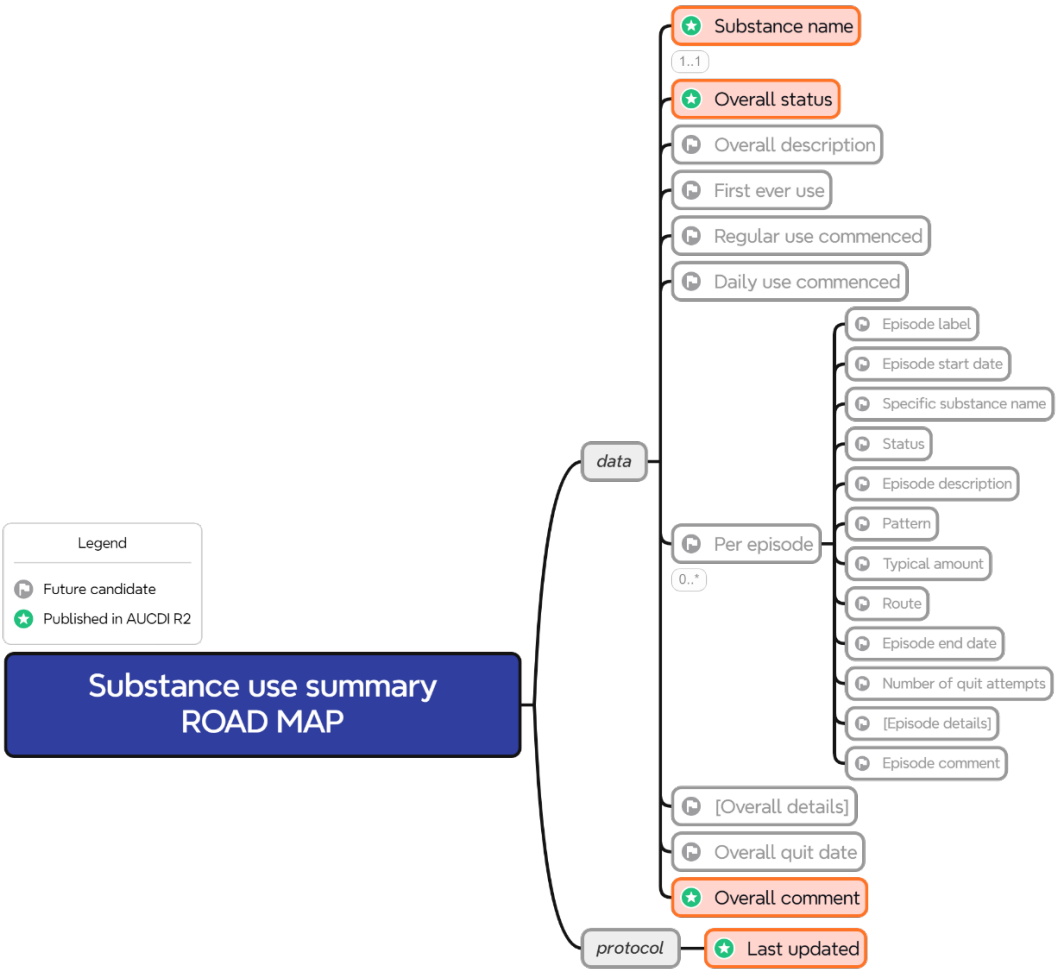

Figure 65. Substance use summary - Proposed roadmap.

3.35. Tobacco smoking summary

3.35.1. Data group context

Table 72. Tobacco smoking summary – Data group context.

Concept description	Summary information about an individual's pattern of smoking tobacco and tobacco–containing products.
Purpose	To record summary information about tobacco smoking behaviour.
Use case(s)	Core, Chronic condition management
Representation	Record one instance of this data group within a health record; any changes or updates over time are captured as a revision rather than a new entry.
Alias(es)	Smoking
Considerations for use	• This data group is designed to support the recording of current and historical patterns of tobacco smoking, without any interpretation of misuse or dependency. • A conclusion about tobacco smoking dependence can be documented in the 'Problem/Diagnosis summary' data group. • While tobacco smoking is conceptually a form of substance use, it has been deliberately modelled as a standalone data group due to its distinct clinical significance as one of the most prevalent and potentially modifiable health risk behaviours, and its unique harm profile, particularly resulting from the inhalation of by-products of tobacco combustion. This separation enables accurate representation of tobacco- and smoking-specific data elements, such as patterns of smoking across various tobacco-containing products and the calculation of pack years as an indicator of risk.
Misuse	• Not to be used to record the result of a formal assessment or validated tool related to tobacco smoking behaviour, misuse or dependence at a specific point in time. The need for a specific data group for each identified tool, such as the Severity of Dependence Scale (SDS) or the Fagerström test for nicotine dependence, is acknowledged but has not yet been developed for inclusion in AUCDI. • Not to be used to record a tobacco smoking diary which tracks actual or average use over defined periods of time. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.

	• Not to be used to record a formal assessment of dependence - use the 'Problem/Diagnosis summary' data group for this purpose.
	• Not to be used to record information about unintended exposure events related to tobacco smoke or passive smoking. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
	• Not to be used to record information about smokeless tobacco use, such as snus, snuff, chewing tobacco, dip, and gutka. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
	• Not to be used to record vaping or the use of e-cigarettes. Vaping involves the heating of a liquid that users then inhale which results in a different harm profile compared to the combustion of tobacco during smoking. The need for a specific data group for this purpose is acknowledged but has not yet been developed for inclusion in AUCDI.
	• Not to be used to record nicotine use or administration.
	  ○ Use the 'Medication use statement' or a similar data group to record prescribed or medically supervised administration of nicotine.
	  ○ Use the 'Substance use summary' data group to record an overview of nicotine use or administration from all sources, including both medically supervised and unsupervised use.

References	• Tobacco smoking summary, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2466. • US Core Smoking Status Observation Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-smokingstatus.html. • Current Smoking Status profile, International Patient Summary Implementation Guide, [Internet]. Patient Care Working Group, Health Level Seven International; [cited: 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/ValueSet-current-smoking-status-uv-ips.html. • AU Core Smoking Status profile, AU Core Implementation Guide, [Internet]. Health Level Seven Australia; [cited: 2025

	Feb 05]. Available from: https://hl7.org.au/fhir/core/0.3.0-ballot/StructureDefinition-au-core-smokingstatus.html.

3.35.2. Concept representation

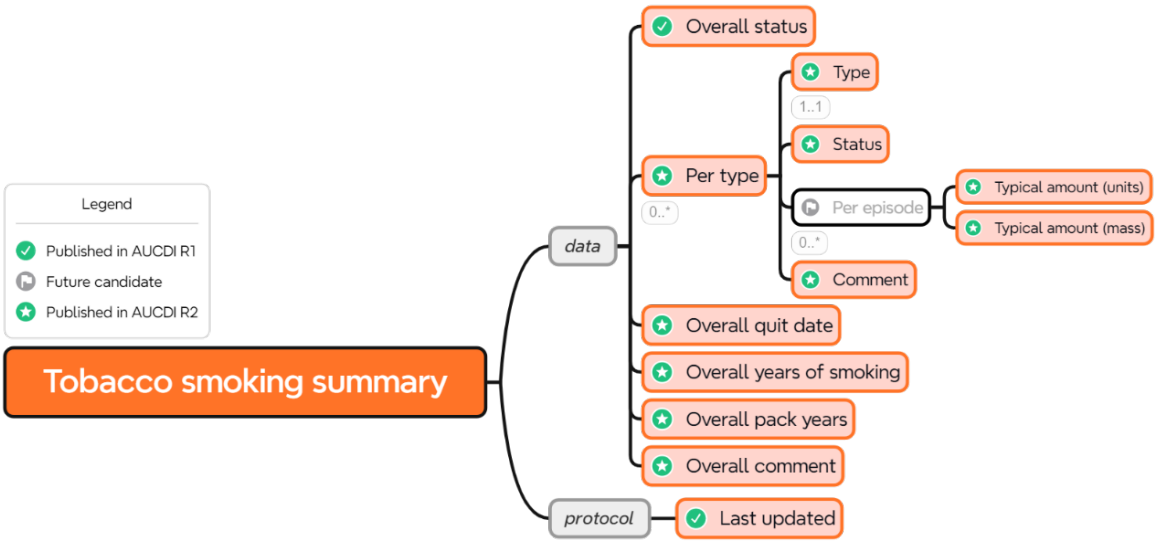

Figure 66. Tobacco smoking summary – Concept representation.

3.35.3. Information model

Table 73. Tobacco smoking summary - Information model.

Data elements		
Overall status	Description	Statement about current smoking habits for all types of tobacco.
	Use case(s)	Core, Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Coding
	Recommended Code system/value set	The Smoking Status value set published by NCTS includes concepts from SNOMED CT-AU that may be used to represent an individual's current behaviour of tobacco smoking.
	Proposed code system/value set	The Smoking Status value set published by NCTS includes concepts from SNOMED CT-AU that may be used to represent an individual's current behaviour of tobacco smoking.
	Examples	SNOMED CT-AU: • 266919005|Lifetime non-smoker| • 77176002|Current smoker| • 8517006|Former smoker|

	Alias(es)	Overall smoking status, Tobacco smoking status
	Considerations	Some proposed value sets for 'Smoking status' also include values such as 'Occasional smoker' or 'Heavy tobacco smoker'. However, these values represent complementary data elements about the frequency of smoking, or the amount smoked. In this context, these values relate to other clinical concepts which may be represented in future releases for this data group.
Per type	Description	Details about typical smoking activity for a specified type of tobacco.
	Use case(s)	Chronic condition management
	Occurrence	Optional, multiple occurrences
	Data type	Backbone (as a data element group heading)
	Considerations	This data element grouping contains: • Type • Status • Typical use in units and by mass • Comment Record one instance of this group within a health record for each type of tobacco smoked. NOTE: In AUCDI, the term 'typical' activity or use refers to a pattern of use over a lifetime. In future releases this grouping can be further detailed to describe specific episodes of use, if necessary.
Per type: Type	Description	The type of tobacco smoked by the individual.
	Use case(s)	Chronic condition management
	Element occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Proposed code system/value set	SNOMED CT-AU is the preferred clinical terminology in Australia, however there is currently no NCTS value set recommended for this data element.
	Examples	SNOMED CT-AU: • 722496004|Cigarette| • 722497008|Cigar| • 35001000087102|Smoking Pipe Other examples:

		• Roll-your-own cigarettes, • Cigarillos, • Bidis, • Kreteks, or • Waterpipe (includes hookah, shisha, bong, narguileh, hubble-bubble, etc).
	Alias	Form
Per type: Status	Description	Statement about current smoking behaviour for the specified 'Type' of tobacco.
	Use case(s)	Chronic condition management
	Element occurrence	Optional, multiple occurrences
	Data type	Coding
	Proposed code system/value set	The Smoking Status value set published by NCTS includes concepts from SNOMED CT-AU that may be used to represent an individual's current behaviour of tobacco smoking for the selected type of tobacco.
	Examples	SNOMED CT-AU: • 266919005|Lifetime non-smoker| • 77176002|Current Smoker| • 8517006|Ex Smoker|
	Considerations	Some proposed value sets for 'Smoking status' also include values such as 'Occasional smoker' or 'Heavy tobacco smoker'. However, these values are not included in this value set as they represent complementary data elements about the frequency of smoking, or the amount smoked.
Per type: Typical amount (units)	Description	Estimate of typical amount of the specified 'Type' of tobacco smoked, by 'units'.
	Use case(s)	Chronic condition management
	Element occurrence	Optional, single occurrence
	Data type	Quantity: Frequency
	Considerations	• In this context a 'tobacco unit' refers to a 'stick' such as a cigarette or cigar. • Measurement units: number of 'tobacco units' per day or per week. • For example:

		○ 20 cigarettes/day ○ 5 cigars/week • This data element is redundant if a value is recorded for 'Typical amount (mass)'.
Per type: Typical amount (mass)	Description	Estimate of the typical weight of loose-leaf tobacco smoked, by weight.
	Use case(s)	Chronic condition management
	Element occurrence	Optional, single occurrence
	Data type	Quantity: Frequency
	Considerations	• This data element will typically be used for recording the amount of tobacco smoked using pipes and hand-rolled cigarettes. • Measurement units: weight in grams per day or per week. • For example: ○ 5 grams per day ○ 10 grams per week • This data element is redundant if a value is recorded for 'Typical amount (units)'.
Per type: Comment	Description	Additional narrative about smoking of the specified 'Type' of tobacco, not captured in other fields.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	String
	Alias(es)	Clinical Note
Overall quit date	Description	The date when the individual last ceased using tobacco of any type.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	Partial dates are permitted. For example: • 2015 • February 2015 • 7 February 2015

Overall years of smoking	Description	Estimate of the total cumulative duration, in years, that an individual has smoked any form of tobacco.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Quantity: time
	Considerations	• This data element does not consider the amount of tobacco smoked, nor significant periods of cessation. It may be used to calculate the 'Smoking index' or 'Pack years'. • UCUM units: year (a).
Overall pack years	Description	Estimate of the cumulative amount of tobacco smoked for all types of tobacco smoked.
	Use case(s)	Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	Count
	Considerations	• Usually recorded as a whole number. • The 'Typical amount' and 'Overall years of smoking' data elements can support a calculation of 'Overall pack years'.
Overall comment	Description	Additional narrative about all tobacco smoking not captured in other fields.
	Use case(s)	Chronic condition management
	Occurrence	Optional
	Data type	String
	Alias(es)	Note
Last updated	Description	The date when this 'Tobacco smoking summary' data group was last updated.
	Use case(s)	Core, Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	dateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.35.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about an individual's pattern of smoking tobacco and tobacco–containing products.

The published openEHR 'Tobacco smoking summary' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Tobacco smoking summary' archetype. The central structure of the mind map presents data elements that describe key aspects of tobacco smoking across an individual's lifetime. Nested within this, a repeatable group of data elements supports more detailed recording of defined episodes of smoking—for example, before and during a pregnancy.

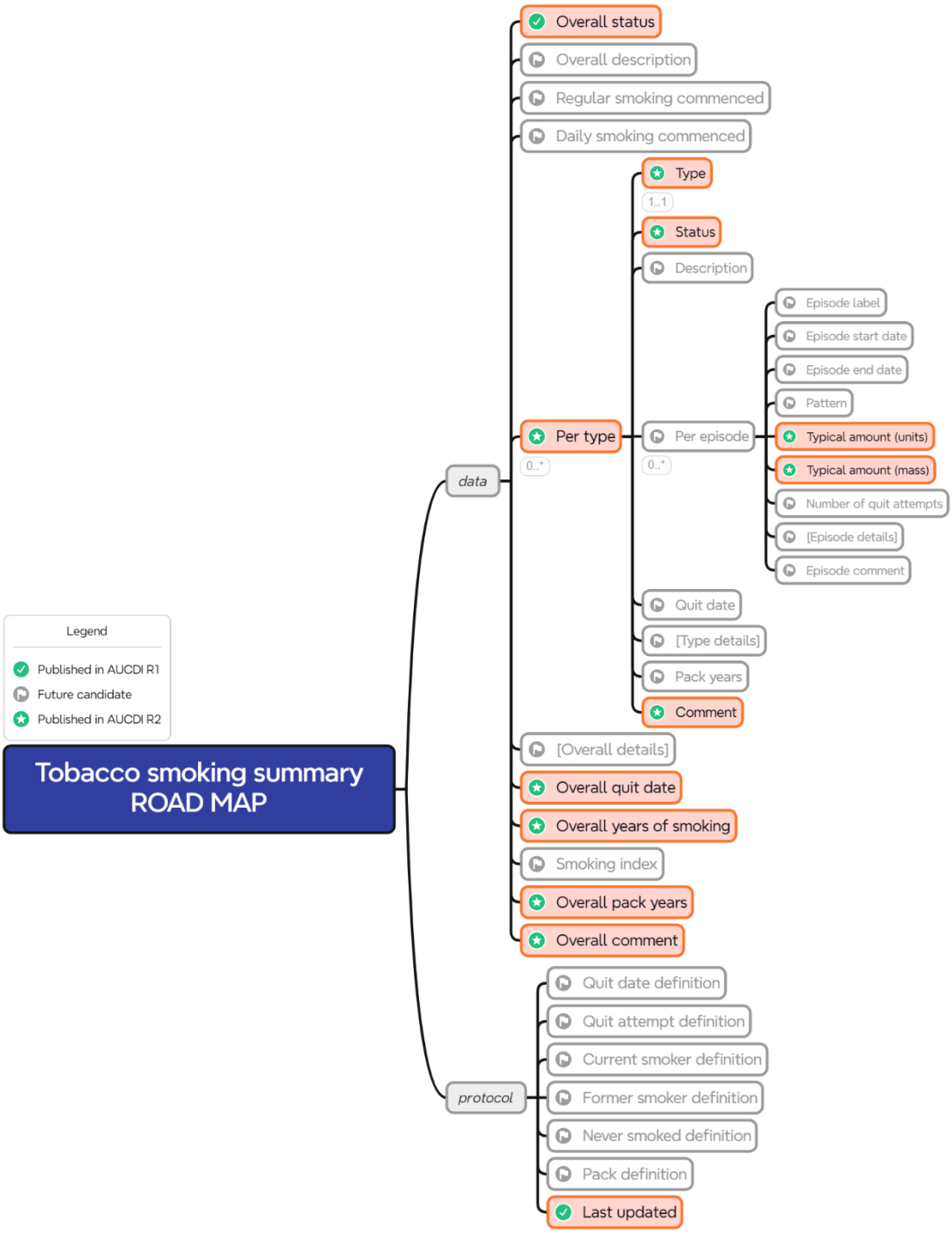

Figure 67. Tobacco Smoking summary - Proposed roadmap.

3.36. Urine albumin-creatinine ratio (uACR)

3.36.1. Data group context

Table 74. Urine albumin-creatinine ratio - Data group context.

Concept description	A calculated ratio between albumin and creatinine levels in urine, used to screen for microalbuminuria as an early indicator of kidney disease or to monitor the progress of known kidney disease.
Purpose	To record the value for a single uACR ratio, excluding details about the measurement event or recording context.
Use case(s)	Core
Collection(s)	Biomarkers
Representation	Record one instance per measurement within a health record.
Alias	uACR, Albumin creatinine ratio urine, Albumin/Creatinine [Ratio] in Urine
Considerations for use	This data group has been designed as a temporary model as part of a transitional strategy, with the intention that each biomarker will eventually be represented as a formal pathology test result.
References	• Laboratory analyte result, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2881. • US Core Laboratory Result Observation Profile, US Core Implementation Guide [Internet]. Health Level Seven International; [cited 2024 May 21]. Available from: https://build.fhir.org/ig/HL7/US-Core/StructureDefinition-us-core-observation-lab.html.

3.36.2. Concept representation

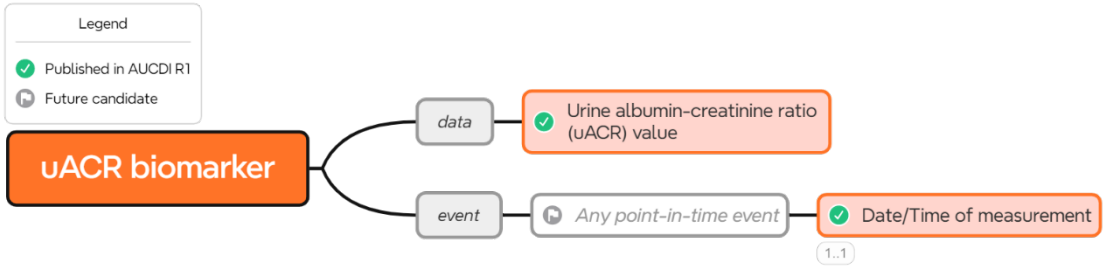

Figure 68. Urine albumin-creatinine ratio - Concept representation.

3.36.3. Information model

Table 75. Urine albumin-creatinine ratio - Information model.

Data elements		
uACR	Description	The calculated uACR ratio.
	Use case(s)	Core
	Occurrence	Optional, single occurrence
	Data type	Quantity
	Aliases	Urine albumin-creatinine ratio
	Considerations	• UCUM unit: mg/mmol • For example: ○ 25mg/mmol
Date/Time of measurement	Description	The date and time when the uACR was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.36.4. For future consideration

The FHIR ‘Diagnostic Report’ resource and the openEHR ‘Laboratory test result’ archetype are information models that have been used globally in a broad range of implementations. Despite the apparent differences in scope, they are sufficiently aligned to provide guidance for future enhancement.

3.37. Vaccination

In the published AUCDI R1 and AUeReqDI R1 specifications, this data group was previously named ‘Vaccination administered event’. It included only the data required to document a vaccine had been administered, maintaining simplicity in the model during the early stages of AUCDI development.

In this AUCDI R2 specification, the data group name has been updated to the more inclusive ‘Vaccination’, reflecting an expanded scope to support documentation of a broader range of vaccination-related events. This change responds to evolving clinical requirements to record not only the administration of a vaccine, but also key events throughout its progression - from planning through to completion. It also accommodates the need to capture deviations from the intended

pathway, such as differences between the vaccine ordered and the one administered, or interruptions to the intended pathway, including postponement, cancellation, or abandonment.

As a result, the previously published 'Date/time of administration' data element is now specifically associated with the 'Vaccination administered' careflow step. This approach enables detailed tracking of a vaccination's progress over time, beyond a simple status, and enhances traceability and accountability for clinical governance, quality assurance, and potential research purposes.

This careflow-based approach is being extended to other intervention types in the AUCDI R2 specification through the inclusion of a careflow step in the mind map for each current published intervention. Further careflow steps have been proposed in future roadmap mind maps to support evolving clinical workflows and documentation requirements.

3.37.1. Data group context

Table 76. Vaccination - Data group context.

Concept description	Intentional introduction of a substance into the body to stimulate the body's immune response against a disease.
Purpose	To record details about a vaccine administration at clinically relevant events in the intervention lifecycle, from planning to completion, and including deviations or interruptions.
Use case(s)	Core, Patient summary, Chronic condition management
Collection(s)	Interventions
Representation	Record one instance of this data group per careflow step for each vaccination recorded in a health record.
Alias(es)	Immunisation
Considerations for use	Use cases include, but are not limited to: • Recording a vaccination administered during a consultation, • A curated 'Vaccination list', 'Immunisation history' or similar document containing one or more Vaccination completed' data groups, or • To exchange a history of vaccination with other healthcare providers.
References	• AU Base Immunisation, HL7 AU Base FHIR Profile [Internet]. Health Level Seven Australia; [accessed 2024 Nov 25]. Available from: https://hl7.org.au/fhir/4.1.0/StructureDefinition-au-immunization.html. • Vaccination management, Proposed archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2023-12-10]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.7910 • Immunization, HL7 FHIR Resource [Internet]. Health Level Seven International; [cited: 2024 Nov 26]. Available from: https://hl7.org/fhir/R4/immunization.html.

	• Immunization (IPS), HL7 FHIR Profile, [Internet]. Health Level Seven International / Patient care; [accessed 2024-11-26]. Available from: https://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Immunization-uv-ips.html.

3.37.2. Concept representation

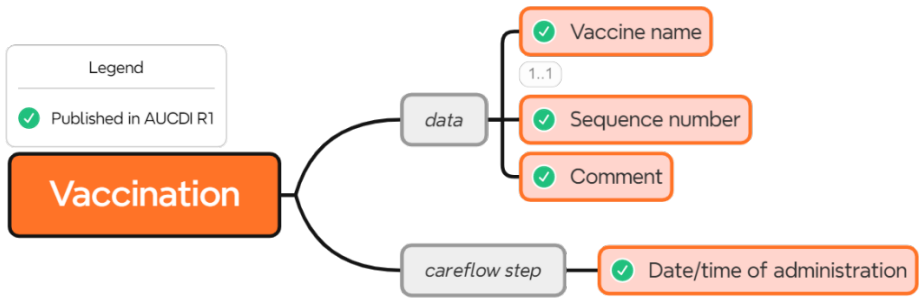

Figure 69. Vaccination - Concept representation.

3.37.3. Information model

Table 77. Vaccination - Information model.

Data elements		
Vaccine name	Description	The name of the vaccine.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Mandatory, single occurrence
	Data type	CodeableConcept
	Recommended code system/value set	The Australian Vaccine value set published by NCTS includes all Australian Medicines Terminology vaccine product concepts and Australian Immunisation Register vaccine codes available for recording a vaccine product.
	Examples	SNOMED CT-AU: • 709541000168107|Fluvax 2015| • 831021000168104|measles + mumps + rubella live vaccine|
	Alias(es)	Immunisation name
	Considerations	It is strongly recommended that the 'Vaccine name' be coded with terminology capable of triggering decision support where possible. Free text entry should only be permitted if no appropriate coded value is available.
Sequence	Description	The sequence of the vaccine administration within a series of administrations.
	Use case(s)	Core, Patient summary, Chronic condition management

	Occurrence	Optional, single occurrence
	Data type	CodeableConcept or Positive integer or String
	Recommended code system/value set	Recommendations about the code system and value set are under development.
	Alias(es)	Sequence number, Dose number
	Considerations	For example: • Second, • 2, • 2 of 3, or • Booster.
Date of administration	Description	The date, and optional time, on which the vaccine was administered.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	DateTime
	Alias(es)	Date of immunisation, Performed date, Date given, Date administered

	Considerations	• Partial dates are permitted.
		• For example:
		  ○ 2015
		  ○ February 2015
		  ○ 7 February 2015
		  ○ 7 February 2015, 1:28 pm
		  ○ 2015-02-07T13:28:17-05:00

Comment	Description	Additional narrative about the vaccination, relevant to the active careflow step and not captured in other fields.
	Use case(s)	Core, Patient summary, Chronic condition management
	Occurrence	Optional, single occurrence
	Data type	string
	Alias(es)	Note

3.37.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information related to the administration of a vaccine at clinically relevant events in the intervention lifecycle.

The FHIR 'Immunization' resource is a mature information model used globally in a broad range of implementations. The proposed openEHR 'Vaccination management' archetype is based on global patterns and specifications underpinning intervention models. They serve as the foundation for this AUCDI data group and provide guidance for future enhancement.

The mind map below proposes the future development roadmap of this data group, based on the openEHR 'Vaccination archetype. It includes a list of proposed careflow steps that identify specific events or phases in the process of the administration of a vaccination where recording significant information could be beneficial. This approach supports the documentation of both ad-hoc procedures and the systematic tracking of the progress of a procedure carried out in response to a specific order or request.

Details about the 'Requester' and 'Receiver' highlighted in the red box and with a red flag, and the grey care flow steps with the grey flags are considered out of scope of AUCDI. Instead, their technical specification defers to a standardised national approach determined by the Sparked Technical Design Group (TDG) in the appropriate FHIR Implementation Guide (IG).

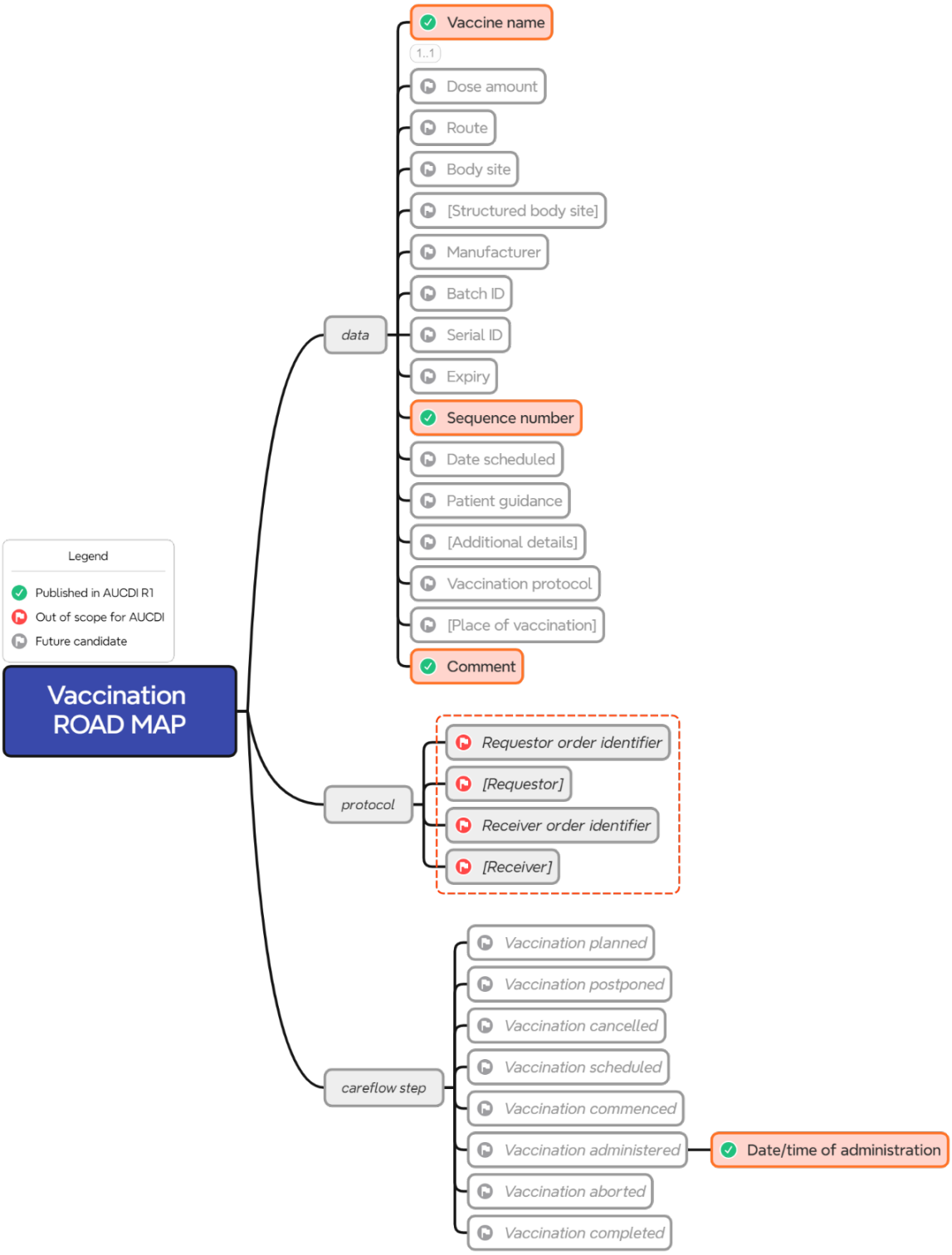

Figure 70. Vaccination-Proposed Road map.

3.38. Waist circumference

3.38.1. Data group context

Table 78. Waist circumference Data group context.

Concept description	Measurement of the distance around the waist
Purpose	To record details of a single waist circumference measurement and its associated parameters as an indicator for assessing body fat distribution and associated cardiovascular risk and mortality.
Use case(s)	Core
Collection(s)	Measurements and vital signs
Representation	Record one instance per measurement event within a health record.
Considerations for use	• This data group documents the measurement of a waist circumference. Typically, this is done by wrapping a tape measure around the waist, positioned between the lowest rib and the top of the hip bone, aligning with the umbilicus. • Use to record repeated measurements of a waist circumference. This data group can also be used to provide approximate measurements where accurate measurements are not possible – such as the unconscious person.
References	• Waist circumference recommended for collection by the Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edition, updated. East Melbourne, Vic: RACGP, 2018. • Waist circumference, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2024 May 21]. Available from: https://ckm.openehr.org/ckm/archetypes/1013.1.2814.

3.38.2. Concept representation

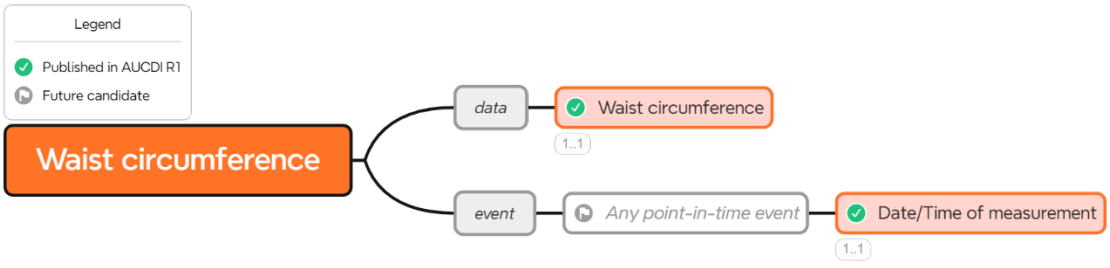

Figure 71. Waist circumference - Concept representation.

3.38.3. Information model

Table 79. Waist circumference - Information model.

Data elements		
Waist circumference	Description	The measured circumference of the waist.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	Quantity
	Aliases	Girth
	Considerations	• UCUM unit: cm • For example: ○ 108 cm
Date/Time of measurement	Description	The date when the waist circumference was measured.
	Use case(s)	Core
	Occurrence	Mandatory, single occurrence
	Data type	DateTime
	Considerations	For example: • 7 February 2015 • 7 February 2015, 1:28 pm • 2015-02-07T13:28:17-05:00

3.38.4. For future consideration

It is expected that this data group will evolve over time to include more detailed information about a single waist circumference measurement.

The published openEHR 'Waist circumference' archetype is a mature information model that has been implemented globally across a range of clinical settings. It serves as the foundation for this AUCDI data group and provides guidance for future enhancement.

The mind map below outlines a proposed roadmap for developing this data group, based on the openEHR 'Waist circumference' archetype.

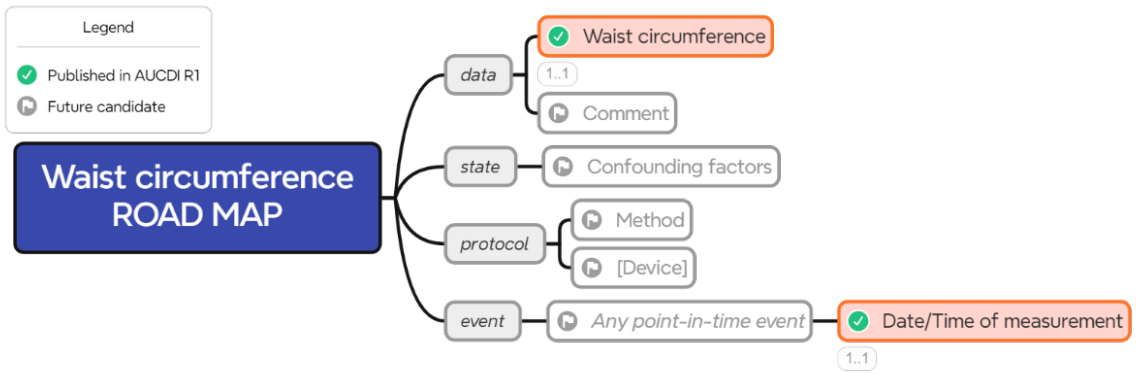

Figure 72. Waist circumference - Proposed roadmap.

Appendix 1. Index table of data groups, data elements and use cases

		Release		Use cases		
Data group	Data element	R1	R2	Core	PS	CCM
Adverse reaction risk summary		✅	✅	✅	✅	
	Substance name	✅	✅	✅	✅	
	Date/time onset of first reaction		✅		✅	
	Manifestation	✅	✅	✅	✅	
	Severity of reaction		✅		✅	
	Comment	✅	✅	✅	✅	
	Last updated	✅	✅	✅	✅	
Alcohol consumption summary			✅			✅
	Overall status		✅			✅
	Overall comment		✅			✅
	Last updated		✅			✅
Blood pressure		✅	✅	✅		
	Systolic pressure	✅	✅	✅		
	Diastolic pressure	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Body height		✅	✅	✅		
	Height/length	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Body temperature		✅	✅	✅		
	Temperature	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Body weight		✅	✅	✅		
	Weight	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Education summary			✅			
	Overview		✅			
	Highest level complete		✅			
	Last updated		✅			
Encounter		✅	✅	✅		
	Reason for encounter	✅	✅	✅		
	Modality	✅	✅	✅		
Estimated date of delivery (EDD)			✅		✅	
	EDD by menstrual cycle		✅		✅	
	Date/time of ultrasound		✅		✅	
	Gestation by ultrasound		✅		✅	

	EDD by ultrasound		✅		✅	
	Last updated		✅		✅	
estimated glomerular filtration rate		✅	✅	✅		
	eGFR	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Financial summary			✅			✅
	Overview		✅			✅
	Financial stability status		✅			✅
	Last updated		✅			✅
Food and nutrition summary			✅			✅
	Overview		✅			✅
	Food security status		✅			✅
	Last updated		✅			✅
Goal			✅			✅
	Goal name		✅			✅
	Description		✅			✅
	clinical indication		✅			✅
	Initiator role		✅			✅
	Initiator		✅			✅
	Start date		✅			✅
	Proposed end date		✅			✅
	Actual end date		✅			✅
Haemoglobin A1c (HBA1c)		✅	✅	✅		
	Haemoglobin A1c (HbA1c) value	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Health education			✅			✅
	Education topic		✅			✅
	Description		✅			✅
	Date/time provided		✅			✅
Health issue			✅			✅
	Issue name		✅			✅
	Description		✅			✅
	Date of onset		✅			✅
	Last updated		✅			✅
Housing summary			✅			✅
	Overview		✅			✅
	Housing stability status		✅			✅
	Last updated		✅			✅
Last Menstrual Period (LMP) assertion			✅		✅	
	Date of onset		✅		✅	

	Certainty		✅		✅	
	Date of assertion		✅		✅	
Lipids		✅	✅	✅		
	Total cholesterol value	✅	✅	✅		
	HDL cholesterol value	✅	✅	✅		
	LDL cholesterol value	✅	✅	✅		
	Triglycerides value	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Living arrangement summary			✅			✅
	Overview		✅			✅
	Last updated		✅			✅
Medical equipment supply			✅			✅
	Equipment type		✅			✅
	Description		✅			✅
	Date/time delivered		✅			✅
Medication use statement		✅	✅	✅	✅	
	Medication name	✅	✅	✅	✅	
	Form	✅	✅	✅	✅	
	Strength	✅	✅	✅	✅	
	clinical indication	✅	✅	✅	✅	
	Route of administration	✅	✅	✅	✅	
	Dose amount	✅	✅	✅	✅	
	Timing	✅	✅	✅	✅	
	Comment	✅	✅	✅	✅	
	Date/time of assertion	✅	✅	✅	✅	
Occupation summary			✅			✅
	Overview		✅			✅
	Last updated		✅			✅
Physical activity summary			✅			✅
	Overview		✅			✅
	Last updated		✅			✅
Physical assistance			✅			✅
	Assistance type		✅			✅
	Description		✅			✅
	Date/time provided		✅			✅
Pregnancy assertion			✅		✅	
	Pregnancy assertion		✅		✅	
	Justification		✅		✅	
	Date of assertion		✅		✅	
Problem/diagnosis summary		✅	✅		✅	
	Problem/diagnosis	✅	✅		✅	

	Body site/laterality	✅	✅		✅	
	Date/time of onset		✅		✅	
	Date/time of resolution		✅		✅	
	Status	✅	✅		✅	
	Comment	✅	✅		✅	
	Last updated	✅	✅		✅	
Procedure		✅	✅	✅		✅
	Procedure name	✅	✅	✅		
	Description		✅			✅
	Clinical indication	✅	✅	✅		
	Body site/laterality	✅	✅	✅		
	Comment	✅	✅	✅		
	Date/time performed	✅	✅	✅		
Psychosocial therapy			✅			✅
	Therapy type		✅			✅
	Description		✅			✅
	Date/time provided		✅			✅
Pulse		✅	✅	✅		
	Rate	✅	✅	✅		
	Date/time of observation	✅	✅	✅		
Respiration		✅	✅	✅		
	Rate	✅	✅	✅		
	Date/time of observation	✅	✅	✅		
Service request			✅			✅
	Service name		✅			✅
	Clinical indication		✅			✅
	Clinical context		✅			✅
	Urgency		✅			✅
	Service timing		✅			✅
	Comment		✅			✅
	[Distribution list]		✅			✅
	[Urgent contact]		✅			✅
	Billing guidance		✅			✅
Sex and gender summary		✅	✅	✅	✅	
	Sex assigned at birth	✅	✅	✅	✅	
	Gender identity	✅	✅	✅	✅	
	Preferred pronoun	✅	✅	✅	✅	
	Last updated	✅	✅	✅	✅	
Substance use summary			✅			✅
	Substance name		✅			✅
	Overall status		✅			✅
	Overall comment		✅			✅
	Last updated		✅			✅

Tobacco smoking summary		✅	✅	✅		✅
	Overall status	✅	✅	✅		
	Per type: type		✅			✅
	Per type: status		✅			✅
	Per type: typical amount (units)		✅			✅
	Per type: typical amount (mass)		✅			✅
	Comment		✅			✅
	Overall quit date		✅			✅
	Overall years of smoking		✅			✅
	Overall pack years		✅			✅
	Overall comment		✅			✅
	Last updated	✅	✅	✅		
Urine albumin-creatine ration (uACR)		✅	✅	✅		
	Urine albumin-creatinine ratio (uACR) value	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		
Vaccination		✅	✅	✅	✅	
	Vaccine name	✅	✅	✅	✅	
	Sequence number	✅	✅	✅	✅	
	Comment	✅	✅	✅	✅	
	Date/time of administration	✅	✅	✅	✅	
Waist circumference		✅	✅	✅		
	Waist circumference	✅	✅	✅		
	Date/time of measurement	✅	✅	✅		

Appendix 2. Index table data groups and collections

Data group	Biomarkers	Measurements and vital signs	Interventions	Social determinants of health (SDOH)
Adverse reaction risk summary				
Alcohol consumption summary				✅
Blood pressure		✅		
Body height		✅		
Body temperature		✅		
Body weight		✅		
Education summary				✅
Encounter				
Estimated date of delivery (EDD)				
estimated glomerular filtration rate	✅			
Financial summary				✅
Food and nutrition summary				✅
Goal				
Haemoglobin A1c (HBA1c)	✅			
Health education			✅	
Health issue				
Housing summary				✅
Last Menstrual Period (LMP) assertion				
Lipids	✅			
Living arrangement summary				✅
Medical equipment supply			✅	
Medication use statement				
Occupation summary				✅
Physical activity summary				✅
Physical assistance			✅	
Pregnancy assertion				
Problem/diagnosis summary				
Procedure			✅	
Psychosocial therapy			✅	
Pulse		✅		
Respiration		✅		
Service request				
Sex and gender summary				
Substance use summary				✅
Tobacco smoking summary				✅
Urine albumin-creatine ration (uACR)	✅			
Vaccination			✅	
Waist circumference		✅		