



**Australian Government**  
**Australian Digital Health Agency**



## **Implementation guide for Secure message addressing**

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# 1 Introduction

## 1.1 Purpose

The purpose of this document is to provide implementation guidance and clarity on how directory identifiers and secure message addressing interact to support national standards and specifications.

## 1.2 Intended audience

This document is intended for:

- developers and implementers of clinical information systems
- developers and implementers of secure messaging systems

## 1.3 Scope

The scope for the HL7 version, events and messages are follows:

### 1.3.1 Scoped in

HL7 version	Event type	Message types	Ref	Description	Year released	Status <sup>1</sup>
2.4	I12	REF/ACK/RRI	Ref1	Patient referral, response and acknowledgement	2018	Adopted
2.4	O01	ORM/ACK	Ref1	Order message and acknowledgement	2018	Proposed
2.4	O02	ORM/ORR	Ref1	Order message and response	2018	Proposed
2.4	R01	ORU/ACK	Ref1	Unsolicited observation message and acknowledgement	2018	Proposed
2.3.1	T02	MDM/ACK	Ref2	Medical document and acknowledgement	2012	Adopted

### 1.3.2 Scoped out

HL7 version	Event type	Message types	Ref	Description	Year released	Status
2.3.1	I12	REF/ACK/RRI	Ref4	Patient referral, response and acknowledgement	2004	Adopted
2.3.1	O01	ORM/ACK	Ref3	Order message and acknowledgement	2004	Adopted

<sup>1</sup> Status

- *Adopted*: payload standard has been profiled for Australian use and has been adopted by industry
- *Proposed*: payload standard has been profiled and balloted for Australian use and is being proposed for support by vendors and industry

HL7 version	Event type	Message types	Ref	Description	Year released	Status
2.3.1	O02	ORM/ORR	Ref3	Order message and response	2004	Adopted
2.3.1	R01	ORU/ACK	Ref3	Unsolicited observation message and acknowledgement	2004	Adopted

It is important to highlight the reason for scoping out the majority of HL7 v2.3.1 message types – they do not specify adequately many of the essential aspects required to support current interoperability requirements.

However, these can be allowed on a site-site basis under local agreements where those sites have tested and support their interoperability.

## 2 Addressing overview

Addressing information for sending messages is sourced from Directories and is included in Messages for routing purposes.

### 2.1 Directories

#### 2.1.1 Implementation guidance

The following points were agreed by the Secure Messaging Technical Working Group (TWG) in April 2020:

- PractitionerRole must reference exactly one HealthcareService.
- PractitionerRole must reference exactly one Location and for that reference to be the same one Location as the referenced HealthcareService (which also is required to reference exactly one Location).
- PractitionerRole must reference exactly one Organization and for that reference to be the same one Organization as the referenced HealthcareService (which also is required to reference exactly one Organization).
- Directory clients should be using the HealthcareService available times and ignore the available times on Location (as these are the times the location itself is available rather than the times any HealthcareService is available).
- If a PractitionerRole is reachable through an Endpoint, the PractitionerRole must explicitly reference that Endpoint.
- Clients wishing to address a message to a PractitionerRole must use an Endpoint directly referenced by that PractitionerRole.
- Clients wishing to address a message to a HealthcareService must use an Endpoint directly referenced by that HealthcareService.
- Clients cannot assume that a PractitionerRole is reachable through an Endpoint referenced by the HealthcareService – unless the Endpoint is also directly referenced by the PractitionerRole.
- Endpoints referenced from a Location are used to communicate with the Location itself (e.g. the building management), and not the PractitionerRoles or HealthcareServices at that Location. Therefore clients should not use Endpoint references on Locations.

### 2.2 Messages

#### 2.2.1 Implementation guidance

Message addressing happens at three layers:

- Organisation / facility addressing



- Intended recipient addressing
- Application addressing

The table below outlines the required support for addressing per message type:

Addressing Layer	REF	ORU	ORM	MDM	ACK*	RRI*	ORR*
Organisation / facility	Must	Must	Must	Must	Must	Must	Must
Intended recipient	Must	Must	May	May	N/A	Must	N/A
Application	May	May	May	May	May	May	May

\*RRI, ORR and ACK response messages must always be routed based on MSH-6 and MSH-4 fields.

## 2.3 Certificates

Certificates are required to assert identity, establish trust and create a secure channel for transmission.

### 2.3.1 Implementation guidance

- Organisation must publish a valid PEM X509 Certificate in the Endpoint of the directory to support encryption.
- NASH is the preferred Certificate Authority (CA) and organisations are encouraged to obtain a NASH certificate if possible
- Vendors must sign messages using certificates from a trusted CA.
- Trust relationships between commercial minted certificates issued by SM vendors are outside of scope of this implementation guide and need to be established as part of the bi-lateral agreements between SM vendors.

### 2.3.2 Examples

#### 2.3.2.1 NASH certificate based

Issued To (subject)	Data
Common Name (CN)	general.8003629900031846.id.electronichealth.net.au
Domain Component (DC)	au
Domain Component (DC)	net
Domain Component (DC)	electronichealth
Domain Component (DC)	id
Domain Component (DC)	8003629900031846
Organisation (O)	Test Health Service

Issued To (subject)	Data
Organization Unit (OU)	605
Subject Alternative Name (SAN)	http://ns.electronichealth.net.au/id/hi/hpio/1.0/8003629900031846
Issued By (issuer)	Data
Common Name (CN)	Medicare Australia Organisation Certificate Authority
Organisation (O)	Government
Organization Unit (OU)	Medicare Australia

### 2.3.2.2 Commercial certificate based<sup>2</sup>

Issued To (subject)	Data (URI based)	Data (GUID based)	Data (AUSNATA based)
Common Name (CN)	SM123456.id.somevend or1.com.au	hd.0ae5c60c-a510-43b3- a509-c57f29b2d368- guid.id.somevendor2.com.au	hd.2184-ausnata.id. somevendor3.com.au
Domain Component (DC)	au	au	au
Domain Component (DC)	com	com	com
Domain Component (DC)	somevendor1	somevendor2	somevendor3
Domain Component (DC)	id	id	id
Domain Component (DC)	SM123456	0ae5c60c-a510-43b3-a509- c57f29b2d368-guid	2184-ausnata
Domain Component (DC)		hd	hd
Organisation (O)	ABC Organisation	DEF Organisation	GHI Lab
Organization Unit (OU)	ABC Organisation Unit	DEF Organisation Unit	GHI Lab Unit
Subject Alternative Name (SAN)	http://ns.somevendor1. com.au/smd/id/SM1234 56	https://ns.somevendor2.com .au/id/org/1.0/0ae5c60c- a510-43b3-a509- c57f29b2d368-guid	https://ns.somevendor3.com .au/id/org/1.0/2184-ausnata
Issued By (issuer)	Data (URI based)	Data (GUID based)	Data (AUSNATA based)
Common Name (CN)	Some Vendor Certificate Authority 1	Some Vendor Certificate Authority 2	Some Vendor Certificate Authority 3
Organisation (O)	Some Vendor 1	Some Vendor 2	Some Vendor 3

<sup>2</sup> Not all representations have been provided in the examples – other variances may exist

Issued To (subject)	Data (URI based)	Data (GUID based)	Data (AUSNATA based)
Organization Unit (OU)	Some Vendor Unit 1	Some Vendor Unit 2	Some Vendor Unit 3

## 2.4 Secure messaging target identifiers

The Secure messaging target identifier is used to identify the technical Endpoint on secure messaging network.

### 2.4.1 Implementation guidance

- The Secure messaging target identifier <value> used in the Endpoint must match the SAN in the certificate declared in the PEM X509 Certificate in the Endpoint.
- The Secure messaging target identifier <system> used in the Endpoint must be `http://ns.electronichealth.net.au/smd/target`

### 2.4.2 Examples

#### 2.4.2.1 NASH certificate based

Endpoint.identifier	Data
system	<code>http://ns.electronichealth.net.au/smd/target</code>
value	<code>http://ns.electronichealth.net.au/id/hi/hpio/1.0/8003629900031846</code>

#### 2.4.2.2 Commercial certificate based

Endpoint.identifier	Data (URI based)	Data (GUID based)	Data (AUSNATA based)
system	<code>http://ns.electronichealth.net.au/smd/target</code>	<code>http://ns.electronichealth.net.au/smd/target</code>	<code>http://ns.electronichealth.net.au/smd/target</code>
value	<code>http://ns.somevendor1.com.au/smd/id/SM123456</code>	<code>https://ns.somevendor2.com.au/id/org/1.0/0ae5c60c-a510-43b3-a509-c57f29b2d368-guid</code>	<code>https://ns.somevendor3.com.au/id/org/1.0/2184-ausnata</code>

## 3 Organisation / facility addressing

Addressing message to the organisation / facility that takes carriage of the message once it has been delivered to messaging system endpoint

### 3.1 MSH-4 Sending Facility (HD)

#### 3.1.1 Implementation guidance

- The sender must indicate that it is sending the message by setting the components of the [MSH-4 Sending facility \(HD\) \(Section 2.1.9.4\)](#).
- The values for this must be the ones which have been published in the directory of the secure messaging system being used for the messaging transaction.
- When using NASH certificates ([HL7au:00044.2](#)):
  - the <namespace ID (IS)> component must contain the registered organisation name as registered in the Medicare Australia HPOS/HI service
  - the <universal ID (ST)> component must contain the HPI-O formatted as 1.2.36.1.2001.1003.0.<hpio>
  - the <universal ID type (ID)> component must be ISO
- When using Commercial certificates ([HL7au:00044.2](#)):
  - the <namespace ID (IS)> component must contain the registered organisation name as registered by the certificate authority, otherwise it must contain the registered NATA name for the laboratory as published by NATA
  - the <universal ID (ST)> component must contain an identifier as published by the certificate authority, otherwise it must contain the registered NATA number for the laboratory as published by NATA
    - the format of this component varies depending on the <universal ID type (ID)> component below
  - the <universal ID type (ID)> component must be of the type recorded in [Table 0301](#), otherwise if the laboratory NATA number is number used in HD Universal ID Type must be AUSNATA
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from sending party's [Endpoint.au-receivingfacility](#) as published in the directory of the messaging system being used for the transaction.
- Each component of the [MSH-4 \(HD\)](#) field must be valued with the FHIR valueString according to each of the extensions Endpoint resource's [au-receivingfacility](#) as per the following table.

HL7 v2.4 & v2.3.1 HD Component	AU-PD-IG <a href="http://hl7.org.au/fhir/StructureDefinition/au-receivingfacility">http://hl7.org.au/fhir/StructureDefinition/au-receivingfacility</a>
<namespace ID (IS)>	namespace-id
<universal ID (ST)>	universal-id
<universal ID type (ID)> <a href="#">[Table 0301]</a>	universal-id-type

## 3.2 MSH-6 Receiving Facility (HD)

### 3.2.1 Implementation guidance

- The sender must specify the destination for the message in [MSH-6 Receiving facility \(HD\) \(Section 2.1.9.6\)](#)
- The values for this must be the ones which have been published in the directory of the secure messaging system being used for the messaging transaction.
- When using NASH certificates ([HL7au:00044.2](#)):
  - the <namespace ID (IS)> component must contain the registered organisation name as registered in the Medicare Australia HPOS/HI service
  - the <universal ID (ST)> component must contain the HPI-O formatted as 1.2.36.1.2001.1003.0.<hpio>
  - the <universal ID type (ID)> component must be ISO
- When using Commercial certificates ([HL7au:00044.2](#)):
  - the <namespace ID (IS)> component must contain the registered organisation name as registered by the certificate authority, otherwise it must contain the registered NATA name for the laboratory as published by NATA
  - the <universal ID (ST)> component must contain an identifier as published by the certificate authority, otherwise it must contain the registered NATA number for the laboratory as published by NATA
    - the format of this component varies depending on the <universal ID type (ID)> component below
  - the <universal ID type (ID)> component must be of the type recorded in [Table 0301](#), otherwise if the laboratory NATA number is number used in HD Universal ID Type must be AUSNATA
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving party's [Endpoint.au-receivingfacility](#) as published in the directory of the messaging system being used for the transaction.
- Each component of the MSH-6 (HD) field must be valued with the FHIR valueString according to each of the extensions Endpoint resource's [au-receivingfacility](#) as per the following table.

HL7 v2.4 & v2.3.1 HD Component	AU-PD-IG <a href="http://hl7.org.au/fhir/StructureDefinition/au-receivingfacility">http://hl7.org.au/fhir/StructureDefinition/au-receivingfacility</a>
<namespace ID (IS)>	namespace-id
<universal ID (ST)>	universal-id
<universal ID type (ID)> <a href="#">[Table 0301]</a>	universal-id-type

### 3.3 Examples of MSH-4 and MSH-6

#### 3.3.1 NASH certificate based

HL7 v2.4 & v2.3.1 HD Component	Example data 1	Example data 2 <sup>3</sup>
<namespace ID (IS)>	ABC Organisation	8003621566684455
<universal ID (ST)>	1.2.36.1.2001.1003.0.8003621566684455	1.2.36.1.2001.1003.0.8003621566684455
<universal ID type (ID)>	ISO	ISO

ABC Organisation^1.2.36.1.2001.1003.0.8003621566684455^ISO  
8003621566684455^1.2.36.1.2001.1003.0.8003621566684455^ISO

#### 3.3.2 Commercial certificate based

Example Type	Data (URI based) <sup>4</sup>	Data (GUID based)	Data (AUSNATA based)
<namespace ID (IS)>	ABC Organisation	DEF Organisation	Best Pathology Provider
<universal ID (ST)>	<a href="http://ns.somevendor1.com.au/smd/id/SM123456">http://ns.somevendor1.com.au/smd/id/SM123456</a>	0ae5c60c-a510-43b3-a509-c57f29b2d368	2184
<universal ID type (ID)>	URI	GUID	AUSNATA

ABC Organisation^<http://ns.somevendor1.com.au/smd/id/SM123456>^URI

<sup>3</sup> This example conflicts with [HL7au:00044.2](#) that states the for the namespace to be the same as registered with HI service; it is provided as an example as it occurs in practise and systems should provision for it

<sup>4</sup> For the URI example, the <universal ID (ST)> is the same as the Secure Message Target Identifier and the SAN of the certificate

DEF Organisation^0ae5c60c-a510-43b3-a509-c57f29b2d368^GUID

Best Pathology Provider^2184^AUSNATA

## 4 Intended recipient addressing

Used by receiving organisation / facility to route message to specific PractitionerRole or HealthcareService

The identifiers listed below are sufficient to enable intended recipient addressing and delivery to occur:

- PractitionerRole.identifier [UPIN - MedicareProviderNumber]
- PractitionerRole.identifier [NPIO] (HPI-I@HPI-O)
- PractitionerRole.identifier [VDI] - Secure Messaging Vendor's own identifier for a PractitionerRole
- HealthcareService.identifier [HPI-O]
- HealthcareService.identifier [VDI] - Secure Messaging Vendor's own identifier for a HealthcareService

### 4.1 PRD-2 Provider name (XPN)

For details of this field refer to: [PRD-2 Provider name \(7.3.3.2\)](#).

#### 4.1.1 Implementation guidance – PractitionerRole

- Must be populated for all PRD segments in REF and RRI messages
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [PractitionerRole.practitioner](#) resource as published in the directory of the messaging system being used for the transaction.

HL7 v2.4 & v2.3.1 XPN Component	AU-PD-IG FHIR element
<family name (FN)>	
<surname (ST)>	<a href="#">PractitionerRole.practitioner.name[usual].family</a>
<own surname prefix (ST)>	
<own surname (ST)>	
<surname prefix from partner/spouse (ST)>	
<surname from partner/spouse (ST)>	
<given name (ST)>	<a href="#">PractitionerRole.practitioner.name[usual].given[0]</a>
<second and further given names (ST)>	<a href="#">PractitionerRole.practitioner.name[usual].given[1..*]</a>



HL7 v2.4 & v2.3.1 XPN Component	AU-PD-IG FHIR element
<suffix (e.g., JR or III) (ST)>	<a href="#">PractitionerRole.practitioner.name[usual].suffix</a>
<prefix (e.g., DR) (ST)>	<a href="#">PractitionerRole.practitioner.name[usual].prefix</a>
<degree (e.g., MD) (IS)>	
<name type code (ID) > <a href="#">[Table 0200]</a>	<a href="#">PractitionerRole.practitioner.name[usual].use</a> . Apply the concept mapping <a href="#">cm-name-use-v2</a> .
<name representation code (ID)>	

HL7 v2.4 only XPN Component	AU-PD-IG FHIR element
<name context (CE)>	No mapping to AU-PD-IG FHIR element. See 3.29.16 <a href="#">Name context (CE)</a>
<identifier (ST)>	
<text (ST)>	
<name of coding system (IS)>	
<name validity range (DR)>	
<name assembly order (ID)>	

#### 4.1.2 Implementation guidance - HealthcareService

- Must be populated for all PRD segments in REF and RRI messages
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [HealthcareService.name](#) resource as published in the directory of the messaging system being used for the transaction.

HL7 v2.4 & v2.3.1 XPN Component	AU-PD-IG FHIR element
<family name (FN)>	
<surname (ST)>	<a href="#">HealthcareService.providedBy.name</a>
<own surname prefix (ST)>	
<own surname (ST)>	

HL7 v2.4 & v2.3.1 XPN Component	AU-PD-IG FHIR element
<surname prefix from partner/spouse (ST)>	
<surname from partner/spouse (ST)>	
<given name (ST)>	<a href="#">HealthcareService.name</a>
<second and further given names (ST)>	<a href="#">HealthcareService.location.name</a>
<suffix (e.g., JR or III) (ST)>	
<prefix (e.g., DR) (ST)>	
<degree (e.g., MD) (IS)>	
<name type code (ID) > <a href="#">[Table 0200]</a>	No mapping to AU-PD-IG FHIR element. <b>Fixed value:</b> D
<name representation code (ID)>	

HL7 v2.4 only XPN Component	AU-PD-IG FHIR element
<name context (CE)>	No mapping to AU-PD-IG FHIR element. <b>Fixed values</b> as per below
<identifier (ST)> <a href="#">[Table 0448]</a>	<a href="#">HealthcareService</a>
<text (ST)>	<a href="#">HealthcareService</a>
<name of coding system (IS)> <a href="#">[Table 0396]</a>	FHIR-ResourceType
<name validity range (DR)>	
<name assembly order (ID)>	

## 4.2 PRD-7 Provider Identifiers (CM)

For details of this field refer to: [PRD-7 Provider identifiers \(7.3.3.7\)](#).

### 4.2.1 Implementation guidance - PractitionerRole

- Must be populated for all PRD segments in REF and RRI messages
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [PractitionerRole.identifier](#) data type as published in the directory of the messaging system being used for the transaction.
- Each component of the PRD-7 (CM) field must be valued with the FHIR valueString as per the following table:

HL7 v2.4 & v2.3.1 CM Component	AU-PD-IG FHIR element
<ID number (IS)>	<a href="#">PractitionerRole.identifier</a> .value
<type of ID number (IS)> <a href="#">[Table 0363]</a>	<a href="#">PractitionerRole.identifier</a> .au-assigningauthority.namespace-id
<other qualifying info (ST)> <a href="#">[Table 0203]</a>	<a href="#">PractitionerRole.identifier</a> .type.coding.code

#### 4.2.2 Implementation guidance - HealthcareService

- Must be populated for all PRD segments in REF and RRI messages
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [HealthcareService.identifier](#) data type as published in the directory of the messaging system being used for the transaction.
- Each component of the PRD-7 (CM) field must be valued with the FHIR valueString as per the following table:

HL7 v2.4 & v2.3.1 CM Component	AU-PD-IG FHIR element
<ID number (IS)>	<a href="#">HealthcareService.identifier</a> .value
<type of ID number (IS)> <a href="#">[Table 0363]</a>	<a href="#">HealthcareService.identifier</a> .au-assigningauthority.namespace-id
<other qualifying info (ST)> <a href="#">[Table 0203]</a>	<a href="#">HealthcareService.identifier</a> .type.coding.code

### 4.3 PV1-9 Consulting Doctor (XCN)

For details of this field refer to: [PV1-9 Consulting doctor \(2.2.2.9\)](#)

#### 4.3.1 Implementation guidance - PractitionerRole

- Must be populated for all PV1 segments in ORM, ORU and MDM messages.
- Must be the same values as PRD-2 and PRD-7 for all PRD segments in REF messages.
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [PractitionerRole](#) resource as published in the directory of the messaging system being used for the transaction.
- Each component of the PV1-9 (XCN) field must be valued with the FHIR valueString as per the following table:

HL7 v2.4 & v2.3.1 XCN Component	AU-PD-IG FHIR element
<ID number (ST)>	<a href="#">PractitionerRole.identifier</a> .value
<family name (FN)>	
<surname (ST)>	<a href="#">PractitionerRole.practioner</a> .name[usual].family
<own surname prefix (ST)>	
<own surname (ST)>	
<surname prefix from partner/spouse (ST)>	
<surname from partner/spouse (ST)>	
<given name (ST)>	<a href="#">PractitionerRole.practioner</a> .name[usual].given[0]
<second and further given names (ST)>	<a href="#">PractitionerRole.practioner</a> .name[usual].given[1..*]
<suffix (e.g., JR or III) (ST)>	<a href="#">PractitionerRole.practioner</a> .name[usual].suffix
<prefix (e.g., DR) (ST)>	<a href="#">PractitionerRole.practioner</a> .name[usual].prefix
<degree (e.g., MD) (IS)>	
<source table (IS)>	
<assigning authority (HD)>	
<namespace ID (IS)>	<a href="#">PractitionerRole.identifier</a> .au-assigningauthority.namespace-id
<universal ID (ST)>	<a href="#">PractitionerRole.identifier</a> .au-assigningauthority.universal-id
<universal ID type (ID)> <a href="#">Table 0301</a>	<a href="#">PractitionerRole.identifier</a> .au-assigningauthority.universal-id-type
<name type code (ID)> <a href="#">Table 0200</a>	<a href="#">PractitionerRole.practioner</a> .name[usual].use
<identifier check digit (ST)>	
<code identifying the check digit (ID)>	
<identifier type code (IS)> <a href="#">Table 0203</a>	<a href="#">PractitionerRole.identifier</a> .type.coding.code
<assigning facility (HD)>	
<Name Representation code (ID)>	

HL7 v2.4 only XPN Component	AU-PD-IG FHIR element
<name context (CE)>	No mapping to AU-PD-IG FHIR element. See 3.29.16 <a href="#">Name context (CE)</a>
<identifier (ST)>	
<text (ST)>	

HL7 v2.4 only XPN Component	AU-PD-IG FHIR element
<name of coding system (IS)>	
<name validity range (DR)>	
<name assembly order (ID)>	

#### 4.3.2 Implementation guidance – HealthcareService

- Must be populated for all PV1 segments in ORM, ORU and MDM messages.
- Must be the same values as PRD-2 and PRD-7 for all PRD segments in REF messages.
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving provider's [HealthcareService](#) resource as published in the directory of the messaging system being used for the transaction.
- Each component of the PV1-9 (XCN) field must be valued with the FHIR valueString as per the following table:

HL7 v2.4 & v2.3.1 XCN Component	AU-PD-IG FHIR element
<ID number (ST)>	<a href="#">HealthcareService.identifier</a> .value
<family name (FN)>	
<surname (ST)>	<a href="#">HealthcareService</a> .providedBy
<own surname prefix (ST)>	
<own surname (ST)>	
<surname prefix from partner/spouse (ST)>	
<surname from partner/spouse (ST)>	
<given name (ST)>	<a href="#">HealthcareService</a> .name
<second and further given names (ST)>	<a href="#">HealthcareService</a> .location.name
<suffix (e.g., JR or III) (ST)>	
<prefix (e.g., DR) (ST)>	
<degree (e.g., MD) (IS)>	
<source table (IS)>	
<assigning authority (HD)>	
<namespace ID (IS)>	<a href="#">HealthcareService.identifier</a> .au-assigningauthority.namespace-id
<universal ID (ST)>	<a href="#">HealthcareService.identifier</a> .au-assigningauthority.universal-id

HL7 v2.4 & v2.3.1 XCN Component	AU-PD-IG FHIR element
<universal ID type (ID)> [Table 0301]	<a href="#">HealthcareService.identifier</a> .au-assigningauthority.universal-id-type
<name type code (ID) >	
<identifier check digit (ST)>	
<code identifying the check digit (ID)>	
<identifier type code (IS)> [Table 0203]	<a href="#">HealthcareService.identifier</a> .type.coding.code
<assigning facility (HD)>	
<Name Representation code (ID)>	

HL7 v2.4 only XCN Component	AU-PD-IG FHIR element
<name context (CE)>	No mapping to AU-PD-IG FHIR element. <b>Fixed values</b> as per below
<identifier (ST)> [Table 0448]	<a href="#">HealthcareService</a>
<text (ST)>	<a href="#">HealthcareService</a>
<name of coding system (IS)> [Table 0396]	FHIR-ResourceType
<name validity range (DR)>	
<name assembly order (ID)>	

## 4.4 Examples

### 4.4.1 PRD-2 Provider Name (XPN)

Example Type	HL7 v2.3.1 Example Data	HL7 v2.4 Example Data
PractitionerRole	Robertson^Charles^^^Dr^^L	Robertson^Charles^^^Dr^^L
HealthcareService	Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^D	Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^D^ HealthcareService& HealthcareService&FHIR-ResourceType

### 4.4.2 PRD-7 Provider Identifiers (CM)

Example Type	HL7 v2.4 & v2.3.1 Example Data
PractitionerRole.identifier [MedicareProviderNumber]	222326JF^AUSHICPR^UPIN
PractitionerRole.identifier [NPIO] (HPI-I@HPI-O)	8003619900015717@8003621566684455^AUSHIC^NPIO
PractitionerRole.identifier [VDI] - Secure Messaging Vendor's own identifier for a PractitionerRole	161265-1080^Some Vendor 1^VDI
HealthcareService.identifier [HPI-O]	8003621566684455^AUSHIC^NOI
HealthcareService.identifier [VDI] - Secure Messaging Vendor's own identifier for a HealthcareService	1080^Some Vendor 2^VDI

#### 4.4.3 PV1-9 Consulting Doctor (XCN)

Example Type	HL7 v2.3.1 Example Data	HL7 v2.4 Example Data
PractitionerRole.identifier [MedicareProviderNumber]	222326JF^Robertson^Charles ^^^Dr^^^Some Vendor 1&33443682-91F6-11D2-8F2C- 444553540123 &GUID^L^^^UPIN	222326JF^Robertson^Charles^^ ^Dr^^^ Some Vendor 1&33443682-91F6-11D2-8F2C- 444553540123 &GUID^L^^^UPIN
PractitionerRole.identifier [NPIO] (HPI-I@HPI-O)	8003619900015717@800362156 6684455^Robertson^Charles^ ^^Dr^^^Some Vendor 1&33443682-91F6-11D2-8F2C- 444553540123 &GUID^L^^^NPIO	8003619900015717@80036215666 84455^Robertson^Charles^^^Dr ^^^Some Vendor 1&33443682- 91F6-11D2-8F2C-444553540123 &GUID^L^^^NPIO
PractitionerRole.identifier [VDI] - Secure Messaging Vendor's own identifier for a PractitionerRole	161265- 1080^Robertson^Charles^^^D r^^^ Some Vendor 1&33443682-91F6-11D2-8F2C- 444553540123 &GUID^L^^^VDI	161265- 1080^Robertson^Charles^^^Dr^ ^^ Some Vendor 1&33443682- 91F6-11D2-8F2C-444553540123 &GUID^L^^^VDI

Example Type	HL7 v2.3.1 Example Data	HL7 v2.4 Example Data
HealthcareService.identifier [HPI-O]	8003621566684455^Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^^Some Vendor 2&http://ns.somevendor2.com.au/smd/id/SM999999&URI^D^^^NOI	8003621566684455^Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^^Some Vendor 2&http://ns.somevendor2.com.au/smd/id/SM999999&URI^D^^^NOI^^^HealthcareService&HealthcareService&FHIR-ResourceType
HealthcareService.identifier [VDI] - Secure Messaging Vendor's own identifier for a HealthcareService	1080^Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^^Some Vendor 2&http://ns.somevendor2.com.au/smd/id/SM999999&URI^D^^^VDI	1080^Fernside Public Hospital - Cardiology^Department of Cardiology^FPH-Block7^^^^^Some Vendor 2&http://ns.somevendor2.com.au/smd/id/SM999999&URI^D^^^VDI^^^HealthcareService&HealthcareService&FHIR-ResourceType



## 5 Application addressing

- Used by receiving organisation / facility to route message to a specific application.

### 5.1 MSH-3 Sending Application (HD)

#### 5.1.1 Implementation guidance

- The sender application may indicate that it is sending the message by setting the components of the [MSH-3 Sending application \(HD\) \(Section 2.1.9.3\)](#).
- The values for this must be the ones which have been published in the directory of the secure messaging system being used for the messaging transaction.
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from sending party's [Endpoint.au-receivingapplication](#) as published in the directory of the messaging system being used for the transaction.
- Each component of the MSH-3 (HD) field must be valued with the FHIR valueString according to each of the extensions Endpoint resource's [au-receivingapplication](#) as per the following table.

HL7 v2.4 & v2.3.1 HD Component	AU-PD-IG <a href="http://hl7.org.au/fhir/StructureDefinition/au-receivingapplication">http://hl7.org.au/fhir/StructureDefinition/au-receivingapplication</a>
<namespace ID (IS)>	namespace-id
<universal ID (ST)>	universal-id
<universal ID type (ID)> <a href="#">[Table 0301]</a>	universal-id-type

### 5.2 MSH-5 Receiving Application (HD)

#### 5.2.1 Implementation guidance

- The sender may specify the destination application for the message in [MSH-5 Receiving application \(HD\) \(Section 2.1.9.5\)](#).
- The values for this must be the ones which have been published in the directory of the secure messaging system being used for the messaging transaction.
- When using the Australian Profile for Provider Directory Services, the values from this field must match those from receiving party's [Endpoint.au-receivingapplication](#) as published in the directory of the messaging system being used for the transaction.
- Each component of the MSH-5 (HD) field must be valued with the FHIR valueString according to each of the extensions Endpoint resource's [au-receivingapplication](#) as per the following table.

HL7 v2.4 & v2.3.1 HD Component	AU-PD-IG <a href="http://hl7.org.au/fhir/StructureDefinition/au-receivingapplication">http://hl7.org.au/fhir/StructureDefinition/au-receivingapplication</a>
<namespace ID (IS)>	namespace-id
<universal ID (ST)>	universal-id
<universal ID type (ID)> <a href="#">[Table 0301]</a>	universal-id-type

### 5.3 Examples of MSH-3 and MSH-5

Example Type	HL7 v2.4 & v2.3.1 Example Data
An International Standards Organization Object Identifier	Rhubarb- CPOE^2.16.840.1.113883.19.4.1^ISO
Application identifier with only namespace ID valued	Best Practice 1.8.5.743
Universally unique identifier (UUID). The term GUID is also used.	Good clinic^0AE5C60C-A510-43B3-A509- C57F29B2D368^GUID
Locally defined application identifier	MERIDIAN^MERIDIAN:3.1.4 (Build 6934) [win32- i386]^L

## References

Ref	Title	URL
Ref1	Australian Diagnostics and Referral Messaging – Localisation of HL7 Version 2.4	<a href="https://confluence.hl7australia.com/display/OO/Australian+Diagnostics+and+Referral+Messaging+-+Localisation+of+HL7+Version+2.4">https://confluence.hl7australia.com/display/OO/Australian+Diagnostics+and+Referral+Messaging+-+Localisation+of+HL7+Version+2.4</a>
Ref2	Secure Messaging - HL7 v2 MDM message for CDA package v2.5	<a href="https://developer.digitalhealth.gov.au/resources/secure-messaging-hl7-v2-mdm-message-for-cda-package-v2-5">https://developer.digitalhealth.gov.au/resources/secure-messaging-hl7-v2-mdm-message-for-cda-package-v2-5</a>
Ref3	Australian Standard 4700.2-2004 Implementation of HL7 Version 2.3.1 - Pathology orders and results	<a href="https://infostore.saiglobal.com/en-au/standards/as-4700-2-2004-120188_saig_as_as_255128/">https://infostore.saiglobal.com/en-au/standards/as-4700-2-2004-120188_saig_as_as_255128/</a>
Ref4	Australian Standard 4700.6-2004 Implementation of Health Level Seven (HL7) Version 2.3.1 - Referral and discharge summary	<a href="https://infostore.saiglobal.com/en-au/Standards/AS-4700-6-2004-119983_SAIG_AS_AS_255116/">https://infostore.saiglobal.com/en-au/Standards/AS-4700-6-2004-119983_SAIG_AS_AS_255116/</a>
Ref5	Australian Provider Directory Services - Implementation Guide	<a href="https://build.fhir.org/ig/hl7au/au-fhir-pd/index.html">https://build.fhir.org/ig/hl7au/au-fhir-pd/index.html</a>