nehta

What are the nullable fields in clinical documents conformant to the CDA implementation guides?

Question

NEHTA's CDA implementation guides specify cardinalities for CDA elements, but provide no information on the proper use of the nullFlavor that all CDA elements carry.

Which fields may have a nullFlavor in place of a full value?

Answer

The table below lists the fields that shall be present in the CDA documents and may carry a nullFlavor. If they have a nullFlavor, they may or may not have values in their other attributes and elements.

Fields that are not listed fall into one of two categories:

- They have a minimum cardinality of 0. In this case, they may always carry a nullFlavor. Processing applications can treat a value with a nullFlavor as not present if they are not able to understand the nullFlavor.

- They have a minimum cardinality of 1. In this case, they shall be present without any nullFlavor attribute and a proper value for the field shall be provided.

See Page 2 for examples.

The fields marked Y may carry NULL value in clinical documents conformant to the CDA implementation guides.

Data item	CDA implementation guide (see notes below)				
	SHS	eDS	eRef	ES	SL
Facility > Role		Y			
Encounter > Encounter Period		Y		Y	
Encounter > Specialty		Y			
Usual GP (Person) > Role			Y		Y
Usual GP (Organisation) > Role			Y		Y
Patient Nominated Contacts – Person > Role			Y		
Patient Nominated Contacts - Organisation > Role			Y		
Referee (Person) > Role			Y		
Referee (Organisation) > Role			Y		
Pathology Test Result Group > Pathology Test Result Group Name		Y	Y	Y	Y
Imaging Examination Result Group > Imaging Examination Result Group Name		Y	Y	Y	Y
Requested Service > Service Provider (Person) > Role			Y	Y	Y

Data item	CDA implementation guide (see notes below)				
	SHS	eDS	eRef	ES	SL
Requested Service > Service Provider (Organisation) > Role			Y	Y	Y
Known Medication > Directions	Y		Y	Y	
Medication > Change Type				Y	Y
Medication > Change or Recommendation?				Y	Y
Nominated Primary Healthcare Provider > Role		Y			
Nominated Primary Healthcare Provider (Organisation) > Role		Y			
Adverse Reaction > Adverse Reaction Type		Y			
Service Provider (Person) > Role		Y			
Service Provider (Organisation) > Role		Y			
Recommendation Recipient (Person) > Role		Y			Y
Recommendation Recipient (Organisation) > Role		Y			Y

Notes

- SHS: Shared Health Summary

  eDS: Electronic Discharge Summary

  eRef: Electronic Referral

  ES: Event Summary

  SL: Specialist Letter

- These are based on the specifications available in the Software Developers Resource Centre (https://vendors.nehta.gov.au) as of 29 January 2013, that is:
  - SHS-CDA Implementation Guide v1.3
  - eDischarge Summary - CDA Implementation Guide v3.4
  - eReferral- CDA Implementation Guide v2.2
  - ES-CDA Implementation Guide v1.2
  - Specialist Letter - CDA Implementation Guide v1.3

Examples

Here is a facility role coded element from an example in the eDS CDA implementation guide:

```
<!-- Role -->
<code code="HOSP" codeSystem="2.16.840.1.113883.1.11.17660"
codeSystemName="HL7 ServiceDeliveryLocatonRoleType" displayName="Hospital"/>
```

This is a "proper value" – it contains all the expected elements.

As an alternative, a nullFlavor can be provided.

```
<!-- Role -->
<code nullFlavor="UNK"/>
```

If a nullFlavor field is present, the code element becomes optional (these are rules from the underlying CDA specification); however, they can still be provided. A typical case where this makes sense is to convey an unknown home phone number:

```
<telecom nullFlavor="UNK" use="H"/>
```

Other than the coding advice provided in Representing Coding in CDA Documents (https://vendors.nehta.gov.au/sections/myCompany/index.cfm?assetCategoryId=349#0), no appropriate use cases for providing both a nullFlavor and additional information seem apparent in the fields above.