Australian Government
Australian Digital Health Agency

Implementation Guidance
Supplementary Notes for Implementers Relating to Clinical Document Presentation

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Document information

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Product or document version	Date	Release comments
1.0	10 May 2013	Initial release
1.0	13 May 2025	The document presentation has been enhanced to align with current branding guidelines, however the content has not been changed.

Transition of terms

Certain terms used within the context of this document have changed. The table provides a clear comparison of the historical terms used in text and their current equivalents for your reference.

Historical term	Current term
National eHealth Transition Authority (NEHTA)	The Australian Digital Health Agency (ADHA)
Personally controlled electronic health record (PCEHR)	My Health Record (MHR)

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1 Introduction

1.1 Purpose

This document recommends a set of presentation guidelines for CDA document authors. It complements the CDA Rendering Specification and the CDA implementation guides by describing:

- how to ensure that the data is properly, consistently and safely represented in the presentation
- the recommended order of the sections in a document.

The guidelines documented here are recommendations that have arisen out of implementation experience. NEHTA recommends these practices to implementers, but implementers are not required to follow them, at this time, in order to send documents to the PCEHR. Sections 2 and beyond include both normative and informative language, but the entire document is informative (see Section 1.5 for discussion).

Once these practices have been tested, debated and accepted by the community, they may become requirements for future releases of the PCEHR and connecting systems may be tested for their conformance to them. In the future, these guidelines may be published as part of the CDA implementation guides themselves. For now, they are published to stimulate discussion and encourage consistency in adoption.

The guidelines were prepared by the Clinical Safety Working Group within NEHTA, in association with other internal and external stakeholders.

This document provides presentation guidelines for the following CDA document types:

- Shared Health Summary
- Event Summary
- eReferral
- Specialist Letter
- Discharge Summary

At present, there is no guidance provided for other document types, including the PCEHR Prescription Record and PCEHR Dispense Record. A future revision of this document is anticipated to cover additional document types.

1.2 Intended Audience

This document is prepared for the use of the following participants in the PCEHR clinical documents eco-system:

- business analysts
- programmers/developers
- clinical reviewers
- standards process participants.

1.3 Background

1.3.1 Parts in a CDA document

CDA documents are divided into three parts:

- "Header" – a set of data elements that provide the context for the document.
- "Presentation" – a tree of sections, each with a formatted text "narrative" that the user sees.
- "Data" – each section includes a set of data that provides a computer processible representation of the content

Note that the CDA name for presentation is "narrative", but this document uses "presentation", since the term "narrative" has multiple different meanings in clinical and information technology perspectives. The CDA body is the presentation and the data.

When a document is "rendered" (i.e. shown to the user on the screen):

- The header is formatted and laid out, and then converted to some working representation on the screen.
- The presentation is converted into the same working representation.
- The data is ignored.

1.3.2 CDA Rendering Specification

The working representation may involve some kind of intermediate form such as HTML by a stylesheet, but this is not required. The rendering process – which is usually a stylesheet – therefore has two responsibilities:

- to lay out, format and display the header, and
- to display the body.

The CDA Rendering Specification describes what parts of the header must be shown to the user, and provides requirements for the layout, in particular defining a banner that contains the most critical details and must always be visible.

In addition, the CDA Rendering Specification provides rules for the kind of formatting capabilities that may be used in the presentation in the body, in other words, what the author can expect the presentation system to be able to do (for example, support for tables, lists, particular font format capabilities, etc.).

Other than the banner, the CDA Rendering Specification does not mandate any particular presentation of the document, except that the document body must be faithfully shown to the user, and the basic expectations around the header are met.

1.3.3 CDA Implementation Guides

The CDA implementation guides (IGs) specify the content of the header and the data at considerable length, but have little to say about the presentation. All the IGs contain an Appendix A, which describes the presentation, but fundamentally the presentation of the document is currently left to the discretion of the user ("There is no canonical markup for specific CDA components", where canonical means, 'the correct way to do things'). Two basic rules are given in the IGs:

- The presentation "**SHALL** completely and accurately represent the information encoded in the Section" – but complete and accurate in what sense? How is this defined and/or tested?
- "The narrative contents **SHALL** conform to the requirements specified in the CDA Rendering Specification" – which means that the presentation can only use the features (capabilities) described in the rendering specification, but the specification makes no rules concerning what the presentation must be (note the use of the word "narrative" in the IG, which equates to the term "presentation" used throughout this document)

So the presentation is currently left to the discretion of the implementer within the bounds established by these general rules.

Additionally, while the CDA IGs describe the sections of the document in a particular order, the IGs don't specify any order of sections; IG conformant authors are free to order the sections in any way they see fit, as long as the section logical structures are maintained (i.e. Section B must be a child of Section A). Note that renderers are obliged to follow the order of the sections as provided by the author; they are not permitted to re-order the sections.

1.4 Note about Additional Data

The recommendations in this document are written on the assumption that the data contents are fully conformant to the rules concerning the data described in the relevant CDA implementation guide (i.e. contains the specified data and no additional data).

If this assumption is not true (e.g. the section does contain additional data) then it would usually be appropriate for the presentation to contain additional text for that data as well. Systems may also choose to add additional presentation to the sections without adding additional data. Note that the inclusion of any additional information – whether in the presentation, the data, or both – is always subject to the rules concerning extensions that are described in the CDA implementation guides and their related conformance specifications.

1.5 Conformance

Implementers may voluntarily declare conformance to these supplementary notes. In such cases, the words "**SHALL**" and "**SHOULD**" have their usual meanings.

Note that this document is not a specification that implementers will ever be required to conform to. If other NEHTA specifications wish to make conformance to the approaches described herein necessary, the rules will be made in those other documents.

2 All Documents

This section provides guidance on sections that are the same across all documents. Sections 3 to 7 contain guidance specific to each CDA document type.

2.1 Administrative Observations

The section title and the section text **SHOULD** both be omitted from the document. If the section title and/or text is not omitted, it **SHOULD** be placed last (at the bottom of the document).

2.2 Exclusion Statements

If the section data contains only an exclusion statement, the section text **SHALL** have wording that includes the exclusion code originalText, or if there is no original text in the exclusion statement, then the displayName ("nil known", "not asked", "none supplied"). An originalText **SHOULD** only be used where some alternate text is displayed to users in the source system.

Example for Adverse Reactions[1]:

2.3 Adverse Reactions

If the data has an exclusion statement, see section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL** not include any rows for which there is no data.
- The table **SHALL** have columns for the following fields defined in the Structured Content Specifications (SCS): Substance/Agent, and Manifestations.
- The Substance/Agent cell **SHALL** include the either the originalText or the displayName for the code in the corresponding data.
- The manifestation cell **SHALL** make the separation between manifestations obvious in the layout (a list with bullets is preferred).

[1] The images included as examples were rendered with one of the standard NEHTA example stylesheets. Since different stylesheets may render the content differently within the bounds described by the Rendering Specification, the focus of these examples is not the rendering, but the content and layout of the presentation.

- Each manifestation item **SHALL** include the either the originalText or the displayName for the code in the corresponding data.

2.4 Medical History

The Usual Medical History Section is complicated in that the data is divided into three separate lists:

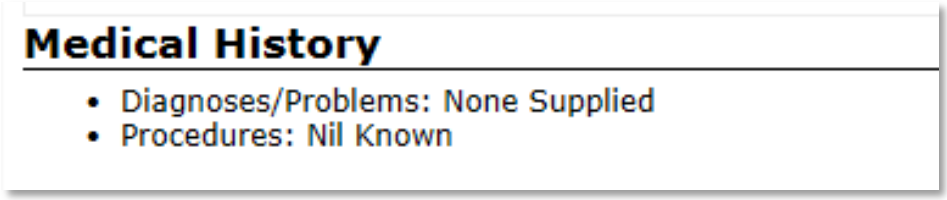
- Problems/Diagnoses
- Procedures
- Other Medical History

The other medical history items are provided for the existing clinical systems that are not able to differentiate between Procedures and Problems/Diagnoses.

Although the items are divided into three categories in the data for structural reasons, from a presentation perspective, there is only one list, presented in chronological order.

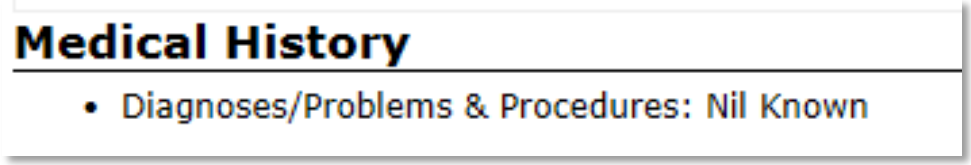
The contents of the section text vary, as follows:

- If both Procedures and Problems/Diagnoses have exclusion statements, the section **SHOULD** contain a bulleted list with either:
  - two exclusion statements, one for each of Problems/Diagnoses and Procedures



or

  - one exclusion statement, clearly labelled that it applies to both Problems/Diagnoses and Procedures (See Section 2.2).



Note that it is only possible to have one combined exclusion statement in the presentation if both exclusion statements have the same value.

- If neither Procedures nor Problems/Diagnoses have an exclusion statement, the section **SHOULD** contain a single table (see following for example).
- If only one of Procedures or Problems/Diagnoses has an exclusion statement, the section **SHOULD** contain a table (see below), followed by a bulleted list with one exclusion statement, clearly labelled to indicate whether it applies to Procedures or Problems/Diagnoses.

Medical History

Item	Date
Mild Asthma	
Chest Pain	Nov 2011 ->

- Procedures: Nil Known

Note the use of an incomplete date in this sample. Incomplete dates like this **SHOULD** only be used when the clinical user records an incomplete date in the source record.

- If any of Procedures, Problems/Diagnoses, or other medical history have entries, the section text **SHALL** contain a table constructed according to the following rules:
  - There **SHALL** be an entry in the table for every item in the three lists.
  - There **SHALL** be no rows in the table that don't have a matching entry in the three lists.
  - The table **SHALL** have the following columns: Item, Date, Comment.
  - The Item cell **SHALL** include the text from the display name or original text of the procedure or problem/diagnosis, or the text of the other medical history.
  - The Comment cell **SHALL** contain the same text as the content of the data item, or be empty if there is no text.
  - The Date **SHOULD** either be a period represented as described in Section 2.8 or be a single date presented according to the Rendering Specification.
  - The items **SHALL** be in chronological order with undated items at the top, as shown in the following example.

Medical History

Item	*Date*	*Comment*
Mild Asthma	(ongoing)	
Cholecystectomy	29 Nov 2005	
Inguinal Hernia Repair	7 Aug 2006	
Chest Pain	Nov 2011	Calcification in spine

2.5 Diagnostic Investigations

When Diagnostic Investigations are included in a clinical document, they are actually being copied from the diagnostic report, whether that report is in CDA format or something else. Currently, the most common source is some form of HL7 v2 message based on the AS 4700.2 format.

The clinical document therefore represents a secondary use of the clinical content. Rather than defining the representation of the diagnostic report in this document, the current recommendation is to reproduce the representation of the diagnostic investigation as provided by the diagnostic service. This guideline holds irrespective of how much atomic/structured data the diagnostic service has provided along with the report – the correct presentation is the one that the diagnostic service made.

NEHTA is continuing to work with the diagnostic services industry regarding presentation guidelines for presenting diagnostic investigations. Note that the technical issues associated with reproducing the correct representation from AS 4700.2 messages are explored elsewhere.

A table of contents **MAY** be included as the section text for the diagnostic investigations section itself, with links that point to the sections, as shown in the following example.

Diagnostic Investigations

Test Name	*Date*
Electrolytes/Liver Function	26-Nov-2012

Electrolytes/Liver Function 26-Nov-2012 (Diagnostic Investigations > **Electrolytes/Liver Function 26-Nov-2012**)

Sodium	137	mmol/L	(135-145)
Potassium	3.2	mmol/L	(3.2-4.5)
Chloride	100	mmol/L	(100-110)
Bicarbonate	20 L	mmol/L	(22-33)
Anion Gap	15	mmol/L	(5-15)
Creatinine	70	umol/L	(70-120)
eGFR	>60	mL/min/1.73m^2	
Urea	3.0	mmol/L	(3.0-8.0)
Albumin	33	g/L	(33-47)
Calcium	2.15	mmol/L	(2.15-2.60)
Ca Alb Corr	2.40	mmol/L	(2.15-2.60)
AST	10	U/L	(10-45)
ALT	5	U/L	(5-45)
ALP	40	U/L	(40-110)
Bilirubin Total	15	umol/L	(<20)

eGFR >= 60 ml/min/1.73m2 does not exclude kidney disease.
Corrected calcium calculation inaccurate when albumin level <20 g/L.

Note that in practice, most diagnostic reports will include patient demographics, as there will be no easy way to remove them from the representation, and systems **SHOULD NOT** try.

2.6 Immunisations

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Therapeutic Good Identification (called "vaccine"), Sequence Number, and Date.
- The vaccine cell **SHALL** include the originalText or the displayName for the Therapeutic Good Identification code in the data.

- The cells for sequence number and date and (if present) comments **SHALL** contain the same text as the matching structured data for directions (or blank if there is no data).
- If there is a date, it **SHALL** be presented in accordance with the rendering specification.

Immunisations

Immunisations - Administered Immunisations

Vaccine	Sequence Number	Date
Fluvax	1	23 Jan 2006
Chicken Pox	1	10 Feb 2006
Diptheria and Tetanus combined		2 Jun 2006

2.7 Standard Name Representation

Human names can be represented in the structured data as a single text name (unstructured) or as a structured name (with family name, given name, and prefixes and suffixes). The relevant conformance statements and other applicable documents determine whether the unstructured form is allowed for any particular data element. Note that if the source system is able to populate a structured name, it **SHOULD** always do so, even if it is not required.

Where the data contains an unstructured name, the name **SHOULD** be presented as text.

Where the data contains a structured name, the name **SHOULD** be presented as described in the CDA Rendering Specification (see Section 2.2.3).

This example shows two names. The first is formatted as described in the CDA Rendering Specification. The second is a typical presentation for an unstructured name – whatever the user entered.

Record of Recommendations and Informatio

Description	Name	Deta
Please arrange a follow up appointment with a community physiotherapist in one week to ensure that post-surgical mobility outcomes are being met.	Mr Physical THERAPIST	Phys
Please get your home nurse to change your dressings daily at first, and then as required.	Penny Martin	

2.8 Standard Period Representation

Several items in the documents have a period of time associated with them. In some cases, this is represented as a single interval of time in the CDA documents, and in other cases, as two different fields. That variation depends on the semantics of the CDA content, and is not pertinent to a human reader of the document.

The recommended representation of this pattern is:

- a single date (note that all dates **SHOULD** be presented consistently as defined in the Rendering Specification Section 2.2.2, which, for full dates, is either “10 Jul 2010” or “1-Jan-2011”)
- a time period from one date to another: [date]“ -> ”[date]
- [date]“ ->” if there is no date of resolution/end
- blank if there are no dates
- “(ongoing)” can be used if it is known that the instruction/condition is ongoing (note that the data structures in the CDA document do not contain the information required to determine whether “ongoing” is appropriate – this could only be decided on the basis of other information in the source system).

3 Shared Health Summary

Generally, the Shared Health Summary **SHOULD** be highly data driven. The presentation is expected to be entirely generated from the data. There **SHOULD** be no need for the authoring system to change the font or style the content anywhere through the presentation. The names of the sections, and their data contents, are fixed by the SHS SCS and CDA IG.

3.1 Section Order

The section order **SHOULD** be:

- Adverse Reactions
- Medications
- Medical History
- Immunisations

3.2 Adverse Reactions

See Section 2.3.

3.3 Medications

Note: There is currently no shared common medications section – each document has a different content model.

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Medicine, Directions, and Clinical Indication.
- If the underlying system is capable of tracking medication comments, then the table **SHALL** also have a column for comment (even if all comment cells are blank), else it **SHALL NOT**.
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The cells for direction and indication and (if present) comments **SHALL** contain the same text as the matching structured data (or be blank if there is no data).

Medications

Medications

Medicine	Directions	Clinical Indication	Comment
Tritace 10 mg capsule: hard, 30 capsules	1 tablet once daily oral	Hypertension	Adherence to regular dosing to be reinforced
Salbutamol inhaler	2 puffs 4 hourly prn	Asthma	

3.4 Medical History

See Section 2.4.

3.5 Immunisations

See Section 2.6.

3.6 Administrative Observations

See Section 2.1.

4 eReferral

The eReferral document includes:

- the Referral detail (which is a free text description of whatever the clinician deems appropriate for the referral)
- a set of other more structured sections of which the intention is that the presentation is generated from structured data already held in the source system. In these sections, the presentation **SHOULD** be entirely generated from the data.

There **SHOULD** be no need for the authoring system to change the font or style the content anywhere through the presentation except in the referral detail. The names of the sections, and their contents, are fixed by the eReferral SCS and CDA IG

Note that it is not required that the narrative is entirely generated; systems **MAY** allow clinical users to alter or add to the section text, but in this case the end users **SHALL** accept responsibility for ensuring that the presentation is a reasonable match for the data.

4.1 Section Order

The section order **SHOULD** be:

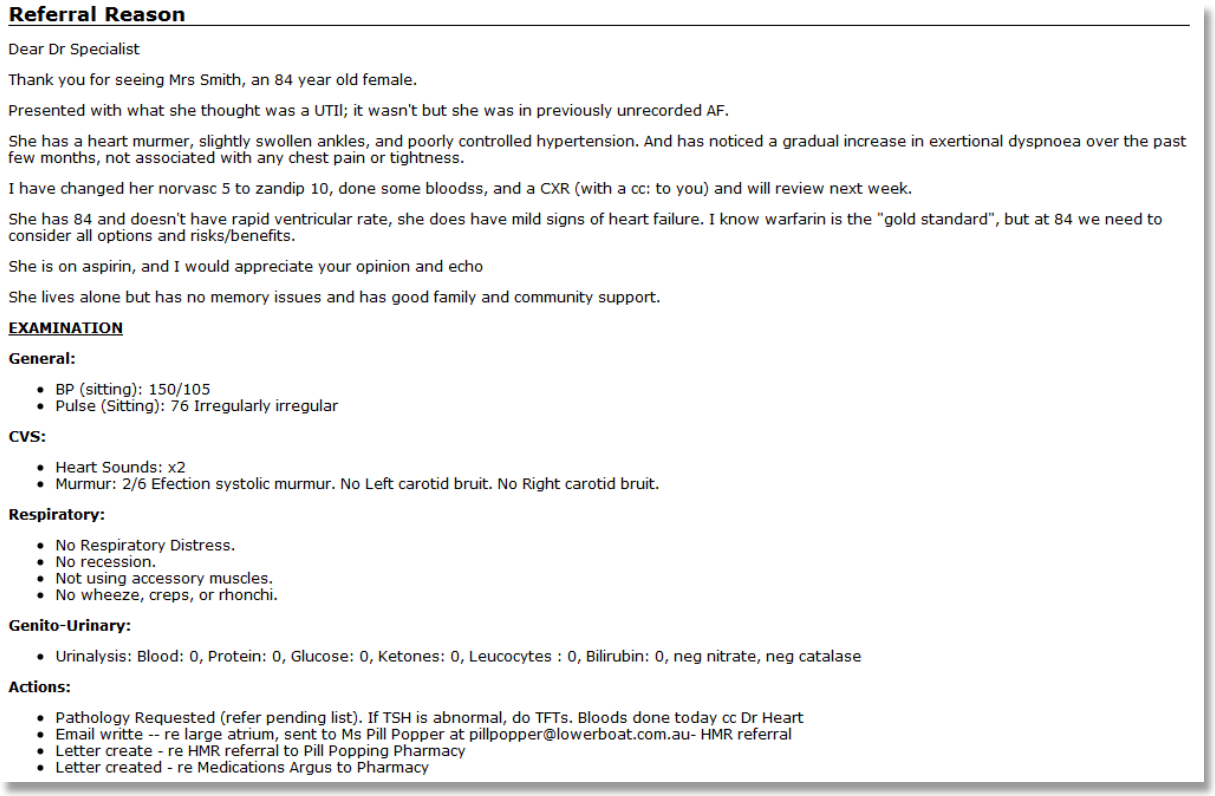
- Referral Details
- Adverse Reactions
- Medications
- Medical History
- Diagnostic Investigations

4.2 Referral Details

This section contains a formatted representation of the “Referral Reason” found in the structured data. Note that systems are not required to allow users to build a formatted representation, but are encouraged to do so.

Typically, users **SHOULD** be able to enter multiple paragraphs of text, add images, lists and tables, and add bold and italics to the font.

Systems **SHOULD NOT** allow users to change the font size or the font colour. Technical note: the Rendering Specification allows both, but using these creates consistency challenges for processing eReferrals and media transfers such as printing/faxing (which do still occur in some circumstances) and building the content into clinical workflows, and so they **SHOULD NOT** be used for the referral detail.



Referral Reason

Dear Dr Specialist

Thank you for seeing Mrs Smith, an 84 year old female.

Presented with what she thought was a UTI!; it wasn't but she was in previously unrecorded AF.

She has a heart murmer, slightly swollen ankles, and poorly controlled hypertension. And has noticed a gradual increase in exertional dyspnoea over the past few months, not associated with any chest pain or tightness.

I have changed her norvasc 5 to zandip 10, done some bloodss, and a CXR (with a cc: to you) and will review next week.

She has 84 and doesn't have rapid ventricular rate, she does have mild signs of heart failure. I know warfarin is the "gold standard", but at 84 we need to consider all options and risks/benefits.

She is on aspirin, and I would appreciate your opinion and echo

She lives alone but has no memory issues and has good family and community support.

EXAMINATION

General:

- BP (sitting): 150/105
- Pulse (Sitting): 76 Irregularly irregular

CVS:

- Heart Sounds: x2
- Murmur: 2/6 Efection systolic murmur. No Left carotid bruit. No Right carotid bruit.

Respiratory:

- No Respiratory Distress.
- No recession.
- Not using accessory muscles.
- No wheeze, creps, or rhonchi.

Genito-Urinary:

- Urinalysis: Blood: 0, Protein: 0, Glucose: 0, Ketones: 0, Leucocytes : 0, Bilirubin: 0, neg nitrate, neg catalase

Actions:

- Pathology Requested (refer pending list). If TSH is abnormal, do TFTs. Bloods done today cc Dr Heart
- Email writte -- re large atrium, sent to Ms Pill Popper at pillpopper@lowerboat.com.au- HMR referral
- Letter create - re HMR referral to Pill Popping Pharmacy
- Letter created - re Medications Argus to Pharmacy

The text content of the referral reason often includes some basic demographic details. Because of the CDA banner, these are not required, but they are not prohibited either.

4.3 Adverse Reactions

See Section 2.3

4.4 Medications

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Medicine, and Directions.
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The cell for direction **SHALL** contain the same text as the matching structured data (or blank if there is no directions)

Medications

Medications

Medicine	Directions
Tritace 10 mg capsule: hard, 30 capsules	1 tablet once daily oral
Salbutamol inhaler	2 puffs 4 hourly prn

4.5 Medical History

See Section 2.4.

4.6 Diagnostic Investigations

See Section 2.5.

4.7 Administrative Observations

See Section 2.1.

5 Specialist Letter

The Specialist Letter document includes:

- the Response details, which includes a free text description of whatever the clinician deems appropriate for the response
- some terminological codes
- a set of other more structured sections of which the intention is that the presentation is generated from structured data already held in the source system. In these sections, the presentation is expected to be entirely generated from the data.

There **SHOULD** be no need for the authoring system to change the font or style the content anywhere through the presentation except in the response details. The names of the sections, and their contents, are fixed by the Specialist Letter SCS and CDA IG.

Note that it is not required that the narrative is entirely generated; systems **MAY** allow clinical users to alter or add to the section text, but in this case the users accept responsibility for ensuring that the presentation is a reasonable match for the data.

5.1 Section Order

The section order **SHOULD** be the following:

- Response Details
- Recommendations
- Newly Identified Adverse Reactions
- Medications
- Diagnostic Investigations

5.2 Response Details

This section contains a formatted representation of the “Response Narrative” found in the structured data. Note that systems are not required to allow users to build a formatted representation, but are encouraged to do so.

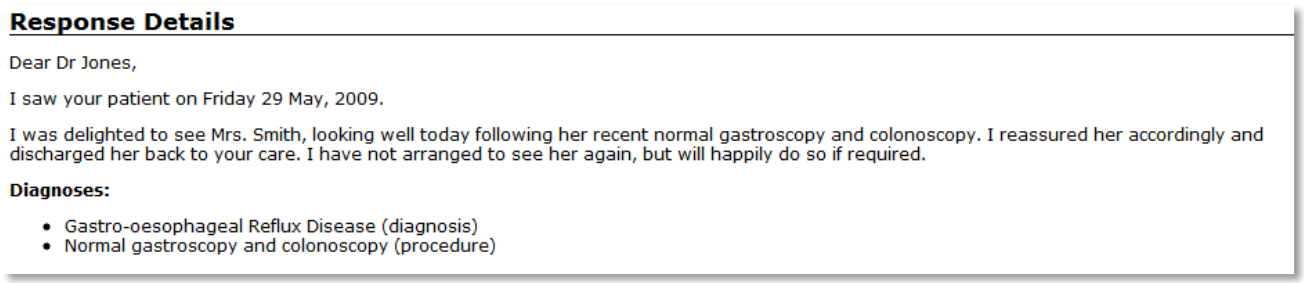
Typically, users **SHOULD** be able to enter multiple paragraphs of text, add images, lists and tables, and add bold and italics to the font.

Systems **SHOULD NOT** allow users to change the font size or the font colour. Technical note: the Rendering Specification allows both, but using these creates consistency challenges for processing eReferrals and media transfers such as printing/faxing and building the content into clinical workflows, and so they **SHOULD NOT** be used for the referral detail.

The response details section also includes a series of coded items – procedures, diagnoses, and other entry. If any entries exist, then they **SHOULD** be appended to the narrative in a bulleted list, with a caption of “Codes:” with the following rules:

- There **SHOULD** be an item in the list for each procedure, diagnosis or other item.
- There **SHOULD** be no items in the codes list that do not have a matching entry.
- The text of each item **SHOULD** be the same as the originalText or displayName of the code, or, for Other Entry, the value of the time.

- If the entry is categorised as a procedure or a diagnoses, it **SHOULD** have "(procedure)" or "(diagnosis)" appended to the text of the list item.



Response Details

Dear Dr Jones,

I saw your patient on Friday 29 May, 2009.

I was delighted to see Mrs. Smith, looking well today following her recent normal gastroscopy and colonoscopy. I reassured her accordingly and discharged her back to your care. I have not arranged to see her again, but will happily do so if required.

Diagnoses:

- Gastro-oesophageal Reflux Disease (diagnosis)
- Normal gastroscopy and colonoscopy (procedure)

5.3 Recommendations

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: "Recommendation" Narrative, Recommendation "Time Frame", and "Addressee".
- The Recommendation cell **SHALL** include the text for the recommendation narrative in the data (formatting **SHOULD NOT** be allowed).
- The Time Frame **SHOULD** be a Standard Period Representation, as described in Section 2.8.
- The cell for Addressee **SHOULD** contain the addressee's name (as a Standard Name Representation as described in Section 2.7), telephone number, and an email hyperlink if an email is known.

Recommendations

Recommendation	*Time Frame*	*Addressee*
Monitor diabetic status, renal function and digoxin levels	As you see fit	Dr Anna SMITH (usual GP) (0422222222, annasmith@internetprovider.com.au)
Test pacemaker battery	Feb 2010	Dr Anna SMITH (0422222222, annasmith@internetprovider.com.au)
Review cardiac status	July 2010	Dr Anna SMITH (0422222222, annasmith@internetprovider.com.au)
review	six months	Dr Ethan JONES (Cardiologist)(0239989995, admin@ccg.com.au)

5.4 Newly Identified Adverse Reactions

If this section is present, there **SHALL** be at least one entry, for which the presentation is the same as that described in Section 2.3. Note that there can be no exclusion statement (and note that the title is different).

5.5 Medications

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.

- The table **SHALL** have columns for the following SCS fields: Medicine, Directions and Clinical Indication.
- If the system is capable of tracking comments against the medications, then the table **SHALL** have a Comments column, else it **SHALL NOT**.
- If the system is capable of tracking changes made to the medications, then the table **SHALL** have columns for “Change Status”, “Change Description”, and “Change Reason”, else they **SHOULD NOT** be present.
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The cells for direction and indication and (if present) comments **SHALL** contain the same text as the matching structured data (or blank if there is no data).
- If present, the “Change Status” cell **SHOULD** contain the display name of the change type code, or “No Change” if that has a nullFlavor. If the change is only a recommendation, the text **SHOULD** be prefixed with “Recommendation: ”
- If present, the “Change Description” and “Change Reason” cell **SHOULD** contain the same text as the matching structured data (or be blank if there is no data).

Medications

Medication	Directions	Clinical Indication	Change Status	Change Description	Change Reason
Spiriva (tiotropium bromide 18mg per inhalation) inhalant	1 inhalation per day	COPD	Existing - unchanged		
Bicor (bisoprolol 10mg) tablet	Mane oral		Existing - changed	Dose increased from 5mg	Diastolic dysfunction
Lasix (frusemide 40 mg) tablet	1 tablet twice daily oral	Fluid retention	Existing - change recommended	Recommendation: Decrease dose to 1 tablet once a day	Due to hypotension

5.6 Diagnostic Investigations

See Section 2.5.

5.7 Administrative Observations

See Section 2.1.

6 Discharge Summary

The Discharge Summary document includes:

- the Discharge Summary Clinical Synopsis, which is a free text description of whatever the clinician deems appropriate for the Discharge Summary
- a set of other more structured sections of which the intention is that the presentation is generated from structured data already held in the source system. In these sections, the presentation is expected to be entirely generated from the data.

There **SHOULD** be no need for the authoring system to change the font or style the content anywhere through the presentation except in the clinical synopsis. The names of the sections, and their contents, are fixed by the Discharge Summary SCS and CDA implementation guide.

Note that it is not required that the narrative is entirely generated; systems may allow clinical users to alter or add to the section text, but in this case the users accept responsibility for ensuring that the presentation is a reasonable match for the data.

Many of the discharge summary generating systems have their own clinical review and governance processes, and these each have their own perspective on how discharge summaries are presented. There will be ongoing engagement with these groups to move towards consensus in this matter, and changes to this section – particularly the order part – are more likely than the other sections.

6.1 Section Order

The section order **SHOULD** be the following:

- (Group: Health Profile)
  - Adverse Reactions
  - Alerts
  - Healthcare Providers
- (Group: Encounter)
  - Clinical Synopsis
  - Problems/Diagnoses this visit
  - Clinical Interventions Performed
  - Diagnostic Investigations
- (Group: Medications)
  - Admitted Medications (not part of the SCS, but commonly encountered in discharge summaries)
  - Current Medications
  - Ceased Medications
- (Group: Plan)
  - Arranged Services
  - Record of Recommendations and Information Provided

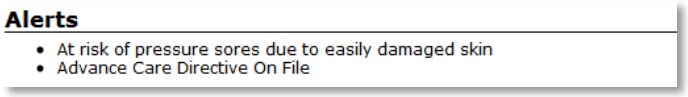
6.2 Adverse Reactions

See Section 2.3. Note that the eDS data structure has an additional element (Adverse Reaction Type), which is not in the other documents. If this value is populated, then an additional column **SHOULD** be added to the table to represent this value. Note, however, that most systems do not populate this field and it is likely to be removed in future to align with the other document types.

6.3 Alerts

If this section is present:

- The section text **SHALL** include an unordered bulleted list.
- The list **SHALL** have a row for each entry in the data.
- The list **SHALL NOT** include any rows for which there is no data.
- Each list item content **SHALL** include either the originalText or the displayName for the code in the corresponding data.



Note that this presentation does not include the Alert Type. Most systems do not populate this field, and it is likely to be removed in future to align with the other document types. However if systems do populate this field, then the originalText or displayName **SHOULD** be included, either in parentheses or using a table layout.

6.4 Healthcare Providers

This is not a section, but a pattern used in sections 6.11 and 6.12:

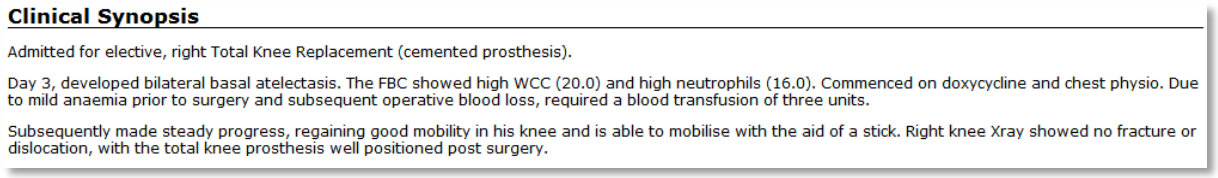
- The table **SHALL** have columns for Name, Details, Phone, and Email.
- If the entry is a person:
  - The Name **SHALL** be a Standard Name Representation for the person name, as described in Section 2.7 and 2.8.
  - The Detail cell **SHOULD** be the name of the employer if known.
  - The Phone and Email cell **SHOULD** contain the preferred Phone and Email for the person, if known.
- If the entry is an organisation:
  - The Name **SHALL** be the organisation name.
  - The Detail cell **SHOULD** be the displayName of the Role.
  - The Phone and Email cell **SHOULD** contain the preferred Phone and Email for the organisation, if known.

6.5 Clinical Synopsis

This section contains a formatted representation of the “Clinical Synopsis” found in the structured data. Note that systems are not required to allow users to build a formatted representation, but are encouraged to do so.

Typically, users **SHOULD** be able to enter multiple paragraphs of text, add images, lists and tables, and add bold and italics to the font.

Systems **SHOULD NOT** allow users to change the font size or the font colour. Technical note: the Rendering Specification allows both, but using these creates consistency challenges for processing eReferrals and media transfers such as printing/faxing and building the content into clinical workflows, and so they **SHOULD NOT** be used for the referral detail.



Clinical Synopsis

Admitted for elective, right Total Knee Replacement (cemented prosthesis).

Day 3, developed bilateral basal atelectasis. The FBC showed high WCC (20.0) and high neutrophils (16.0). Commenced on doxycycline and chest physio. Due to mild anaemia prior to surgery and subsequent operative blood loss, required a blood transfusion of three units.

Subsequently made steady progress, regaining good mobility in his knee and is able to mobilise with the aid of a stick. Right knee Xray showed no fracture or dislocation, with the total knee prosthesis well positioned post surgery.

6.6 Problems / Diagnoses this visit

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Type and Description.
- The Type cell **SHALL** include the originalText or the displayName for the Problem/Diagnosis Type.
- The Description cell **SHALL** include the originalText or the displayName for the Problem/Diagnosis Description.

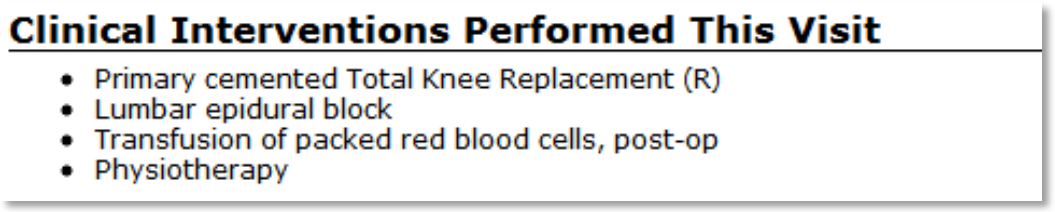
Problems/Diagnoses This Visit

Type	Description
Primary	Leg Ulcers
Secondary	Diabetes

6.7 Clinical Interventions Performed

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a list (unordered, bulleted).
- The list **SHALL** have an item for each entry in the data.
- The list **SHALL NOT** include any items for which there is no data.
- Each list item **SHALL** include the originalText or the displayName for Clinical Intervention Description.



6.8 Diagnostic Investigations

See Section 2.5.

6.9 Current Medications

If the data has an exclusion statement, see Section 2.2, otherwise:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Medicine (Therapeutic Good Identification in the SCS), Directions (Dosage), Dispensed, Clinical Indication (Reason for Therapeutic Good in the SCS) and Duration.
- If the system is capable of tracking comments against the medications, then the table **SHALL** have a Comments column, else it **SHALL NOT**.
- If the system is capable of tracking changes made to the medications, then the table **SHALL** have columns for “Change Status”, “Change Description” (Changes Made in the SCS), and “Change Reason” (Reason for Change in the SCS), else they **SHOULD NOT** be present.
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The cells for Dose Instruction, Dispensed, Clinical Indication and (if present) Comments **SHALL** contain the same text as the matching structured data (or blank if there is no data).
- The Duration cell **SHOULD** contain a Standard Period Representation of the Medication Duration, as explained in Section 2.8.
- If present, the “Change Status” cell **SHOULD** contain the display name of the change type code, or “No Change” if that has a nullFlavor. If the change is only a recommendation, the text **SHOULD** be prefixed with “Recommendation: ”

- If present, the “Change Description” and “Change Reason” cell **SHOULD** contain the same text as the matching structured data (or be blank if there is no data).

Current Medications

Medication	Directions	Dispensed	Clinical Indication	Duration	Change Status	Change Description	Change Reason
Doxycycline (100mg) tablet	1 tablet once daily oral	2 tablets	Pneumonia	9 Feb 2011 ->	Changed	Dose decreased from 1 tablet Twice a day	Due to hypotension
Codalgin Forte (paracetamol 500mg + codeine phosphate 30mg) tablet	1-2 tablets as required oral. Max 8 per day	20 tablets	Pain management	9 Feb 2011 -> 12 Feb 2011	New		

6.10 Ceased Medications

If the data has an exclusion statement, see Section 2.2, otherwise: If the data has ceased medications:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Medicine and “Change Reason” (Reason for Change in the SCS).
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The “Change Reason” cell **SHOULD** contain the same text as the matching structured data (or blank if there is no reason).

Ceased Medications

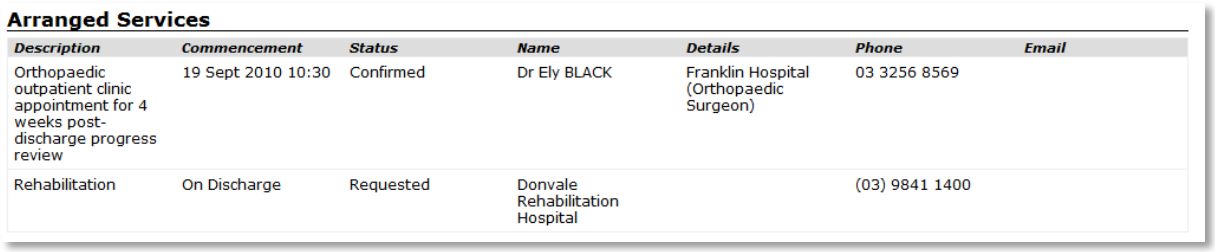
Medication	*Change Reason*
Oxycodone hydrochloride (5mg) capsule	No longer required
Celebrex (celecoxib 200mg) capsule	Ceased due to scheduled surgery

6.11 Arranged Services

If this section is present:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns “Description”, “Commencement”, “Status” and, for the provider, the columns described in Section 6.4 Healthcare Providers.
- The Description cell **SHALL** include the originalText or the displayName for the Arranged Service Description.
- The Commencement cell **SHALL** include a Standard Period Representation of the Service Commencement Window, as described in Section 2.8.
- The status cell **SHALL** include the displayName of the status code.

- The provider cells **SHALL** be populated as described in Section 6.4 Healthcare Providers.



Arranged Services

Description	Commencement	Status	Name	Details	Phone	Email
Orthopaedic outpatient clinic appointment for 4 weeks post-discharge progress review	19 Sept 2010 10:30	Confirmed	Dr Ely BLACK	Franklin Hospital (Orthopaedic Surgeon)	03 3256 8569	
Rehabilitation	On Discharge	Requested	Donvale Rehabilitation Hospital		(03) 9841 1400	

6.12 Record of Recommendations and Information Provided

This section text contains two parts: Record of Recommendations and Information Provided.

Record of Recommendations

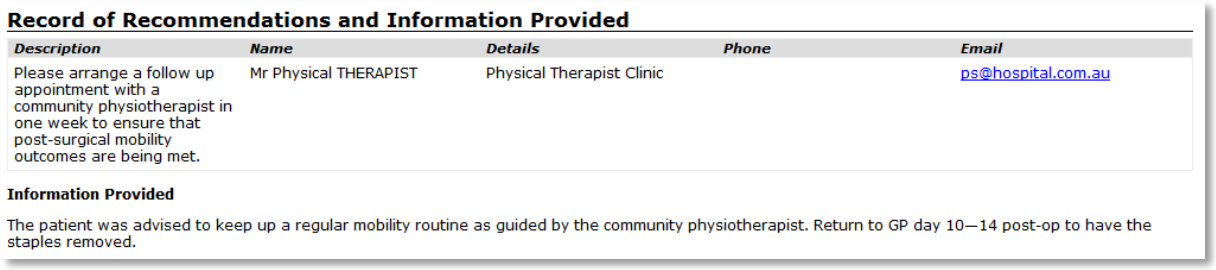
There **SHALL** be at least one recommendation, as follows:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns “Description” for the recipient, and the columns described in Section 6.4 Healthcare Providers.
- The Description cell the text of the recommendation note.
- The provider cells **SHALL** be populated as described in Section 6.4 Healthcare Providers.

Information Provided

- If there is Information Provided, the section text **SHALL** also contain a caption (bold text) “Information Provided”, along with a formatted representation of the “Information Provided” found in the structured data. Note that systems are not required to allow users to build a formatted representation, but are encouraged to do so.
- Typically, users **SHOULD** be able to enter multiple paragraphs of text, add images, lists and tables, and add bold and italics to the font.
- Systems **SHOULD NOT** allow users to change the font size or the font colour. Technical note: the Rendering Specification allows both, but using these creates consistency challenges for processing eReferrals and media transfers such as

printing/faxing and building the content into clinical workflows, and so they **SHOULD NOT** be used for the referral detail.



Record of Recommendations and Information Provided

Description	*Name*	*Details*	*Phone*	*Email*
Please arrange a follow up appointment with a community physiotherapist in one week to ensure that post-surgical mobility outcomes are being met.	Mr Physical THERAPIST	Physical Therapist Clinic		ps@hospital.com.au

Information Provided

The patient was advised to keep up a regular mobility routine as guided by the community physiotherapist. Return to GP day 10—14 post-op to have the staples removed.

6.13 Administrative Observations

See Section 2.1.

7 Event Summary

The Event Summary document includes:

- Clinical Synopsis, which is a free text description of whatever the clinician deems appropriate for the summary
- a set of other more structured sections of which the intention is that the presentation is generated from structured data already held in the source system. In these sections, the presentation is expected to be entirely generated from the data.

There **SHOULD** be no need for the authoring system to change the font or style the content anywhere through the presentation except in the referral detail. The names of the sections, and their contents, are fixed by the Event Summary SCS and CDA IG.

Note that it is not required that the narrative is entirely generated; systems may allow clinical users to alter or add to the section text, but in this case the users accept responsibility for ensuring that the presentation is a reasonable match for the data.

7.1 Section Order

The section order **SHOULD** be:

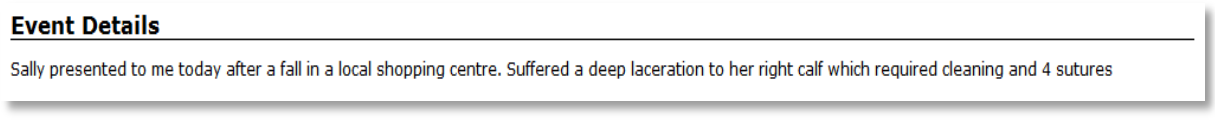
- Event Details (= Clinical Synopsis)
- Newly Identified Adverse Reactions
- Medications
- Diagnoses/Interventions
- Immunisations
- Diagnostic Investigations

7.2 Event Details

This section contains a formatted representation of the “Clinical Synopsis” found in the structured data. Note that systems are not required to allow users to build a formatted representation, but are encouraged to do so.

Typically, users **SHOULD** be able to enter multiple paragraphs of text, add images, lists, and tables, and fix font details such as bold and italics.

Systems **SHOULD NOT** allow users to change the font size, or the font colour. (Technical note: the Rendering Specification allows both these, but using these creates consistency challenges for processing event summaries, media transfers such as printing/faxing and building the content into clinical workflows, and so they **SHOULD NOT** be used for the clinical synopsis).



7.3 Newly Identified Adverse Reactions

See Section 2.3. Note that there is no exclusion statement concerning newly identified allergies in the event summary.

7.4 Medications

If this section is present:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Medicine, Directions and Clinical Indication.
- If the system is capable of tracking comments against the medications, then the table **SHALL** have a Comments column, else it **SHALL NOT**.
- If the system is capable of tracking changes made to the medications, then the table **SHALL** have columns for “Change Status”, “Change Description”, and “Change Reason”, else they **SHOULD NOT** be present.
- The Medicine cell **SHALL** include the originalText or the displayName for the medicine code in the data.
- The cells for direction and indication and (if present) comments **SHALL** contain the same text as the matching structured data (or blank if there is no data).
- If present, the “Change Status” cell **SHOULD** contain the display name of the change type code, or “No Change” if that has a nullFlavor. If the change is only a recommendation, the text **SHOULD** be prefixed with “Recommendation: ”
- If present, the “Change Description” and “Change Reason” cell **SHOULD** contain the same text as the matching structured data (or blank if there is no data).

Medications

Medication	Directions	Clinical Indication	Change Status	Change Description	Change Reason
Spiriva (tiotropium bromide 18mg per inhalation) inhalant	1 inhalation per day	COPD	Existing - unchanged		
Bicor (bisoprolol 10mg) tablet	Mane oral		Existing - changed	Dose increased from 5mg	Diastolic dysfunction
Lasix (frusemide 40 mg) tablet	1 tablet twice daily oral	Fluid retention	Existing - change recommended	Recommendation: Decrease dose to 1 tablet once a day	Due to hypotension

7.5 Diagnoses/Interventions

Similar to Section 2.4 All Documents, Medical History, this is complicated in that the data is divided into three separate lists:

- Problems/Diagnoses
- Procedures
- Medical History Item

The other medical history items are provided for the existing clinical systems that are not able to differentiate between Procedures and Diagnoses/Problems.

Although the items are divided into three categories for structural reasons, there is only one list, presented in chronological order.

This section differs from the standard All Documents Medical History in that there are no exclusion statements.

The section text **SHALL** contain a table constructed according to the following rules:

- There **SHALL** be an entry in the table for every item in the three lists.
- There **SHALL** be no rows in the table that don't have a matching entry in the three lists.
- The table **SHALL** have the following columns: Item, Date, Comment.
- The Item cell **SHALL** include the text from the display name or original text of the procedure or problem/diagnosis, or the text of the other medical history.
- The Comment cell **SHALL** be the same as the content of the data item, or empty if there is none.
- The Date **SHOULD** either be a period represented as described in Section 2.8 Standard Period Representation. Note that there is no date of resolution.
- The items **SHALL** be in chronological order with undated items at the top.

Diagnoses/Interventions

Item	*Date*	*Comment*
Mild Asthma		
Cholecystectomy	(ongoing)	
Inguinal Hernia Repair	4 June 2006 -> 7 Aug 2006	
Inguinal Hernia Repair	7 Aug 2006	
Chest Pain	Nov 2011 ->	Calcification in spine

7.6 Immunisations

If the section is present:

- The section text **SHALL** include a table.
- The table **SHALL** have a row for each entry in the data.
- The table **SHALL NOT** include any rows for which there is no data.
- The table **SHALL** have columns for the following SCS fields: Therapeutic Good Identification (called "vaccine") and Date.
- The vaccine cell **SHALL** include the originalText or the displayName for the Therapeutic Good Identification code in the data.
- The cell for date **SHALL** contain the same date as the matching structured data for directions (or be blank if there is no data).
- If there is a date, it **SHALL** be presented in accordance with the rendering specification.

Immunisations

Vaccine	*Date*
Fluvax	15 Sep 2002
Chicken Pox	15 Sep 2002
Diptheria and Tetanus combined	15 Sep 2002

7.7 Diagnostic Investigations

See Section 2.5.

7.8 Administrative Observations

See Section 2.1.