

RCPA RCPAQAP IHE Workshop 2

Implementation of NPAAC Electronic Communication Standards

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www.ihe.net

Messaging implementation – impact on Clinical safety

Key communication requirements for patient safety:

- Correct Patient Identification – IHI, Medicare number?, Ordering practice patient and order identifiers
- Health Provider Identifiers – HPI-I, Provider numbers
- Requester identifiers
- Message acknowledgement requirements (in MSH-15,16)
- Acknowledgement processing and detection of acknowledgement failure
- Common Terminology for ordering
- Common Terminology for searchable Health records (OBR-24 etc)
- Common Terminology supporting Clinical Decision Support (CDS)
- Display segment format supported by receiver



NPAAC Requirements for information communication and reporting Fifth Edition (NPAAC RICR5)

Implications for Pathology Messaging in Australia

Demonstration of HL7 Message Assessment Tools and Aids

AGENDA

- NPAAC Requirements for information communication and reporting (5th Ed.)
 - NPAAC RICR5 Requirements regarding inclusion of National Health Identifiers
 - Australian Diagnostics and Referral Messaging - Localization of HL7 Version 2.4
 - RCPA Standardised Pathology Informatics In Australia (SPIA) Guidelines V4.0
- RCPA SPIA Resources
- RCPAQAP Validation Tools and Aids
- Questions and Answers

Requirements for information communication and reporting

Section 3: Patient and provider identification

S3.1 The laboratory must return all identifiers received to confirm identity.

C3.1(i) The laboratory should include the Individual Healthcare Identifier (IHI) in electronic data exchange where the IHI has been provided by a requesting practitioner in electronic form.

C3.1(ii) Where a requesting practitioner does not provide the laboratory with an IHI, laboratories are encouraged to obtain the patient's IHI via the health identifier service or previous pathology requests. The laboratory should then use the IHI in electronic data exchange.

S3.2 In electronic data exchange, the laboratory must include the Healthcare Provider Identifier – Individual (HPI-I) and Healthcare Provider Identifier – Organisation (HPI-O) where it has been provided by a requesting practitioner in electronic form.

Requirements for information communication and reporting

Section 4: Conformance with electronic messaging standards


S4.1 Laboratories **must** use the HL7 Standard as defined by the HL7 V 2.4 as set out in [HL7AUSD-STD-OO-ADRM-2017.1](#) the Australian Pathology Messaging – Localisation of HL7 Version 2.4 2017.


C4.1(i) Use of the HL7 standard **must** include testing that demonstrates appropriate use of codes for orderables and results patient, provider and organisation identifiers in the messages in accordance with Standard 3 of this document as well as management of message acknowledgments in accordance with Standard 2.


C4.1(ii) When this HL7 Standard is updated in Australian Standards laboratories are required to move towards adopting the new version.

Requirements for information communication and reporting

Section 6: Request and report format requirements

S6.2 A laboratory **must** ensure that at least one of the observational identifiers used in an electronic report should use the SPIA LOINC coding system, where available, and the associated UCUM units that is in accordance with the SPIA standards⁵ when sending to external organisations. 

C6.2(i) The source of LOINC codes should be those specified in SPIA.⁶ 





C6.2(ii) If SNOMED codes are used in messages, laboratories should use the SNOMED CT-AU code set. 

C6.2(iii) A laboratory may use non-LOINC observational identifiers.



Australian Diagnostics and Referral Messaging

Localization of HL7 Version 2.4

- Current release 2021.1, hereafter ADRM 2021.1 
- Addresses HL7 v2 Orders, Results and Referrals Messages for use in Australia
- Defines ~300 technical Conformance Points 
- “Formalisms” – Prescribed Non-Clinical Data in prescribed places 
e.g. (HL7au:000040) MSH-12 Version ID Field Conformance Points
- HL7 v2 Segments Allowed or Prohibited in Pathology Messages in Australia
- Data Type Structures, Field / Component / Subcomponent Structures
- Required or Recommended Values for Coded Data for use in Australia 



RCPA Standardised Pathology Informatics In Australia

Guidelines V4.0 (RCPA SPIA)

- **Section 2, Requesting terminology and codes**, addresses the codes and terms to use for orderable tests and terms to use for specimen
- **Section 3, Reporting terminology and codes**, addresses the codes and terms to use for test results and implies that these are to be sourced from the RCPA SPIA Terminology Reference Set(s)
- **Section 5, Preferred terms**, addresses the content of the Term used in reporting and its various aspects such as capitalisation, use of bacterium names, and many others
- **Section 6, Units of measure**, addresses the topic of units of measure
- **Section 8, Harmonised reference intervals**, addresses the topic of reference intervals

RCPA Standardised Pathology Informatics In Australia

Guidelines V4.0 (RCPA SPIA)

- Gxx.xx are Guidelines and CGxx.xx are Clarifying Commentary
- Technology agnostic, while acknowledging various technologies, discussing electronic requesting and reporting, and including “Implementation” sections with high-level recommendations
- Recommendations must be interpreted through the lens of target technology for implementation and validation of data values

RCPA Standardised Pathology Informatics In Australia

Guidelines V4.0 (RCPA SPIA)

- Explicitly ties the Guidelines to RCPA SPIA Reference Sets

G2.05 Electronic requests for pathology testing should use coded test concepts and preferred terms from the RCPA SPIA Requesting Pathology Terminology Reference Set or RCPA SPIA Requesting Allergens Terminology Reference Set.

G3.02 Electronic pathology reports should use information models, coded test name concepts, and preferred terms from the RCPA SPIA terminology reference sets.

CG3.02 Where no appropriate term is available, free text may be used to describe the test.





RCPA SPIA Resources

Their use in Validation and Reporting Tools

RCPA SPIA Resources

RCPA SPIA Terminology Reference Sets & Information Models

- The RCPA SPIA Terminology Reference Sets & Information Models can be found on the National Clinical Terminology web site and require sign in credentials that can be obtained by registration 
- The ZIP archive containing the Terminology Reference Sets used in RCPAQAP tools can be obtained, after signing in, from the NCTS site 

RCPA SPIA Resources

Conformance Assessment uses data in RCPA SPIA Terminology Sets, so...

- If the **Code or the Term** used in requesting or reporting is **not defined** in one of the **RCPA SPIA Terminology Reference Sets** then it **cannot be validated** – this applies to SNOMED and LOINC codes
- If the **LOINC Code-specific Units of Measure** (RCPA Preferred and UCUM) used in reporting are **not defined** in one of the reporting RCPA SPIA Terminology Reference Sets they **cannot be validated**
- If the **LOINC Code-specific Reference Interval** used in reporting is **not defined** in one of the RCPA SPIA Terminology Reference Sets then it **cannot be validated** (Chemical Pathology)
- **If no SNOMED or LOINC code is specified then the field cannot be validated**



RCPAQAP Validation Tools and Aids

Demonstration

RCPAQAP Validation Tools and Aids

Currently Available (but not yet public)

- **RCPAQAP Validator** – Validates and reports on conformance with the expectations of NPAAC RICR5, ADRM 2021.1, RCPA SPIA for e-Requesting, RCPA SPIA for Reporting, RCPAQAP EQA Results conformance profiles
- **RCPAQAP SPIA Coding Performance Reporter** – Reports issues with coding of orders or results for conformance with the expectations of the RCPA SPIA
- **NPAAC RICR5 Conformant Order Message Generator** – Produces a conformant HL7 v2 message for user-selected set of orderable tests
- **RCPAQAP SPIA SNOMED Lookup Application** – Allows the user to search for SNOMED metadata by discipline, RCPA preferred term or RCPA synonym

RCPAQAP Validation Tools and Aids

In-progress and Planned

- **RCPAQAP SPIA LOINC Lookup Application** (in-progress) – Allows the user to search for LOINC metadata by RCPA preferred term or RCPA synonym and a collection of filters including discipline and many others
- **RCPAQAP Conformant Results Message Generator** (planned) – Produces a conformant HL7 v2 message for user-selected set of reportable tests
- **RCPAQAP EQA Results Message Validator** (planned) - Validates and reports on conformance with the expectations of the RCPAQAP EQA Results conformance profile – lightweight, with no dependencies on external resources or services



RCPAQAP Tools and Aids Landing Page



The Royal College of Pathologists of Australasia
Quality Assurance Programs

RCPAQAP HL7 v2 Pathology Message Standards Conformance Tools

The Royal College of Pathologists of Australasia Quality Assurance Programs (RCPAQAP) fully supports the Australian Pathology and allied industries in their endeavours to improve quality of care through the use of standards-conformant HL7 v2 Pathology Orders and Results messages for the communication of pathology testing requests and pathology test results between laboratories and points of care.

The RCPAQAP HL7 v2 pathology messages standards conformance validation, reporting and RCPA SPIA coding lookup applications are provided by RCPAQAP to assist Pathology Laboratories, Clinical Practices, Secure Messaging Providers and other interested parties in progressing towards conformance and compliance with regulatory and accreditation requirements.

These tools are provided free of charge on an "as is" basis, with no warranties of any kind.

The **RCPAQAP Validator** accepts a HL7 v2 Orders or Results message, validates it for conformance with the expectations of the ADRM 2021.1, RCPA SPIA Guidelines and NPAAC RCCR5 Conformance Profiles, and provides the validation report for on-line viewing and for download for off-line viewing.

[RCPAQAP Validator App](#)[Application User Guide](#)[Validation Report Guide](#)

The **RCPAQAP RCPA SPIA Coding Performance Reporter** accepts HL7 v2 Orders or Results messages, validates them for conformance with the expectations of the RCPA SPIA Guidelines for e-Requesting or Reporting and provides the validation report for on-line viewing and for download for off-line viewing.

[SPIA Coding Report App](#)[Application User Guide](#)

The **RCPAQAP Standards-conformant HL7 v2 Order Message Generator** allows the user to select one or more Orderable Tests from the RCPA SPIA-defined collection, optionally choose from the list of synonym Terms and synonym Specimen names, and generate a HL7 v2 Order message that conforms to the expectations of the ADRM 2021.1, RCPA SPIA Guidelines and NPAAC RCCR5 Conformance Profiles, and provides the generated HL7 v2 Order message for on-line viewing and for download for off-line viewing.

[SPIA Orders Generator App](#)[Application User Guide](#)




The **RCPAQAP RCPA SPIA-defined SNOMED Code Lookup Tool** allows the user to select an Orderable Test from the RCPA SPIA-defined collection, optionally filter the list by Discipline and by a test name-based filter expression, and view the Discipline, the SNOMED Code, the RCPA Preferred Term, the list of RCPA Synonyms and the list of Specimen codes for the selected Orderable Test.

[SPIA SNOMED Lookup App](#)[Application User Guide](#)

The **RCPAQAP RCPA SPIA-defined LOINC Code Lookup Tool (WIP)** allows the user to select an Reportable Test from the RCPA SPIA-defined collection, optionally filtering the list by Discipline and several attribute filter expressions, and view the Discipline, the LOINC Code, the RCPA Preferred Term, the list of RCPA Synonyms and numerous other attributes.

[SPIA LOINC Lookup App](#)[Application User Guide](#)

RCPAQAP Validator

- Web browser-based application to upload of HL7 v2 Orders and Results messages and obtain report on the results of for conformance with the expectations of:
 - ✓ NPAAC RICR5
 - ✓ ADRM 2021.1
 - ✓ RCPA SPIA Guidelines
 - ✓ RCPAQAP EQA Programmes
- For ADRM 2021.1, conformance profile development used the “Caristix Conformance” Application 
- For ADRM 2021.1, conformance profile validation uses the “Caristix ValidateLive” Server 
- Also by Caristix a useful HL7v2 (international) messages resource 

RCPAQAP Validator

RCPAQAP Pathology HL7 v2 Message Validator ▲

The Royal College of Pathologists of Australasia
Quality Assurance Programs

This application allows a HL7 v2 Pathology message, orders or results, to be validated for conformance with one or more of the implemented conformance profiles.

The implemented conformance profiles are NPAAC RICR5[🔗], ADRM 2021.1[🔗], RCPA SPIA Guidelines[🔗] and RCPAQAP Rules for electronic submission of EQA Results[🔗].

Which conformance profiles will be available for use and can be used in validation depends on the message type and options selection.

Follow the steps below to use the application. See "Help" and "User Guide" for more information on how to use the application.

- In your local file system locate a file containing a HL7 v2 Delimited message which to validate .
- Once the file is selected, load the HL7 message it contains.
- Once you chose the required conformance profiles and profile options, submit the message for validation.
- View and / or Download the validation report when validation completes and the corresponding buttons are enabled.
- See "Help" and "User Guide" for further information on the application.

Browse...

__01_oruR01_clean_TTTTTTTTTT.hl7

Results

Clear Checked

☒ ADRM ☒ RCPA SPIA ☒ SPIA UoM ☒ SPIA Ref Int ☒ QAP EQA ☒ EQA UoM ☒ EQA UCUM *Set from request*

Load Message

Validate Message

View Report

Download Report

About Report

References

Help

User Guide

```
MSH|^~\&|LABG_AUS|LABG_AUS^0000^AUSNATA|LabWare|RCPAQAP^14863^AUSNATA|20230807052705+1000||ORU^R01^ORU_R01|LABG_20230807.2|P|2.4^AUS&Australia&ISO3166_1^H
PID|1||317009^^^RCPAQAP^QA~8003600000000007^^^AUSHIC^NI||CP-GC-22-03^QAP-11292||19780808|M||Suite 201, Level 2, 8 Herbert Street^St.Leonards^Sydney^NSW^2
PV1|1|U
ORC|RE|317009^RCPAQAP^14863^AUSNATA
OBR|1|317009^RCPAQAP^14863^AUSNATA|12345678-13^Performing Laboratory^0000^AUSNATA|250637003^Alanine aminotransferase^SCT|||||CP/11292 CP-GC-22-03||SER
OBX|1|NM|1744-2^Alanine aminotransferase^LN||58|[IU]/L^U/L^UCUM|5-40||||F||||40025064^Performing^Person^^^^^ASIC&DRNumber&AUSHICPR^L^^^QA|MTH^Abbott Ali
OBX|2|FT|TXT^Display Format in TEXT^AUSPDI||Empty comment - required by ADRM-2021.1 but ignored for QAP purposes|||||F
ORC|RE|317009^RCPAQAP^14863^AUSNATA
OBR|2|317009^RCPAQAP^14863^AUSNATA|12345678-13^Performing Laboratory^0000^AUSNATA|271234008^Alkaline phosphatase^SCT|||||CP/11292 CP-GC-22-03||SERUM&S
OBX|1|NM|6768-6^Alkaline phosphatase^LN||50|[IU]/L^U/L^UCUM|30-110||||F||||40025064^Performing^Person^^^^^ASIC&DRNumber&AUSHICPR^L^^^QA|MTH^Abbott Alini
OBX|2|FT|TXT^Display Format in TEXT^AUSPDI||Empty comment - required by ADRM-2021.1 but ignored for QAP purposes|||||F
```

QAPValidationApp Release: 1.0.0 Build: 20250218_1640

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HL7 v2 Message Validation Report

Close Report

Message validation was performed on 2025-02-19, at 08:03:45

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [Australian Diagnostics and Referral Messaging - Localisation of HL7 Version 2.4 \(ADRM-2021.1\)](#) Standard.
The HL7 Message **conforms** to the requirements of the ADRM-2021.1 Standard.

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [Royal College of Pathologists of Australasia RCPA Standardised Pathology Informatics in Australia \(SPIA\) Guidelines v4.0](#) for e-Requesting.
The HL7 Message **conforms** to the requirements of the RCPA SPIA Guidelines v4.0.

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [Royal College of Pathologists of Australasia RCPA Standardised Pathology Informatics in Australia \(SPIA\) Guidelines v4.0](#) for Reporting.
The HL7 Message **conforms** to the requirements of the RCPA SPIA Guidelines v4.0.

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [National Pathology Accreditation Advisory Council \(NPAAC\) - Requirements for information communication and reporting \(Fifth Edition\) \(NPAAC RICR5\)](#).
The HL7 Message **conforms** to the requirements of the NPAAC RICR5.

The message was checked for conformance with the minimum requirements for electronic provision of test results for the relevant RCPAQAP EQA Programme.
This message contains minimum information required for processing EQA results and **can be accepted for processing as a QC results message for EQA programmes**.

Contents

[Message Identification Details](#)
[Message Validation Results](#)
[HL7 Message](#)
[References](#)

Message Identification Details

- Sending Facility: LABG_AUS - 0000
- Message Control Id: LABG_20230807.2
- Date/Time of Message: 20230807052705+1000
- HL7 Message Source: HL7 message body from Web Service Request
- Message Type: **Results Message**
- Conformance Profile Id: "TFTTTTTTFF" / "TFTTTTTTFF"

Message Validation Results

This message **conforms** to the expectations of the [ADRM 2021.1](#) Standard.

This message **conforms** to the expectations of the [RCPA SPIA](#) Guidelines v4.0 for e-Requesting.

This message **conforms** to the expectations of the [RCPA SPIA](#) Guidelines v4.0 for Reporting.

This message **conforms** to the expectations of the [NPAAC RICR5](#) Requirements.

This message **conforms** to the requirements for selected RCPAQAP EQA Programs-supported HL7 messages.

HL7 Message

Please note that line numbers followed by a colon ":", shown to the left of HL7 Segment identifiers, are not a part of the message and are provided to facilitate correlation of diagnostic messages with the HL7 messages segments to which they refer.

```
1: MSH|^~\&|LABG_AUS|LABG_AUS^0000^AUSNATA|LabWare|RCPAQAP^14863^AUSNATA|20230807052705+1000||ORU^R01^ORU_R01|LABG_20230807.2|
2: PID|1||317009^^^RCPAQAP^QA~800360000000007^^^AUSHIC^NI||CP-GC-22-03^QAP-11292||19780808|M||Suite 201, Level 2, 8 He
3: PV1|1|U
4: ORC|RE|317009^RCPAQAP^14863^AUSNATA
5: OBR|1|317009^RCPAQAP^14863^AUSNATA|12345678-13^Performing Laboratory^0000^AUSNATA|250637003^Alanine aminotransferase^
6: OBX|1|NM|1744-2^Alanine aminotransferase^LN||58|[IU]/L^U/L^UCUM|5-40||||F||||40025064^Performing^Person^^^^^ASIC&DR
7: OBX|2|FT|TXT^Display Format in TEXT^AUSPDI||Empty comment - required by ADRM-2021.1 but ignored for QAP purposes||||
8: ORC|RE|317009^RCPAQAP^14863^AUSNATA
9: OBR|2|317009^RCPAQAP^14863^AUSNATA|12345678-13^Performing Laboratory^0000^AUSNATA|271234008^Alkaline phosphatase^SCT|
10: OBX|1|NM|6768-6^Alkaline phosphatase^LN||50|[IU]/L^U/L^UCUM|30-110||||F||||40025064^Performing^Person^^^^^ASIC&DR
11: OBX|2|FT|TXT^Display Format in TEXT^AUSPDI||Empty comment - required by ADRM-2021.1 but ignored for QAP purposes||||
```

References

- [National Pathology Accreditation Advisory Council \(NPAAC\) - Requirements for information communication and reporting \(Fifth Edition\) \(NPAAC RICR5\)](#)
- Orders (ORM^O01)
 - [Royal College of Pathologists of Australasia Standardised Pathology Informatics in Australia \(SPIA\) Guidelines v4.0](#), e-Requesting, Section 2.
 - [SPIA Terminology Reference Sets and Information Models](#)
 - Relevant Requesting Pathology SPIA resources:
 - [RCPA Pathology Terminology and Information Models v1.6 \(zip file\)](#)
 - Data from the following documents is used to verify SNOMED Codes, RCPA Preferred Terms, RCPA Synonyms and Specimen Source names provided in OBR.4 Universal Service Identifier field of HL7 v2 Orders and Results messages.
 - RCPA SPIA Requesting Pathology Terminology Reference Set v4.2.xlsx
- Results (ORU^R01)
 - [Royal College of Pathologists of Australasia Standardised Pathology Informatics in Australia \(SPIA\) Guidelines v4.0](#), Reporting, Sections 3, 6 and 8
 - Relevant Reporting Pathology SPIA resources:
 - [SPIA Terminology Reference Sets and Information Models](#)
 - [RCPA Pathology Terminology and Information Models v1.6 \(zip file\)](#)
 - Data from the following documents is used to verify LOINC Codes, RCPA Preferred Terms, RCPA Synonyms, RCPA Preferred Units of Measure associated with the LOINC Code and UCUM Units of Measure associated with the LOINC Code, provided in fields and components of OBX.3 Observation Identifier, OBX.6 Units of HL7 v2 Results messages.
 - RCPA SPIA Blood Gas Terminology Reference Set v1.2 with license information.xlsx
 - RCPA SPIA Chemical Pathology Terminology Reference Set v3.1.xlsx
 - RCPA SPIA Haematology Terminology Reference Set v3.1.xlsx
 - RCPA SPIA Immunopathology Terminology Reference Set v3.1.xlsx and
 - RCPA SPIA Microbiology Serology Molecular Terminology Reference Set v3.1.xlsx
 - Data from the following documents is used to verify the preferred units and UCUM units provided in the OBX.6 Units field of HL7 v2 Results messages.
 - RCPA SPIA Preferred Units table v1.2.xlsx
 - Data from the following documents is used to verify the reference range provided in the OBX.7 References Range field of HL7 v2 Results messages.
 - RCPA SPIA Chemical Pathology Harmonised Reference Intervals v2.1.xlsx
- [IHI Pre-Implementation Project - Requirements Specification, Section 2.3.1 Healthcare Identifier Standards](#)

Parts of the RCPAQAP ADRM 2021.1 HL7 Conformance Profile for selected Pathology HL7 messages was developed using the [Caristix Conformance](#) tool.
The RCPAQAP Validation Orchestrator invokes the [Caristix Validate Live](#) service to perform validation for conformance with the expectations of the ADRM 2021.1




RCPAQAP Validator

Implemented Conformance Profiles and Rules

- Minimal HL7 v2 message header content validation profile
- NPAAC RICR5 validation profile
- ADRM 2021.1 validation profile
- RCPA SPIA Guidelines v4.0, e-Requesting, Section 2 validation profile
- RCPA SPIA Guidelines v4.0, Reporting, Sections 3, 5, 6 and 8
- RCPAQAP EQA results message validation profile



RCPAQAP SPIA Coding Performance Reporter

- Web browser-based application for assessment of the use of RCPA defined Codes, RCPA preferred terms or RCPA Synonyms, Specimen Sources, Units of Measure,  Reference Intervals  for HL7 v2 messages containing orderable and/or reportable tests
- Uses RCPA SPIA for e-Requesting and Reporting definitions as the basis for assessment 

Chemical Pathology Terminology Reference Set

Example: LOINC Code 36924-9 – partial metadata

- Columns used by the tools
 - RCPA Preferred term
 - RCPA Synonyms
 - Specimen
 - [RCPA Preferred] Unit
 - [Corresponding] UCUM [Unit]
 - LOINC [Code]
- Example Data
 - 14-3-3 protein CSF
 - CJD^{PrP};Mad Cow Disease;Prion Disease
 - CSF
 - ng/mL
 - ng/mL
 - 36924-9



Chemical Pathology Harmonised Reference Intervals

Example: Data required for applicable Reference Interval lookup

- 2951-2, Sodium
- Date of Birth: 01/07/1973
- Sex: M (Male)
- Calculated Age: 51 years [18,718 days]
- Reference Interval: 135-145

Australasian Reference Intervals - Chemical Pathology				
Analyte	Age	Reference	Interpretation of age (days)	Interpretation of reference (units)
Sodium (LN-RCPA: 2951-2)	0d to <1w	(132–147) mmol/L	$0 \leq d \leq 6$	$132 \leq x \leq 147$ mmol/L
	1w to <18y	(133–144) mmol/L	$7 \leq d \leq 6573$	$133 \leq x \leq 144$ mmol/L
	18y to <120y	(135–145) mmol/L	$6574 \leq d \leq 43829$	$135 \leq x \leq 145$ mmol/L



RCPA SPIA Coding Performance Reporter



RCPA SPIA Coding Performance Reporter

This application analyses HL7 v2 Orders (ORM^O01) or Results (ORU^R01) messages, provided by the User, for conformance with the expectations of the RCPA with regard to coding Universal Service identifiers, Observation Identifiers, Units of Measure and other aspects of messages when compared to data for SNOMED-CT and LOINC codes included in the RCPA SPIA Terminology Sets and related materials. [i](#)

Select one or more HL7 message files containing ☐ Orders OR ☒ Results [Choose more HL7 files](#)

[Clear File List](#) [Analyse](#) [View Report](#) [Download Report](#) ☐ Case-sensitive Term and Synonym match?

Selected 2 Files				
File Name	Status	Msg Type	HL7 Vers	
__01_oruR01_clean_TTTTTTTTTT.h17	Can process	ORU^R01	2.4	
eRes_SPIA_G2_01_OBR_08_validate_SPIACodes_OBR4_3_is_SCT.h17	Can process	ORU^R01	2.4	

References

- Orders (ORM^O01)
 - [Royal College of Pathologists of Australasia Standardised Pathology Informatics in Australia \(SPIA\). Guidelines v4.0](#), e-Requesting, Section 2.
 - [SPIA Terminology Reference Sets and Information Models](#)
 - Relevant Requesting Pathology SPIA resources:
 - The terminology set for e-Requesting originally came from the [RCPA Pathology Terminology and Information Models v1.6 \(zip file\)](#). This source may have been updated since the application was released.



RCPA SPIA Coding Performance Reporter



RCPA SPIA Coding Performance Report

Prepared: Sat Feb 15 2025 13:54:27 GMT+1100 (Australian Eastern Daylight Time)

This report summarises the outcomes of analyses of HL7 v2 Orders (ORM^O01) or Results (ORU^R01) messages, provided by the User, for conformance with the expectations of the RCPA with regard to coding Universal Service Identifiers, Observation Identifiers, Units of Measure and other aspects of messages when compared to data for the SNOMED-CT and LOINC codes included in the RCPA SPIA Terminology Sets and related materials.

See [Notes](#) section for notes on interpretation of the report table. See [References](#) section for links to RCPA SPIA materials.


Processed 1 file.

File Name	Applicable Results Segments
00_FBC_Results_20240531.hi7	20

Validation Report

File Name	OBX Type	Test	SPIA LOINC RCPA Preferred Term or RCPA Synonym	SPIA LOINC Code	Identified as LOINC	SPIA Reporting Unit	SPIA UCUM Unit	Identified as UCUM	Reference Range	SPIA SNOMED-CT Code	SPIA SONMED-CT RCPA Preferred Term	Identified as SCT	SPIA Specimen Source	Comment
00_FBC_Results_20240531.hi7	NM	Haemoglobin	Yes (Haemoglobin)	Yes (718-7)	No (missing)	Yes (g/L)	Yes (g/L)	No (missing)	Maybe? (135-175)	No* (23707965)	No* (CBE)	No (missing)	No^ (BLOOD)	OBR Comments * Alleged SNOMED-CT Code [23707965] is not found in the RCPA SPIA e-Requesting Terminology Set - Validity of OBR.4.2 Text "CBE" and the Specimen Source "BLOOD" cannot be determined. ^ Specimen source for the SNOMED-CT Code 23707965 is not defined in RCPA SPIA and is not expected to be populated in the sub-component OBR.15.1.1. OBX Comments ** The field OBX.7 Reference Range, which is expected to be a String Data Type with no internal structure and definitely no unescaped HL7 delimiters, is structured, "135-175^135^175", that is it embeds component delimiter characters, which makes it an invalid reference range. The value of the component OBX.7.1 may be used if required. ? The reference range for LOINC code "718-7" has not been defined by RCPA. In the message it is "135-175". If may be commonly used in clinical practise for this LOINC code but it cannot be validated by this tool.
00_FBC_Results_20240531.hi7	NM	White Cell Count	Yes (White Cell Count)	Yes (6690-2)	No (missing)	No (x10^9/L)	No* (x10^9/L)	No (missing)	Maybe? (4.00-11.00)	No* (23707965)	No* (CBE)	No (missing)	No^ (BLOOD)	OBR Comments * Alleged SNOMED-CT Code [23707965] is not found in the RCPA SPIA e-Requesting Terminology Set - Validity of OBR.4.2 Text "CBE" and the Specimen Source "BLOOD" cannot be determined. ^ Specimen source for the SNOMED-CT Code 23707965 is not defined in RCPA SPIA and is not expected to be populated in the sub-component OBR.15.1.1. OBX Comments ^ The RCPA Preferred Reporting Unit, value "x10^9/L" in the message, is not defined in the RCPA SPIA Preferred Units table - RCPA SPIA Preferred Units table v1.2.xlsx * The UCUM Unit of Measure for the LOINC Code "6690-2" is expected to be "10^9/L" but is "x10^9/L" in th emessage ** The field OBX.7 Reference Range, which is expected to be a String Data Type with no internal structure and definitely no unescaped HL7 delimiters, is structured, "4.00-11.00^4.00^11.00", that is it embeds component delimiter characters, which makes it an invalid reference range. The value of the component OBX.7.1 may be used if required. ? The reference range for LOINC code "6690-2" has not been defined by RCPA. In the message it is "4.00-11.00". If may be commonly used in clinical practise for this LOINC code but it cannot be validated by this tool.
00_FBC_Results_20240531.hi7	NM	Platelet Count	Yes (Platelet Count)	Yes (777-3)	No (missing)	No (x10^9/L)	No* (x10^9/L)	No (missing)	Maybe? (150-450)	No* (23707965)	No* (CBE)	No (missing)	No^ (BLOOD)	OBR Comments * Alleged SNOMED-CT Code [23707965] is not found in the RCPA SPIA e-Requesting Terminology Set - Validity of OBR.4.2 Text "CBE" and the Specimen Source "BLOOD" cannot be determined. ^ Specimen source for the SNOMED-CT Code 23707965 is not defined in RCPA SPIA and is not expected to be populated in the sub-component

RCPAQAP SPIA SNOMED Lookup Application

- Web browser-based application that allows the user to search for RCPA SPIA-defined SNOMED code and metadata by Discipline, RCPA Preferred Term or RCPA Synonym
- Uses RCPA SPIA for e-Requesting definitions as the source of metadata 

RCPAQAP SPIA SNOMED Lookup Application

RCPAQAP RCPA SPIA SNOMED Code Lookup

The Royal College of Pathologists of Australasia
Quality Assurance Programs

Display ☒ Preferred Terms ☒ Synonyms [Help](#) [References](#)


Cytopathology

scree

Orderable Tests List
(S) HPV screen
(S) HPV & LBC screen
(P) Cervical screening test
(S) CST HPV screening
(S) HPV screen
(S) Cervical cytology screen
(P) HPV screen self-collected
(S) HPV screen

RCPA SPIA Orderable Test Details for selected test	
Discipline	Cytopathology
SNOMED Code	1257411000168100
RCPA Preferred Term	Cervical screening test
RCPA Synonym List	CST CST HPV screening HPV screen Cervical cytology screen
Specimen List	Cervix

NPAAC RICH5 Conformant Order Message Generator

- Web browser-based application that allows the user to select one or more orderable tests and generate an example HL7 v2 ORM^O01 message that includes the SNOMED codes and related metadata in one or more OBR segments, and an example Request Form with the corresponding data
- Allows the user to choose a synonym, if defined, and change the specimen source if choices are available, prior to generating the message
- The generated message is valid as far as the RCPAQAP Validator is concerned, provided the user does not choose a synonym instead of the RCPA Preferred Term as this generates an information message
- Uses RCPA SPIA for e-Requesting definitions as the source of metadata 

NPAAC RIC5 Conformant Order Message Generator

This application allows the user to select one or more Orderable Tests, from the list of orderable tests defined in the RCPA SPIA eRequesting Terminology Set, and generate both the HL7 v2Order message and the corresponding Request Form as a PDF document. ⓘ

The generated HL7 v2 message will conform to the expectations of the RCPA SPIA Guidelines for eRequesting, the Australian Diagnostics and Referral Messaging - Localisation of HL7 Version 2.4 Standard (ADRM-2021.1) and the National Pathology Accreditation Advisory Council's Requirements for information communication and reporting, (Fifth Edition) (NPAAC RIC5) Standard. See [References](#) for links to NPAAC RIC5, RCPA SPIA and ADRM 2021.1 Standard materials.

Microbiology

▼

bacill

×

Message Type:

NPAAC, ADRM and SPIA Required Content Only

▼

Click on test name below to remove it from the list

Orderable Tests

Acid fast bacilli microscopy

Ordered Tests

Electrolytes Urea Creatinine
Lipids fasting
Acid fast bacilli identification

Clear Ordered Tests

Set Order Options

Generate Message

View Message

Download Message

View Request

Download Request

NPAAC RIC5 Conformant Order Message Generator



NPAAC RIC5, ADRM 2021.1 and RCPA SPIA Conformant Orders Generator

This application allows the user to select one or more Orderable Tests, from the list of orderable tests defined in the RCPA SPIA eRequesting Terminology Set, and generate both the HL7 v2Order message and the corresponding Request Form as a PDF document. ⓘ

Change Order Options

By default the RCPA SPIA-defined RCPA Preferred Term will be used to populate the HL7 OBR.4 Universal Service Identifier field, component OBR.4.2 Text. If RCPA Synonyms are available for specific tests, one of the RCPA Synonyms can be chosen from the list of RCPA Synonyms using a drop-down menu. If no drop-down menu is shown for the Test then no synonyms were defined. Table column "Effective Term" specified the Term that will be used in the message.

By default the HL7 OBR.15 Specimen Surce Name or Code field, component OBR.15.1 Text, will be populated with the only, or the first Specimen Source code from the list of Specimen Sources. If RCPA SPIA Specimen Source defines a list of Specimen Sources then another of the Specimen Sources can be chosen from the list of Specimen Sources using a drop-down menu. If no drop-down menu is shown for the Test then no alternative specimen sources were defined. Table column "Effective Source" specified the Specimen Source that will be used in the message.

SNOMED Code	RCPA Preferred Term	RCPA Synonyms	Effective Term	Specimen Sources	Effective Source
444164000	Electrolytes Urea Creatinine	Electrolytes Urea Creatinine ▾	Electrolytes Urea Creatinine	Serum	Serum
252150008	Lipids fasting	Lipids fasting ▾	Lipids fasting	Serum	Serum
117769004	Acid fast bacilli identification	Acid fast bacilli identification ▾	Acid fast bacilli identification	Urine ▾	Urine

Click on the "Cancel" button, or presse the Escape (Esc) key on the keyboard to abandon changes and retain previous selections.

Click the "Apply" button to save your selections and update details that will be used to generate the message.

Cancel Changes Apply Changes

- Urine
- CSF
- Tissue
- Sputa
- Skin
- Swabs
- Fluids

- [National Pathology Accreditation Advisory Council \(NPAAC\) - Requirements for information communication and reporting \(7th Edition\) \(NPAAC RIC5\)](#)
- [Australian Diagnostics and Referral Messaging - Localisation of HL7 Version 2.4 \(ADRM-2021.1\) Standard.](#)

NPAAC RIC5 Conformant Order Message Generator



NPAAC RICR5, ADRM 2021.1 and RCPA SPIA Conformant HL7 v2 Orders Message

Prepared: Wed Feb 19 2025 08:38:00 GMT+1100 (Australian Eastern Daylight Time)

The HL7 v2 message presented below is a minimal HL7 v2 Orders message that includes the HL7 Segments and fields essential to convey the order data and metadata that allows the message to conform to the expectations of the ADRM 2021.1 Standard and RCPA SPIA Guidelines, with additional data required by the Message Type selected prior to generation of the message if changed from the default.


See [References](#) section for links to ADRM 2021.1 and RCPA SPIA materials.

```
MSH|^~\&|LabWare|RCPAQAP^14863^AUSNATA|LAB_AUS|LAB_AUS^0000^AUSNATA|20250219083722+1000||ORM^O01^ORM_001|a2f25f87-457b-4587-83d2-812106a373eb|P|2.4^AUS&Australia&ISO3166_1^HL7AU-00-201701&&L|||AL|AL|AUS||en^English^ISO639||TTTTTTTTT
PID|1||1739914642399^^^RCPAQAP^QA~8003601739914641^^^AUSHIC^NI||Librizzi^Thad^Fabien||19730307|M||Suite 9 20 Lot 9 Bungan Street^^Mona Vale^NSW^^Australia^B
PV1|1|U
ORC|NW|1739914642402-1^RCPAQAP^14863^AUSNATA|||
OBR|1|1739914642402-1^RCPAQAP^14863^AUSNATA||444164000^Electrolytes Urea Creatinine^SCT|||CP/999999 CP-GC-99-01||Serum&&L||CP/999999|||CH
ORC|NW|1739914642402-2^RCPAQAP^14863^AUSNATA|||
OBR|2|1739914642402-2^RCPAQAP^14863^AUSNATA||252150008^Lipids fasting^SCT|||CP/999999 CP-GC-99-01||Serum&&L||CP/999999|||CH
ORC|NW|1739914642403-3^RCPAQAP^14863^AUSNATA|||
OBR|3|1739914642403-3^RCPAQAP^14863^AUSNATA||117769004^Acid fast bacilli identification^SCT|||CP/999999 CP-GC-99-01||Urine&&L||CP/999999|||MB
```

References

- [Australian Diagnostics and Referral Messaging - Localisation of HL7 Version 2.4 \(ADRM-2021.1\) Standard.](#)
- [Royal College of Pathologists of Australasia Standardised Pathology Informatics in Australia \(SPIA\) Guidelines v4.0.](#) e-Requesting, Section 2.
- [SPIA Terminology Reference Sets and Information Models](#)
- Relevant Requesting Pathology SPIA resources:
 - [RCPA SPIA Requesting Pathology Terminology Reference Set v4.2](#)
 - [Australian National Release Centre for SNOMED CT on behalf of SNOMED International](#);
 - [RCPA Pathology Terminology and Information Models v1.6 \(zip file\)](#)
- Data from the following documents is used as source of SNOMED Codes, RCPA Preferred Terms, RCPA Synonyms, Specimen Source names and Universal Service Section IDs in the generated HL7 v2 Orders messages
 - RCPA SPIA Requesting Allergens Terminology Reference Set v1.1.xlsx (reference data in this spreadsheet is also present in the Requesting Pathology spreadsheet, with different RCPA Preferred Term capitalisation).
 - RCPA SPIA Requesting Pathology Terminology Reference Set v4.2.xlsx

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PATIENT DETAILS	FACILITY	RCPAQAP, 14863, AUSNATA		MRN	1739914642399	
	SURNAME	Librizzi		FIRST NAME	Thad, Fabien	
	DATE OF BIRTH	7 / 03 / 1973		BIRTH SEX	<input checked="" type="checkbox"/> M <input type="checkbox"/> F	
	ADDRESS	Suite 9 20 Lot 9 Bungan Street, Mona Vale, NSW, Australia				
REQUEST DETAILS	PHONE:	0290456000		GENDER:	Male	
	<input type="checkbox"/> RESULTS URGENT		<input type="checkbox"/> PH		<input type="checkbox"/> FAX	
			WHEN			
	TESTS REQUESTED Electrolytes Urea Creatinine, Lipids fasting, Acid fast bacilli identification					
	CLINICAL NOTES					
	 1739914642399					
	MEDICATION: DATE & TIME OF LAST DOSE / / <input type="checkbox"/> SD					
	Cervical Screening <input type="checkbox"/>					
	HPV Only <input type="checkbox"/>					
	HPV Self Collect <input type="checkbox"/>					
REQUESTOR	Copy of reports to			Doctor's name		
				Signature		
	Address					
	Contact no.					
	Date / /			Provider No.		
MEDICARE NO <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> EXP						
<input checked="" type="checkbox"/> Do NOT send my pathology report to My Health Record						

Message validation was performed on 2025-02-19, at 08:42:17

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [Australian Diagnostics and Referral Messaging - Localisation of HL7 Version 2.4 \(ADRM-2021.1\)](#) Standard.
The HL7 Message **conforms** to the requirements of the ADRM-2021.1 Standard.

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [Royal College of Pathologists of Australasia RCPA Standardised Pathology Informatics in Australia \(SPIA\), Guidelines v4.0](#) for e-Requesting.
The HL7 Message **conforms** to the requirements of the RCPA SPIA Guidelines v4.0.

The message was checked for conformance with the requirements of the RCPAQAP HL7 Conformance Profile for the [National Pathology Accreditation Advisory Council \(NPAAC\) - Requirements for information communication and reporting \(Fifth Edition\) \(NPAAC RICR5\)](#).
The HL7 Message **conforms** to the requirements of the NPAAC RICR5.

Contents

[Message Identification Details](#)
[Message Validation Results](#)
[HL7 Message](#)
[References](#)

Message Identification Details

- Sending Facility: RCPAQAP - 14863
- Message Control Id: a2f25f87-457b-4587-83d2-812106a373eb
- Date/Time of Message: 20250219083722+1000
- HL7 Message Source: HL7 message body from Web Service Request
- Message Type: **Orders Message**
- Conformance Profile Id: "TTTTTFTFFF" / "TTTTTFTFFF"

Message Validation Results

This message **conforms** to the expectations of the [ADRM 2021.1](#) Standard.

This message **conforms** to the expectations of the [RCPA SPIA](#) Guidelines v4.0 for e-Requesting.


This message **conforms** to the expectations of the [NPAAC RICR5](#) Requirements.

HL7 Message

Please note that line numbers followed by a colon ":", shown to the left of HL7 Segment identifiers, are not a part of the message and are provided to facilitate correlation of diagnostic messages with the HL7 messages segments to which they refer.

```
1: MSH|^~\&|LabWare|RCPAQAP^14863^AUSNATA|LAB_AUS|LAB_AUS^0000^AUSNATA|20250219083722+1000||ORM^001^ORM_001|a2f25f87-457b-4587-83d2-812106a373eb|P|2.4^AUS&Australia&ISO3166_1^HL7AU-00-201701&&L|||AL|AL|AUS||en^English^ISO
2: PID|1||1739914642399^^^RCPAQAP^QA~8003601739914641^^^AUSHIC^NI||Librizzi^Thad^Fabien||19730307|M||Suite 9 20 Lot 9 Bungan Street^^Mona Vale^NSW^^Australia^B
3: PV1|1|U
4: ORC|NW|1739914642402-1^RCPAQAP^14863^AUSNATA|
5: OBR|1|1739914642402-1^RCPAQAP^14863^AUSNATA||444164000^Electrolytes Urea Creatinine^SCT|||CP/999999 CP-GC-99-01||Serum&&L||CP/999999|||CH
6: ORC|NW|1739914642402-2^RCPAQAP^14863^AUSNATA|
7: OBR|2|1739914642402-2^RCPAQAP^14863^AUSNATA||252150008^Lipids fasting^SCT|||CP/999999 CP-GC-99-01||Serum&&L||CP/999999|||CH
8: ORC|NW|1739914642403-3^RCPAQAP^14863^AUSNATA|
```

RCPAQAP SPIA LOINC Lookup Application (WIP)

- Web browser-based application that allows the user to search for RCPA SPIA-defined LOINC code and metadata by Discipline, RCPA Preferred Term or RCPA Synonym, and several LOINC metadata filters
- Uses RCPA SPIA for Reporting definitions as the source of metadata 

RCPAQAP SPIA LOINC Lookup Application (WIP)



RCPA SPIA LOINC Code Lookup

☒ Preferred Terms ☒ Synonyms [Clear Filters](#) [Help](#) [References](#)

All Disciplines (no filter)	▼	All values of Timing (no filter)	▼
All values of Subgroup 1 (no filter)	▼	All Systems (no filter)	▼
White cell count differential	▼	All values of Scale (no filter)	▼
All Component Names (no filter)	▼	All Methods (no filter)	▼
All Properties (no filter)	▼	lymphocytes	×

Orderable Tests

(P) Abnormal lymphocytes

(S) Lymphocytes abnormal

(P) Atypical lymphocytes

(S) Reactive lymphocytes

(P) Lymphocytes

(P) Polymphocytes

RCPA SPIA Reportable Test Details for the selected test





LOINC Code	29262-3
RCPA Preferred Term	Abnormal lymphocytes
RCPA Synonym List	Lymphocytes abnormal
Subgroup 1	Full blood count
Subgroup 2	White cell count differential
Specimen List	Blood
RCPA Preferred UoM	10^9/L
UCUM UoM	10^9/L
Component Name	Lymphocytes.abnormal
Property	NCnc
Timing	Pt
System	Bld
Scale	Qn
Method	Manual count



Questions and Answers

Questions and Answers

References

-  NPAAC Requirements for information communication and reporting (5th Ed.)
https://www.safetyandquality.gov.au/sites/default/files/2023-02/requirements_for_information_communication_and_reporting_fifth_edition_2023.pdf
-  Australian Diagnostics and Referral Messaging - Localization of HL7 Version 2.4
<https://hl7v2wgau.atlassian.net/wiki/spaces/OOADRM20211/pages/721244/Australian+Diagnostics+and+Referral+Messaging+--+Localisation+of+HL7+Version+2.4>
-  RCPA Standardised Pathology Informatics In Australia (SPIA) Guidelines V4.0
<https://www.rcpa.edu.au/getattachment/f306b1de-0ac5-411b-946e-fdeacccd07c8/RCPA-SPIA-GUIDELINES-V4-0.aspx>
-  RCPA SPIA Terminology Reference Sets & Information Models
<https://www.healthterminologies.gov.au/access-clinical-terminology/rcpa-pathology-terminology-and-information-models/>





Integrating
the Healthcare
Enterprise

NPAAAC RICR 5th Ed.

ADRM 2021.1

RCPA SPIA Guidelines v4

Implications for Pathology Messaging in Australia

From “National Pathology Accreditation Scheme”

- In 1986, the Australian Government introduced compulsory accreditation for pathology laboratories
- To claim benefits under Medicare as an accredited provider, pathology laboratories must be assessed to and meet the national pathology accreditation standards
- The pathology accreditation standards  underpin the accreditation requirements specified in the *Health Insurance (Accredited Pathology Laboratories—Approval) Principles 2017* 
- **Pathology laboratories must meet the requirements of all the standards**
- The National Association of Testing Authorities, Australia (NATA) is the approved accrediting agency for pathology accreditation

More context – Joining the dots...

- Services Australia regulates the accredited pathology providers eligible for claiming under Medicare, which must be the “Accredited Pathology Laboratories”
- Australian Commission on Safety and Quality in Healthcare (ACSQH) develops and maintains Accreditation Standards and is responsible for the National Pathology Accreditation Scheme (NPAS)
- Under the auspices of the ACSQH the National Pathology Accreditation Advisory Council (NPAAC) develops and maintains the accreditation standards for pathology laboratories in Australia
- The NPAAC Requirements for information communication and reporting, (Fifth Edition) (NPAAC RICR5) are explicitly named in Schedule 1, Accreditation Materials, Item 4 of the Principles as “Accreditation Materials”



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