

## 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.

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**Contact for enquiries**

Telephone: 1300 901 001 or email: [servicedesk@nehta.gov.au](mailto:servicedesk@nehta.gov.au)

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