nehta

Clinical Documents

PCEHR Usability Recommendations v1.1

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1.0	24 Oct 2013	Extracted from Clinical Usability Program (CUP) R1 PCEHR Clinical Usability Software Requirements v1.0
1.1	5 May 2014	Revised version, incorporating usability recommendations from both CUP R1 and CUP R2

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1 Introduction

1.1 Purpose

It has been recognised that developers of software systems that access the personally controlled electronic health record (PCEHR) system need usability recommendations to complement the software requirements provided by other eHealth specifications. These usability recommendations are designed to achieve greater consistency between software that accesses the PCEHR system, thereby improving clinical usability.

The usability recommendations are provided to all software developers interested in improving the usability of their software systems. They are *not* part of the set of software conformance requirements for clinical information systems accessing the PCEHR system; however, conformance to these usability recommendations is strongly encouraged by clinical system users. More information about conformance to the usability recommendations is provided in section 1.4.

These recommendations were prepared as part of NEHTA's Clinical Usability Program (CUP) in consultation with clinicians.

1.2 Intended audience

This document is intended for:

- healthcare providers;
- vendors and developers of eHealth systems; and
- software test laboratories.

1.3 Scope

This document provides usability recommendations for clinical information systems and contracted service provider systems authoring or rendering information contained in clinical documents and views exchanged with the PCEHR system.

It is focused on recommendations applicable to *all* types of clinical documents. Additional usability recommendations for specific types of clinical documents are published as separate documents within their respective end products.

The usability recommendations in this document are chiefly intended for adoption by clinical software used by medical general practitioners. However, developers of software for other types of healthcare providers are also encouraged to adopt the usability recommendations.

This document does *not* provide usability recommendations for:

- specific types of clinical documents;
- PCEHR functions not related to the authoring and rendering of clinical documents and views exchanged with the PCEHR system; or
- display and management of clinical terminology.

1.4 Conformance

Software developers may want to claim that their software implements these usability recommendations. For such claims to be meaningful and for the healthcare community to have a shared understanding of these claims, the usability recommendations have been documented in the form of software conformance requirements using the standard conformance verbs **SHALL**, **SHALL NOT**, **SHOULD**, **SHOULD NOT** and **MAY**.

Conformance to the recommendations in this document is not a prerequisite for software to be granted access to the PCEHR system. However, conformance to these usability recommendations is strongly encouraged by clinical software users. A software developer wanting to claim conformance to the clinical usability recommendations must have software that conforms to all mandatory and applicable conditional recommendations in this document. These are the recommendations using the verbs **SHALL** and **SHALL NOT**. Achievement of conformance to the mandatory and applicable conditional recommendations may be recognised by inclusion in the eHealth Register of Conformity operated by the National E-Health Transition Authority (NEHTA) on behalf of the Commonwealth Department of Health.

Software that implements the usability recommendations also needs to conform to the requirements listed in the *Common Conformance Profile for Clinical Documents v1.4* [NEHTA-1446:2013].

2 Authoring clinical documents

The following usability recommendations have been defined, in consultation with healthcare providers, to promote greater consistency between clinical documents and improve their usability.

2.1 Proper use of exclusion statement values

Applies to: Document authoring systems (any type of clinical document).

This section provides recommendations for the proper clinical use of the three exclusion statement values "none known", "not asked" and "none supplied". It is consistent with Clinical Document Architecture (CDA) implementation guides and clarifies expected use. The use of an exclusion statement may be restricted for some clinical documents and vendors should refer to the appropriate individual specification and conformance requirements.

There has been inconsistency in the use of exclusion statements across software implementations, affecting clinician understanding and use of submitted PCEHR CDA documents.

The exclusion statements are explained below, followed by specific usability recommendations.

None known

"None known" is only to be used when the user has made a positive statement that there are no known items. This is equivalent to the "no clinically significant items known" flag that appears in some applications. The mere absence of items in the list in the information system is not evidence that there are "none known", even if the expectation is that the user will record any existing items in the system. It is inappropriate for the software application to set this exclusion statement on the basis that there are no list items. It must be a positive statement based on an entry from a healthcare provider made before or during the document authoring process.

Not asked

"Not asked" is reserved as a positive statement from the user that they did not enquire concerning this aspect of the patient's health. Note that "not asked" shall not be used in the context of a shared health summary, as the author of the shared health summary is required to ask about each of the sections as part of the process of authoring the summary. It is inappropriate for the software application to set this exclusion statement on the basis that there are not any list items. It must be a positive statement based on an entry from a healthcare provider made before or during the document authoring process.

None supplied

"None supplied" is a value that is to be used when there are no items to list, and the user has not made one of the two above explicit statements. Users should not be led to understand that "none supplied" implies anything at all about whether there are items, or whether they are known, or why there are no items supplied. Except for shared health summaries, it is appropriate for the software application to set this exclusion statement automatically, in the absence of any list items, and

where the user has had the opportunity to specify a different exclusion statement but has not done so.

ID	Recommendation	Status
CLD.01	The software **SHALL NOT** record a "none known" exclusion statement unless a healthcare provider has explicitly indicated so by making an entry either before or during the clinical document authoring process.	*Mandatory*
CLD.02	The software **SHALL NOT** record a "not asked" exclusion statement unless there has been an explicit entry made indicating that there has been no enquiry concerning this aspect of the healthcare consumer's health before or during the clinical document authoring process. *Note: The exclusion statement "not asked" is not for use in shared health summaries as defined in the* Shared Health Summary PCEHR Usability Recommendations v1.1 *[NEHTA-1563:2014].*	*Mandatory*

CLD.03	The software **SHALL** use the "none supplied" exclusion statement by default if:
	• the type of the clinical document is NOT a Shared Health Summary and
	• there is no explicit exclusion statement of
	  ○ "none known"; or
	  ○ "not asked"
	• and either
	  ○ no items are available for selection; or
	  ○ no items are selected for inclusion.
		Mandatory

CLD.04	If the document is a Shared Health Summary the software **SHALL** use "none supplied" only if the user has explicitly selected the "none supplied" exclusion statement value.	*Mandatory*
CLD.05	If a "none supplied" exclusion statement is present, the software **SHALL** include a narrative statement with appropriate wording, depending on the entry type, in the form: "No [type] are supplied" Entry [type] includes: • procedures • problems/diagnoses • adverse reactions • medications • immunisations • recommendations	*Conditional*

2.2 Setting the document title and type

Applies to: Document authoring systems (any type of clinical document).

The following usability recommendations are defined to assist consistency and usability when setting the "title" for CDA documents and XDS.b metadata. The recommendations also address the setting of appropriate values for the document type display text "typeCodeDisplayName" for XDS.b metadata.

Note that the *PCEHR Document Exchange Service Using the IHE XDS.b Platform: Technical Service Specification v1.4* [NEHTA-1264:2013] is referred to as the *PCEHR Document Exchange Technical Service Specification*.

ID	Recommendation	Status
CLD.06	The software **SHALL NOT** populate the "title" attribute in the document metadata (XDSDocumentEntry.title) when uploading a document. *Note: In the CDA document itself, the ClinicalDocument/title element may be set to any value, as appropriate, or be omitted. However, the "title" attribute in the PCEHR XDS.b metadata shall not be populated.*	*Mandatory*
CLD.07	The XDSDocumentEntry.typeCodeDisplayName in the XDS.b metadata of the CDA document **SHALL** be set to the document type name. The document type name **SHALL** be derived from the document type code (XDSDocumentEntry.typeCode) as per Table 3 of the *PCEHR Document Exchange Technical Service Specification*.	*Mandatory*

2.3 Managing date-times

Applies to: Document authoring systems (any type of clinical document).

While the CDA implementation guides fix the values of the various date-times within clinical documents, the service start time and service stop time in the PCEHR document metadata for the particular document types is not specified by *PCEHR Document Exchange Technical Service Specification*. The following recommendations define appropriate values. Note that date/time values in the PCEHR document metadata are in UTC (Universal Time Coordinated) timezone. Software systems should convert local date/time values to UTC when populating document metadata and convert date/time values to local time when displaying them.

ID	Recommendation	Status
CLD.08	For Shared Health Summary, eReferral and Specialist Letter document types, the software **SHALL** set the metadata Service Start Time (XDSDocumentEntry.serviceStartTime) to be the Document Creation Time (XDSDocumentEntry.creationTime).	*Mandatory*

ID	Recommendation	Status
CLD.09	For Shared Health Summary, eReferral and Specialist Letter document types, the software **SHALL** set the metadata Service Stop Time (XDSDocumentEntry.serviceStopTime) to be the Document Creation Time (XDSDocumentEntry.creationTime).	*Mandatory*
CLD.10	For the Discharge Summary document type, the software **SHALL** set the metadata Service Start Time (XDSDocumentEntry.serviceStartTime) to be the admission date-time.	*Mandatory*
CLD.11	For the Discharge Summary document type, the software **SHALL** set the metadata Service Stop Time (XDSDocumentEntry.serviceStopTime) to be the discharge date-time.	*Mandatory*
CLD.12	For the Event Summary document type, the software **SHALL** set the metadata Service Start Time (XDSDocumentEntry.serviceStartTime) to be the encounter start date-time.	*Mandatory*
CLD.13	For the Event Summary document type, the software **SHALL** set the metadata Service Stop Time (XDSDocumentEntry.serviceStopTime) to be the encounter end date-time.	*Mandatory*
CLD.14	If a date-time value is recorded within the XDS.b document metadata, the software **SHALL** record the date-time value as UTC. *Note: This means local date-time with timezone needs to be converted into UTC for inclusion in document metadata. Nominally this will be in the form YYYYMMDDhhmm or YYYYMMDDhhmmss* *This applies to XDSDocumentEntry metadata values* creationTime, serviceStartTime, serviceStopTime.	*Conditional*
CLD.15	When a date-only value is recorded within the XDS.b document metadata, the software **SHALL** record the date as it is (local date), i.e. without conversion to UTC. *Note: This means local date will be stored as-is in document metadata.* *This applies to XDSDocumentEntry metadata values* creationTime, serviceStartTime, serviceStopTime.	*Conditional*
CLD.16	When a date-only value is recorded within the XDS.b document metadata, the software **SHALL NOT** increase precision by padding the time-out with zeroes. *Note: For example a date 20140201 is not to be padded to 20140201000000, which would increase precision of the date to date-time.* *This applies to XDSDocumentEntry metadata values* creationTime, serviceStartTime, serviceStopTime.	*Conditional*

2.4 Creating and displaying administrative observations

Applies to: Document authoring systems (any type of clinical document).

CDA implementation guides specify a section known as "Administrative observations", which contains document context information that could not be put into the document header, such as additional demographic information and Medicare details. Since all this information belongs in the header (if displayed), it should be presented as part of the document details and is not expected to be of clinical relevance.

ID	Recommendation	Status
CLD.17	If the software sends documents to the PCEHR system using an appropriate template package, the software **SHALL NOT** include any narrative content when authoring the Administrative Observations section in clinical document instances. *Note: Conforming to this recommendation can only be achieved by using template packages published for PCEHR Release 4 (October 2013) and later. Template packages published before PCEHR Release 4 report an error when the Administrative Observations narrative is not present. The mandatory requirement for Administrative Observations narrative has been relaxed and newer versions of the template packages do not report an error when the narrative is omitted. Contact NEHTA for a list of the template packages that allow the Administrative Observations to be omitted.*	*Under review – please contact NEHTA*

2.5 Setting healthcare facility type code

Applies to: Document authoring systems (any type of clinical document containing healthCareFacility code).

The CDA implementation guides do not state the allowed values for healthCareFacility code in clinical documents. These are stated in the recommendations below, so that the values of healthCareFacility code are consistent with the requirements for the "healthcare facility type" code in the clinical document metadata sent to the PCEHR system (defined in the *PCEHR Document Exchange Service: Logical Service Specification* [NEHTA-1117:2012]).

The types of clinical documents that currently contain healthCareFacility code are Discharge Summary, PCEHR Prescription Record and PCEHR Dispense Record.

ID	Recommendation	Status
CLD.18	If the software creates a clinical document with the healthCareFacility code, then the software **SHALL** set the code to a value specified in the *1292.0 - Australian and New Zealand Standard Industrial Classification 2006* [ANZSIC2006].	*Conditional*
CLD.19	If the software creates a clinical document with the healthCareFacility code, then the software **SHALL** set the displayName to the relevant Display Name in the *Australian and New Zealand Standard Industrial Classification 2006.*	*Conditional*

CLD.20	If the software creates a clinical document with the healthCareFacility code, then the software **SHALL** set the codeSystem to 1.2.36.1.2001.1005.47 and the codeSystemName to ANZSIC 2006.	*Conditional*

3 Excluding individual provider contact information

Applies to: All systems authoring clinical documents.

Clinical documents can support telecommunication and address details for participating healthcare providers. These commonly support entry of address, mobile phone, home phone, pager, fax and email address details as part of the system's healthcare provider record. In some systems it is not clear whether these entries are intended to be personal or business related details. Variability in the interpretation of the meaning of these fields may lead to varied usage.

When healthcare provider details are used directly from the clinical system to automatically populate clinical documents, this may lead to personal information being included in clinical document content. This may then lead to inadvertent release of healthcare provider personal details to the PCEHR. Consequently, those with access to the PCEHR, including the patient, would be able to obtain these personal healthcare provider details.

ID	Recommendation	Status
CLD.21	The software **SHALL NOT** include individual provider telecommunications details in participating healthcare provider data elements when authoring clinical documents. *Note: If desired, telecommunications details of the individual healthcare provider's employer or participating organisation may be included instead.*	*Mandatory*
CLD.22	The software **SHALL NOT** include individual provider address details in participating healthcare provider data elements when authoring clinical documents. *Note: If desired, address details of the individual healthcare provider's employer or participating organisation may be included instead.*	*Mandatory*

4 Displaying medicine instructions appropriately

Applies to: All clinical information systems authoring clinical document containing medicine items.

In systems that create medicine items, there is a need to ensure appropriate and consistent presentation when these entries are viewed in the PCEHR system or downloaded and displayed into other clinical information systems. To address identified safety and usability issues, the following interim usability recommendations have been defined. This guidance should be viewed in the light of the current project by the Australian Commission on Safety and Quality in Healthcare [ACSQHC2013], which will create guidelines for safe and appropriate on-screen display of medicines information. The examples below show features from current clinical information systems and do not represent examples using the preferred Australian Medicines Terminology.

The CDA implementation guides define a "Directions" data element that concatenates dose, frequency and instructions content as part of a medicine items.

Australian prescribing systems currently use a variety of data entry fields to capture "dose", "frequency" and "instructions" when entering medicine items into the patient record. In some cases "frequency" is not entered (for example, the pick list does not contain the desired frequency) and the "instructions" field is used instead to capture all frequency and other instructions as text.

A current real-life example is:
Product: "NEO B-12 Solution for Injection"
Dose: "1"
Frequency: (Null or field does not exist)
Instructions: "2 monthly"

When combined into a single "Directions" data element, this may appear as:

"NEO B-12 Solution for Injection 1 2 monthly"

when presented as a narrative, in a CDA document or elsewhere. The proximity of digits "1" and "2" may lead to confusion and potential misinterpretation of the medicine instructions. For example does the above mean *one (injection) 12 monthly* or *12 (injections) each month*?

Systems are able to identify *2 times a month* but some are unable to create *every 2 months*. If software could include "every" it would be clear that the above means *one injection every 2 months* as opposed to *one injection 2 times a month*.

The situation is mitigated in some systems where medicine items may include a "Dosage Form" which may also be the administrable dose unit (for example, capsule, tablet, and injection). This, when used explicitly with the dose, clarifies the meaning. For example: "1 2 monthly" becomes "1 injection every 2 months" and "1 in the morning" becomes "1 tablet in the morning". Some drug forms, however, imply the administrable form syrup, liquid – for example "30mL daily".

<table>
<tr><th>ID</th><th>Recommendation</th><th>Status</th></tr>
<tr><td>CLD.23</td><td>If the software allows the user to select dose, frequency, and instructions for using medicine (e.g. via pull down menus) rather than entering the information in a free text field, then a visual separator SHALL be used in the "Directions" data element to avoid combining combined dose, frequency or instruction values with adjacent numeric digits.

Note: Acceptable methods include:

a) A spaced semi-colon " ; " with implied dose-form. For example:
1 ; every 3 months

<table><tr><th>Medicine</th><th>Directions</th></tr><tr><td>AMOXIL Capsule 250mg</td><td>1 ; 3 times daily</td></tr><tr><td>NEO-B12 Solution for Injection 1000 microgram/mL</td><td>1 ; every 3 months</td></tr><tr><td>AMOXIL Sugar Free Syrup 125mg/5mL</td><td>5mL ; 3 times a day</td></tr></table>
b) Appropriate dose-form text. For example:
1 injection every 3 months

<table><tr><th>Medicine</th><th>Directions</th></tr><tr><td>AMOXIL Capsule 250mg</td><td>1 capsule 3 times daily</td></tr><tr><td>NEO-B12 Solution for Injection 1000 microgram/mL</td><td>1 injection every 3 months</td></tr><tr><td>AMOXIL Sugar Free Syrup 125mg/5mL</td><td>5mL 3 times a day</td></tr></table>
c) Label parts with separating comma "," with implied dose form. For example:
Dose: 1, Instructions: every 3 months

<table><tr><th>Medicine</th><th>Directions</th></tr><tr><td>AMOXIL Capsule 250mg</td><td>Dose:1, Frequency: 3 times daily</td></tr><tr><td>NEO-B12 Solution for Injection 1000 microgram/mL</td><td>Dose:1, Instructions: every 3 months</td></tr><tr><td>AMOXIL Sugar Free Syrup 125mg/5mL</td><td>Dose: 5mL, Frequency: 3 times a day</td></tr></table>
The "Directions" data element may have an alternative name, depending on the type of clinical document.</td><td>Conditional</td></tr>
<tr><td>CLD.24</td><td>If the software allows medicine entries when authoring clinical documents, then it SHALL ensure that a "dose-form" is included in the entry.

Note: Acceptable methods include:

a) Drug/product descriptions that include a form that is the dose-form e.g. 'Paracetamol 500mg tablet – 2 times daily'

b) Drug form and dose/directions imply dose-form e.g. 'Benadryl (30mg; 100mg/5mL) Syrup – 30mL daily as required'

c) Through an explicit statement of dose-form in the dose/directions e.g. 'Genteal 0.3% Eye Drops – 3 drops daily'</td><td>Conditional</td></tr>
</table>

5 Rendering clinical documents

Applies to: Clinical information systems that display PCEHR documents.

5.1 PCEHR prescription and dispense view

The PCEHR prescription and dispense view provides a view of the prescription records and dispense records in a healthcare consumer's PCEHR.

A PCEHR prescription and dispense view has information in two forms: a narrative form and a structured form. If the view is rendered according to the *CDA Rendering Specification v1.0* [NEHTA-1199:2012], then the narrative information is presented. If the view is rendered according to the *PCEHR Prescription and Dispense View Presentation Guide v1.0* [NEHTA-1359:2013], then the structured data is presented. This latter view is the more usable form as it provides advanced usability features, such as grouping by specific fields, expandable and collapsible groups, and linking to underlying source documents.

ID	Recommendation	Status
CLD.25	If the software implements the PCEHR prescription and dispense view, then it **SHALL** be rendered according to the mandatory requirements in the *PCEHR Prescription and Dispense View Presentation Guide*.	*Conditional*

6 Locating and accessing PCEHR functions

Applies to: Clinical information systems accessing the PCEHR system.

Issues have been raised by healthcare providers regarding the ease of access to PCEHR-related functions. Some healthcare providers find it difficult to locate both current PCEHR status and the mechanism to launch PCEHR functions. There are a variety of methods used by software developers in current implementations of PCEHR access. The usability recommendations below will result in a more generally consistent set of behaviours to readily support healthcare providers in the use of the PCEHR.

ID	Recommendations	Status
CLD.26	The software **SHALL** prominently display an indicator of the patient's PCEHR status when displaying the consumer's local health record. *Note: The PCEHR status is determined by the "doesPCEHRExist" operation [NEHTA-1120:2012]. The indicator can use any combination of words, colours and icons appropriate to the layout of the clinical system. The record statuses that the indicator needs to handle are:* • *PCEHR exists (access code may or may not be required)* • *PCEHR may not exist (i.e."doesPCEHRExist" operation returns false)* • *Operation cannot complete (e.g. no patient IHI on file or cannot connect to PCEHR due to network connectivity failure or system outage)*	*Mandatory*
CLD.27	The PCEHR entry point **SHALL** allow navigation to all supported PCEHR clinical activities. Include: a. View the PCEHR Document List. b. Author and upload a Shared Health Summary. c. Author and upload an Event Summary. *Note: This may be by direct access to the function or by navigation to a suitable screen where all functions are accessible.*	*Mandatory*
CLD.28	The software **MAY** allow access to PCEHR activities from other areas in the software, as deemed appropriate. *Note: Examples include the ability to author shared health summaries and PCEHR event summaries from the letter writing module.*	*Optional*
CLD.29	An entry point to PCEHR functionality **SHALL** be prominently displayed and accessible from the patient's local health record. *Note: This may be combined with the user controls associated with the PCEHR status indicator or via a separate window tab, drop-down menu, button, etc.*	*Mandatory*

ID	Recommendations	Status
CLD.30	Healthcare Identifier (HI) checks and PCEHR status checks **SHOULD** be performed in the background where possible to improve system responsiveness and eliminate unnecessary delay when opening the patient's local health record. *Note: The PCEHR status is determined by the "doesPCEHRExist" operation [NEHTA-1120:2012]. It is recommended that background web service lookups are performed whenever an external service is invoked, as this will prevent the user interface from locking or becoming unresponsive when network performance at the health service is degraded or the external service is otherwise non-responsive or inaccessible.*	*Recommended*

7 Displaying PCEHR document lists

Applies to: Clinical information systems that display PCEHR documents.

In the absence of the health record overview, software systems should display a document list as the primary means of accessing information held in a PCEHR. PCEHR document lists may be retrieved using the ITI-18 Registry Stored Query described in the *PCEHR Document Exchange Technical Service Specification*. By default, when this operation is called by a software application, it returns all the available clinical documents in the patient's PCEHR. In addition to the key clinical documents, such as shared health summaries and discharge summaries, the list may include large numbers of Medicare documents, PCEHR prescription records and PCEHR dispense records. This section contains software recommendations that pertain to the presentation of the document list.

Information retrieved from a PCEHR is to be displayed in the columns defined in this section. There is no benefit to clinical users in displaying additional columns; in fact additional columns may detract from usability. Software developers may choose to provide administrator or debug views with additional columns to assist with troubleshooting, etc. These alternative views should not be the default option for normal use.

Note: In future, when additional document types are added to the PCEHR, this advice may be revised. For example, it will be necessary to provide additional information for diagnostic reports, but no specific recommendations are listed for those documents. As the PCEHR functionality increases, these usability recommendations will be updated.

7.1 Columns and content

ID	Recommendation	Status
CLD.31	Lists displayed by default to clinical users **SHALL** be displayed in columns and **SHALL** include columns with the following headings: Document Date Service Date Document Organisation Organisation Type *Note: The columns are used to provide the following information:* • *Document Date: The date the document was created* • *Service Date: The date and time the health service was provided* • *Document: The type of document (e.g. shared health summary)* • *Organisation: The name of the organisation that authored the document* • *Organisation Type: The type of organisation that authored the document.*	*Mandatory*

ID	Recommendation	Status
CLD.32	Lists displayed by default to clinical users **SHOULD NOT** include columns other than the required columns of Document Date, Service Data, Document, Organisation, Organisation type.	*Recommended*
CLD.33	Information displayed in the columns **SHALL** be obtained from document metadata, or from the clinical document if the document metadata is not available. *Note: Refer to Appendix A for mapping between document metadata and CDA data components.*	*Mandatory*
CLD.34	The format for all dates displayed in the Document Date and Service Date columns **SHOULD** conform to one of the date formats stated in the *CDA Rendering Specification*.	*Recommended*
CLD.35	The display dates in the Document Date and Service Date columns **SHALL NOT** include time or timezone. *Note: The user can find the time and timezone when viewing a document.*	*Mandatory*
CLD.36	A Service Date **SHALL NOT** be displayed if the service date is identical to the document date. *Note: A recommendation about displaying the service date when sorting is stated in **CLD.46**.*	*Mandatory*
CLD.37	The Document column **SHALL** display the document type name. The document title **SHALL NOT** be displayed in the Document column. *Note: The document type name can be obtained from the document metadata attribute XDSDocumentEntry.typeCodeDisplayName. Alternatively, if metadata is not available the document type name is to be derived from the clinical document data element ClinicalDocument/code/@code as described in Appendix A.*	*Mandatory*
CLD.38	Names listed in the Organisation column **SHALL** be organisation names only. *Note: Organisation data is obtained from either the document metadata (the "organisation name" element in XDSDocumentEntry.authorInstitution), or from the clinical document itself, when metadata is not available. Refer to Appendix A for mapping between document metadata and CDA data components.*	*Mandatory*

ID	Recommendation	Status
CLD.39	If the clinical information system uses clinical documents to display information in the Organisation column, then the name of the organisation **SHALL** be one of (in order of priority): • the healthcare facility (if present) • the authoring person's employing organisation (if present) • the custodian organisation (if present). If none of the above is available, then a name **SHALL NOT** be present in the Organisation column *Notes: The data element providing the name of the healthcare facility is a mandatory element of Discharge Summary, PCEHR Prescription Record and PCEHR Dispense Record. The data element for the authoring person's employing organisation is a mandatory element of Shared Health Summary, Event Summary, Specialist Letter and Discharge Summary.*	*Conditional*
CLD.40	If the software uses the clinical document healthCareFacility code to display the Organisation Type, the Organisation Type **SHALL** be the originalText attribute value, if one is present, otherwise it **SHALL** be the displayName attribute value, if one is present. The value of the code attribute **SHALL NOT** be used.	*Conditional*
CLD.41	If the software supports the display of removed or superseded documents, the display **SHALL** make it clear to the healthcare provider whether a document has been removed or superseded. *Note: Software developers may elect to do this through various means, such as indicating the status in an additional column or using alternative colours.*	*Conditional*
CLD.42	If an additional column is used to indicate that documents have been removed or superseded, a value **SHALL** only be displayed if a document has been removed or superseded. *Note: For example, do not repeat "approved" for every document as this results in clutter that detracts from readability.*	*Conditional*
CLD.43	The software **SHALL** display all date-time columns using the local time zone of the user. *Note: Date-time values in PCEHR XDS.b metadata are recorded as UTC (Universal Time Coordinated) so must be converted to local time for display. When date-only values are recorded these should be shown as-is in document lists. (See Section 2.3 "*Managing date-times*")*	*Mandatory*

7.2 Sorting and grouping

ID	Recommendation	Status
CLD.44	The software **SHALL** allow a user to be able to sort on the Document Date, Service Date, and Document columns, in ascending or descending order.	*Mandatory*
CLD.45	The software **SHOULD** allow a user to sort on any additional column, in ascending or descending order.	*Recommended*
CLD.46	When the user sorts on Service Date, the sort **SHALL** be by the service date and not the date displayed in the Service Date column. *Note: The reason for this recommendation is that the displayed date is not displayed in the Service Date column when the service date is equal to the document date. In this case the document's position in the document list would be determined by its document date; i.e. documents with a blank display date do not necessarily all appear at the top or bottom of the list.*	*Mandatory*
CLD.47	When sorting by Service Date, the service date (day, month and year) **SHALL** be displayed. Documents that have no service date **SHALL** be sorted by document date.	*Mandatory*
CLD.48	The software **SHOULD** provide grouping/collapsing. *Note: Grouping/collapsing refers to the ability for the user to aggregate like entries for chosen list column. These grouped entries can be expanded and collapsed to aid navigation of the document list.*	*Recommended*
CLD.49	If the software offers grouping functionality, this **SHALL** be applied only to the current sort column. *Note: Allowing grouping only by sorted column ensures that the group headings are based on sorted column. This means any expanded group items are still shown in primary sort order.* **Document** / **Document Date** / **Service Date** / **Organisation** / **Organisation Type** Event Summary Event Summary — 13-Feb-2013 — Northern Clinic — General Practice Event Summary — 01-Jan-2013 — Main St Clinic — General Practice Shared Health Summary Shared Health Summary — 30-Apr-2013 — Main St Clinic — General Practice Shared Health Summary — 12-Feb-2013 — Northern Clinic — General Practice Specialist Letter Specialist Letter — 03-Jan-2013 — 02-Jan-2013 — Western Clinic — Physiotherapy Services	*Conditional*

7.3 Filtering

Filtering may be applied as a parameter to the document list service call (server-side filtering) or locally (client-side) by filtering the document list returned by the service call.

Refer to Appendix B for more information on server-side filtering.

ID	Recommendation	Status
CLD.50	The software **SHALL** allow the user to exclude all Medicare documents from the document list. *Note: The Medicare documents are Pharmaceutical Benefits Report, Australian Childhood Immunisation Register, Medicare/DVA Benefits Report and Australian Organ Donor Register.*	*Mandatory*
CLD.51	The software **SHALL** allow the user to exclude all PCEHR prescription records and PCEHR dispense records from the document list.	*Mandatory*
CLD.52	The software **SHALL** allow the user to only include documents from the last three months. *Note: This date filter allows the user to view only the most recent documents.*	*Mandatory*
CLD.53	The software **SHALL** allow the user to filter by document type. *Note: Document type is defined as the value in the document metadata (XDSDocumentEntry.typeCode) or the clinical document (ClinicalDocument/code/@code) itself.*	*Mandatory*
CLD.54	The software **SHALL** allow the user to exclude all removed or superseded documents from the visible list.	*Mandatory*
CLD.55	The software **SHALL** clearly indicate to the user when the document list has been filtered. *Note: Making the user aware that the displayed list is a partial document list will help mitigate clinical safety risk. Prominently displaying the current filter settings is an adequate indication.*	*Mandatory*
CLD.56	If the software supports filtering of the document list based on date, then this **SHALL** be based on date-time converted to local time from the UTC date-time recorded in metadata fields.	*Conditional*

Appendix A CDA mapping to XDSDocumentEntry fields

This table includes CDA data components that may contain representative content for the columns in a PCEHR document list when the specified metadata (XDSDocumentEntry) is not available. The XDSDocumentEntry metadata is specified in the *PCEHR Document Exchange Technical Service Specification*.

Column	XDSDocumentEntry	CDA data component
Document Date	creationTime	ClinicalDocument/effectiveTime
Service Date	serviceStopTime	ClinicalDocument/componentOf/encompassingEncounter/effectiveTime Note: The clinical document data element "ClinicalDocument/componentOf/encompassingEncounter/effectiveTime" is not present in all types of clinical documents.
Document	typeCodeDisplayName	ClinicalDocument/code/@code (See note 1)
Organisation	authorInstitution (see note 2)	ClinicalDocument/author/assignedAuthor/ assignedPerson/ext:asEmployment/ ext:employerOrganization/ ext:asOrganizationPartOf/wholeOrganization/ext:name *Note: Some types of documents do not have an assignedAuthor and some other types of documents have an assignedAuthor but no employerOrganization.* *This CDA data component is for Shared Health Summary, Event Summary, Specialist Letter, eReferral and Discharge Summary.* *For PCEHR Prescription Record and PCEHR Dispense Record the CDA data component is ClinicalDocument/componentOf/encompassingEncounter/location/healthCareFacility/serviceProviderOrganization/asOrganizationPartOf/wholeOrganization/name* *For some types of documents (i.e. Medicare/DVA Benefits Report, Australian Organ Donor Register, Australian Childhood Immunisation Register and Pharmaceutical Benefits Report) the author is software, rather than a person, and there is no employerOrganization listed.*
Organisation Type	healthcareFacilityTypeCodeDisplayName	ClinicalDocument/componentOf/encompassingEncounter/location/healthCareFacility/code (see note 3)

Notes to table

1 The document name is obtained by using a mapping table per Table 3 of the *PCEHR Document Exchange Technical Service Specification*. The clinical document code (ClinicalDocument/code/@code) is mapped to TypeCodeClassCode in the mapping table, with the corresponding TypeCodeDisplayName text displayed in the Document column.

2 Organisation is obtained from XDSDocumentEntry.authorInstitution described in HL7 V2 field XON.1– Organization Name [IHE2011a].

3 This CDA element is present in Discharge Summary, PCEHR Prescription Record and PCEHR Dispense Record documents. It is not present in Shared Health Summary, Specialist Letter, Event Summary, eReferral documents, consumer entered information documents (e.g. Advance Care Directive Custodian Record and Consumer Entered Health Summary) and or Medicare documents.

Appendix B Server-side document list filtering

This section describes how to limit items in the document list to include only the document types of primary interest to users. In the example below, the default list is limited to display of health summaries, event summaries and discharge summaries.

When invoking the "GetDocumentList" web service, an XDS.b Registry Stored Query findDocument query is performed. This query supports searching by any of the parameters supported by that Registry Stored Query.

The supported parameters can be found in Section 3.18.4.1.2.3.7.1 of *IHE IT Infrastructure Technical Framework Volume 2a* [IHE2011b].

Table 3 in the *PCEHR Document Exchange Technical Service Specification* provides the list of TypeCodes and ClassCodes required to be used for PCEHR documents when registered. These codes can be used in the query for the $XDSDocumentEntryClassCode (coded according to the definition in Section 3.18.4.1.2.3.4 of the IHE Volume 2a document referenced above).

Multiple identifiers for different document types may be specified, and the query will return documents which match any of the supplied values (OR logic).

Selecting the appropriate ClassCodes will result in only documents of those types being returned.

Ignoring the rest of the query (the "default" empty structure), the values required to return only shared health summaries, event summaries, discharge summaries and specialist letters would look something this:

```
<Slot name="$XDSDocumentEntryClassCode ">
   <ValueList>
      <Value>('60591-5^^LOINC')</Value>
      <Value>('34133-9^^LOINC')</Value>
      <Value>('18842-5^^LOINC')</Value>
      <Value>('51852-2^^LOINC')</Value>
   </ValueList>
</Slot>
```

The following sample code demonstrates document filtering in conjunction with the PCEHR Client sample code (available from www.nehta.gov.au):

```
// Create a query
AdhocQueryBuilderadhocQueryBuilder = new AdhocQueryBuilder("800360xxxxxxxxxx",
new[] { DocumentStatus.Approved });
if(!chkShowallDocs.Checked)
   adhocQueryBuilder.ClassCode = new[] {
      ClassCodes.DischargeSummary,
      ClassCodes.EventSummary,
      ClassCodes.SpecialistLetter,
      ClassCodes.SharedHealthSummary };
// Combo box allows user to define date period in months - default is 12 months
DateTimestartDate = DateTime.Now.AddMonths(cboMonthRange.SelectedText);
DateTimeendDate = DateTime.Now;
adhocQueryBuilder.CreationTimeFrom = new ISO8601DateTime(startDate);
adhocQueryBuilder.CreationTimeTo = new ISO8601DateTime(endDate);
// Create the request using the query
AdhocQueryRequestqueryRequest = adhocQueryBuilder.BuildRequest();
```

Abbreviations and terminology

Term or abbreviation	Description
CDA	Clinical Document Architecture; an XML-based mark-up standard intended to specify the encoding, structure and semantics of clinical documents exchanged between health software systems. Specifications for clinical documents are based on CDA Release 2 [HL72005].
clinical document	A digital file containing personal health information about an individual, containing unstructured (narrative) information and optionally structured (atomic) information.
clinical information system (CIS)	A system that deals with the collection, storage, retrieval, communication, and use of health related data, information and knowledge pertaining to subjects of care [AS5021]. The system may comprise one or more applications or components.
contracted service provider (CSP)	An entity that may offer health software as a service, and support access to the PCEHR system on behalf of healthcare organisations. A CSP provides under a contract with the healthcare provider organisation: a) information technology services relating to the PCEHR system; or b) health information management services relating to the PCEHR system (Section 5 *Personally Controlled Electronic Health Records Act 2012* [COM2012]).
healthcare consumer	A person who is the subject of care.
PCEHR system	Personally controlled electronic health record system (eHealth record system). National eHealth infrastructure for managing records in eHealth. The eHealth record system includes the PCEHR repository, and the National Prescription and Dispense Repository.

References

NEHTA references

The references below are published on www.nehta.gov.au.

If viewing this as a printed document, use the NEHTA-XXXX:YYYY identifier to search for the exact reference online.

NEHTA-1117:2012 *PCEHR Document Exchange Service: Logical Service Specification v1.2*, 6 September 2012.

NEHTA-1120:2012 *PCEHR Record Access Service Technical Service Specification v1.4*, 6 September 2012.

NEHTA-1199:2012 *CDA Rendering Specification v1.0*, NEHTA, 7 March 2012.

NEHTA-1264:2013 *PCEHR Document Exchange Service Using the IHE XDS.b Platform: Technical Service Specification v1.4 (*or *PCEHR Document Exchange Technical Service Specification),* 12 April 2013.

NEHTA-1359:2013 *PCEHR Prescription and Dispense View Presentation Guide v1.0*, 26 June 2013.

NEHTA-1446:2013 *Common Conformance Profile v1.4*, 9 October 2013.

NEHTA-1563:2014 *Shared Health Summary PCEHR Usability Recommendations v1.1*, 5 May 2014.

Other references

At the time of publication, the versions listed below were valid. However, as all documents are subject to revision, readers are encouraged to use the most recent versions of these documents.

ACSQHC2013 *National Guidelines for Safer On-Screen Medicines Information,* Australian Commission on Safety and Quality in Healthcare, 4 December 2013, ACSQHC TRIM 91640.

ANZSIC2006 *1292.0 - Australian and New Zealand Standard Industrial Classification (ANZSIC),* 2006 *(Revision 1.0)*.

AS5021 *AS 5021:2005 - The language of health concept representation*, Standards Australia, 2005.

COM2012 *Personally Controlled Electronic Health Records Act 2012*, Australian Government ComLaw, 2012.

HL72005 *Clinical Document Architecture, Release 2*, ISO/HL7 27932:2008, 21 April 2005.

IHE2011a *IT Infrastructure Technical Framework Volume 3 10 (ITI TF-3) Cross-Transaction Specifications and Content Specifications,* Version 8.0, IHE, 19 August 2011.

IHE2011b *IHE IT Infrastructure Technical Framework Volume 2a (ITI TF-2a) Transactions Part A –Sections 3.1 – 3.28.*