PRSB
PROFESSIONAL RECORD STANDARDS BODY
for health and social care

PRSB e-discharge summary phase 2 – Allergies and adverse reactions information model

Purpose

This paper provides an information model for procedures. It is based on the discharge summary heading 'Procedures' published in the Academy of Medical Royal Colleges (AoMRC) Clinical Documentation and Generic Record Standards (2013). It provides an information model which the Health and Social Care Information Centre (HSCIC) will use to develop a CDA specification for an e-discharge summary.

Glossary

Glossary of terms used in the information model

Term	Definition
Cardinality	The numerical relationship between two parts of an information model. In this document, it refers to the number of times that a sub-component occurs within a 'container' ie document, section, sub-section or record entry. Eg. The medications and medical devices section may have 0 to many medication records in it.
Section or Container	This is the equivalent of a main heading in the AoMRC headings, eg. allergies and adverse reactions, procedures, etc.
Record entry	A single record, eg. a medication item or a diagnosis, which will be made up of one or more data items, eg. name, form route, dose amount of medication.
Cluster	A group of related data items or elements which make up a record entry. They must be bound together and cannot stand alone as an entry. For example, diagnosis record entry is made up of the following data items: diagnosis/symptom, stage of disease and comment.
Iteration	A rule which applies to each repetition of a record entry, for example, only one medication item can be included in a medication record entry.

AoMRC heading

AoMRC discharge summary heading with sub headings (2013):

Causative agent
Description of the reaction

Description:
Under this heading all identified allergies and adverse reactions should be recorded. If no allergies or adverse reactions are identified then this heading should appear in the eDischarge summary with the text "**No known drug allergies or adverse reactions**". If no information is available about allergies or adverse reactions (but allergies or adverse reactions may have been identified), then this heading should appear in the eDischarge summary with the test "**Information not available**".

Rules for heading:

- Mandatory
- Cardinality 1

Information model

"Allergies and adverse reaction"
Description:
Name: **Allergies and adverse reaction**
This represents the AoMRC heading of the same name. Acts as a 'container'.
Handles all content entered under this heading relating to allergies and adverse reactions. All identified allergies or adverse reactions should be recorded. If no allergies or adverse reactions are identified then this heading should appear in the eDischarge summary with the text "**No known drug allergies or adverse reactions**". If no information is available about allergies or adverse reactions (but allergies or adverse reactions may have been identified), then this heading should appear in the eDischarge summary with the test "**Information not available**".

Rules for top 'entry' level (i.e. the container):
Mandatory
Cardinality 1

Rules for content:

- All information about allergies and adverse reactions to be entered via Allergy / adverse reaction cluster
    - Can be 1 to many instances of entries via this cluster
    - Where there are no known allergies or adverse reactions the causative agent data item must be set to "**No known drug allergies or adverse reactions**"
    - Where no information is available the causative agent data item must be set to "**Information not available**"
    - Otherwise:
        - Can be 1 to many instances of allergy / adverse reaction
        - Only one allergy / adverse reaction per iteration

Allergy / adverse reaction cluster

Description:
Name: **Allergy / adverse reaction**
Handles:
Situation where there are no known allergies or adverse reaction
Situation where no information is available.
Information entered for each individual allergy / adverse reaction.

Rules:

- **Either** offers text entry - **either** "No known drug allergies or adverse reactions" **or** "Information not available" as selected by user (see Causative agent below)
- **Or** allows one allergy / adverse reaction per iteration
- Mandatory
- Cardinality 1 to many

Data Items:

Causative agent
Choice of
- Text
- Coded text – constraint: SNOMED CT. A subset / refset containing a list of causative agents. Constraint binding: [SNOMED CT] subset=Causative agent??? Plus text options "No known drug allergies or adverse reactions" and "Information not available"

Mandatory
Cardinality 1

The agent such as food, drug or substances that has caused or may cause an allergy, intolerance or adverse reaction in this patient. Or alternatively one of the following statements:
"No known drug allergies or adverse reactions" **Or** "Information not available" (Comment coding for this should be reviewed as the GP2GP causative agent work reaches completion)

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Reaction details cluster holding 5 data items (Comment these are mainly based on Scottish / English GP2GP models)

Description of reaction
Choice of
- Text
- Coded text – constraint: SNOMED CT. Clinical finding. Any SNOMED CT term in the Clinical Finding hierarchy. Constraint binding: [SNOMED CT] subset=Clinical Finding

Optional
Cardinality 0 to 1

A description of the manifestation of the allergic or adverse reaction experienced by the patient. For example, skin rash. Comment: this is Reaction in Scottish and English GP2GP models

Date recorded
Date / time
Optional
Cardinality 0 to 1

The date that the reaction was clinically recorded/asserted. This will often equate to the date of onset of the reaction but this may not be wholly clear from source data.
Comment: From Welsh IHR / openHR model.

Severity
Coded text
- Mild [The reaction was mild.]
  [SNOMED-CT::255604002] (Mild (qualifier value))
- Moderate [The reaction was moderate.]
  [SNOMED-CT::6736007] (Moderate (severity modifier) (qualifier value))
- Severe [The reaction was severe.]
  [SNOMED-CT::24484000] (Severe (severity modifier) (qualifier value))

- Life threatening [The reaction was life-threatening.]
  [SNOMED-CT::442452003] (Life threatening severity (qualifier value))
- Fatal [The reaction was fatal.]
  [SNOMED-CT::399166001] (Fatal (qualifier value))

Optional
Cardinality 0 to 1

Certainty
Coded text

- Unlikely [The reaction is thought unlikely to have been caused by the agent.]
  [**SNOMED-CT**::1491118016]
- Likely [The reaction is thought likely to have been caused by the agent.]
  [**SNOMED-CT**::5961011]
- Certain [The agent is thought to be certain to have caused the reaction but this has not been confirmed by challenge testing.]
  [**SNOMED-CT**::255545003] (Definite (qualifier value))
- Confirmed by challenge testing [The reaction to the agent has been confirmed by challenge testing or other concrete evidence.]
  [**SNOMED-CT**::410605003] (Confirmed present (qualifier value))

Optional
Cardinality 0 to 1

Comment
Text
Optional
Cardinality 0 to 1

Any additional comment or clarification about the adverse reaction.
Comment: From Welsh IHR model
‘’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’ end of Reaction details cluster item list

Type of reaction
Coded text

- Allergy
- Intolerance
- Adverse reaction
- Not known

Optional
Cardinality 0 to 1

The type of reaction experienced by the patient (allergic, adverse, intolerance)

Evidence
Text
Optional
Cardinality 0 to 1

Results of investigations that confirmed the certainty of the diagnosis. Examples might include results of skin prick allergy tests

Probability of recurrence
Text
Optional
Cardinality 0 to 1

Probability of the reaction (allergic, adverse, intolerant) occurring.

Date first experienced
Date / time
Optional
Cardinality 0 to 1

When the reaction was first experienced. May be a date or partial date (e.g. year) or text (e.g. during childhood)

Notes:

- While meeting requirements of AoMRC Record standard (2012) it will be helpful to harmonise this information model as far as possible with the modelling done by SCIMP NHS Scotland which in turn is closely aligned with English GP2GP drug allergy archetype model which has been adopted by GPSoC
- The cluster "Reaction details" rather confusingly has same name in both Scottish CKM model and English HSCIC CKM PRSB model but not all of the data items are in common and nor are the suggested bindings
- In an attempt to maintain integrity of existing models the above information model adopts the data items in the Scottish CKM model and thus places 'Evidence' and 'Type of reaction' outside this cluster
- For clarity the data item 'Reaction' in the cluster 'Reaction details' which also equates with GP2GP 'Condition code' has been renamed 'Description of Reaction' which seems to be PRSB equivalent
- The coding for causative agent may need to be split into drug and non-drug particularly in light of ongoing GP2GP related work on developing a common (GP system) representation of drug allergy causative agent