PITUSUPDATE

Welcome to the seventh issue of PITUS Update. The Project will provide regular updates on the progress of the Pathology Information Terminology and Units Standardisation (PITUS) project through this newsletter.

New standards, information models and terminology reference sets now available

The RCPA Board of Directors have officially endorsed the Standards for Pathology Informatics in Australia (SPIA) and associated information models and terminology reference sets, following internal and public review and endorsement from all of the main stakeholders.

The Standards for Pathology Informatics in Australia (SPIA) supersedes and incorporates the Australian Pathology Units and Terminology Standards and Guidelines (APUTS), and includes new work from the PITUS 15-16 Project:

- New guidelines for best practice for the safe communication of pathology requests (computer generated requests communicated via paper and electronic messaging) and pathology reports (printed and electronic) were added to the Standards for Pathology Informatics in Australia (SPIA) v3.0;
- A total of 969 pathology requested tests have been assigned a SNOMED CT-AU code, with 481 pathology requested tests added by the PITUS 15-16 Project;
- Over 900 modifications were made to the pathology reporting information models and terminology reference sets;
- New information models and terminology reference sets were developed for Colorectal cancer and Prostate cancer (Radical prostatectomy) structured pathology reporting of cancer protocols;
- Six (6) harmonised adult reference intervals added for Bilirubin, Creatine kinase, Alanine aminotransferase, Aspartate aminotransferase, Gamma glutamyltransferase and Lipase.

The Standards for Pathology Informatics in Australia (SPIA) is available on the RCPA website and the RCPA pathology information models and terminology reference sets are available from the Australian Digital Health Agency's NCTS website in a convenient zip file.

Please note: To access or download the RCPA information models and terminology reference sets you will need to register as an individual or organisation on the NCTS website and accept the Registration Terms of Use.

Standards for electronic pathology messaging

The PITUS 15-16 Project collaborated with HL7 Australia to draft the *Australian Pathology Messaging - Localisation of HL7 v2.4*, a localisation of the HL7 International messaging standards, which will provide the required information for implementers of electronic pathology messaging in one document.

In late February 2017, HL7 Australia Board invited HL7 Australia members to provide feedback on the draft messaging standards. The HL7 Australia's Orders and Observations working group are currently preparing the first version of the *Australian Pathology Messaging - Localisation of HL7 v2.4* after reviewing the feedback received from the members and will then submit the first version to the HL7 Australia Board for their approval.

Trial implementation for atomic reporting of cancer to a registry

The Structured Pathology Reporting of Cancer (SPRC) Project run by the RCPA with the support of the Department of Health, have been leading a program to develop a suite of standardised pathology reporting of cancer protocols to improve the safety and completeness of pathology reporting of cancer. The PITUS 15-16 Project collaborated with the SPRC Project to develop pathology information models and terminology reference sets for Colorectal cancer and Prostate cancer (Radical prostatectomy) SPRC protocols.

PITUS 15-16 Working group 5 (wg5) collaborated with the Agency and HL7 Australia FHIR Product Director, to develop a model using the new HL7 Australia's Fast Healthcare Interoperability Resources (FHIR) standards to convey the information model and terminology reference sets for Colorectal cancer and Prostate cancer (Radical prostatectomy) SPRC protocols. The Project selected FHIR to transmit atomic data for SPRC reports, as it is gaining rapid and wide acceptance and will possibly represent the preferred option for the future electronic delivery of complex documents.

A trial implementation to demonstrate computer-to-computer atomic reporting of SPRC reports from two

testing laboratories, NSW Health Pathology North (Hunter and Taree) and Douglas Hanly Moir Pathology to the Cancer Institute NSW, was undertaken using the pathology information models and terminology reference sets developed by wg5 and the new HL7 Australia's FHIR standards

This trial demonstrated that computer-to-computer atomic reporting of SPRC reports is possible by using pathology information models and terminology reference sets and the new HL7's FHIR standard for SPRC reporting. However further development of the HL7's FHIR standards is required before broader implementation can proceed.

The structured pathology reporting of cancer protocols developed by the RCPA SPRC Project, and the pathology information models and terminology reference sets developed by the PITUS 15-16 Project will enable pathology laboratories to deliver higher quality, standardised information to cancer registries by increasing the timeliness of the information and the completeness of the pathology report. This level of improvement in pathology reporting will provide benefits in cancer management and planning services as well as improving patient outcomes.

Trial implementation for an informatics external quality assurance protocol

Compliance and standardisation of pathology reporting terminology are critical elements necessary to maintain integrity of data shared between the sending (pathology providers) and receiving (medical practitioners, MyHealth record, registries, etc.) organisations' computer information systems.

In 2015, as part of the RCPA Quality Assurance Programs (RCPAQAP)'s Liquid Serum Chemistry Program, laboratories were invited to supply a routine paper report displaying results. The RCPQAP analysed the reports against the RCPA APUTS v2.3 standards (now known as the Standards for Pathology Informatics for Australia), and the variations were identified[1.]

The PITUS 15-16 Project collaborated with RCPAQAP to develop and trial an Informatics Quality Assurance (IEQA) protocol to assess the compliance of electronic HL7 pathology report messages with standards published by HL7 Australia and pathology reporting standards published by the RCPA[2], that could be used by accrediting bodies, such as NATA, to assist with compliance.

The RCPAQAP used Medical Objects Pty Ltd (Medical Objects) to develop a compliance software tool for use in this trial, to send standardised electronic request messages and to assess received electronic report messages. Two pathology laboratories volunteered to send HL7 v2 report messages with atomic pathology results for the RCPAQAP Liquid Serum Chemistry Program for analysis in this trial.

The Medical Objects' software tool was used to test the compliance of the HL7 v2 report messages received from each laboratory against the HL7 Messaging Standard Version 2.4 AS4700.2:2012 and RCPA APUTS v2.3 standards. An example compliance report was compiled for each participating laboratory to assess the validity and integrity of the data received.

The RCPAQAP are considering further development of the compliance software tool and may consider a limited trial of the IEQA Program in the future for laboratories participating in the Serum Liquid Chemistry Program.

Thank you

The Pathology Information, Terminology and Units Standardisation (PITUS 15-16) project team would like to thank the 70 pathologists, GPs, other clinicians, scientists and informaticians who contributed to the PITUS-15-16 Project and were responsible for its body of work.

1. Sabrina Koetsier, Graham Ross Dallas Jones, Tony Badrick, *Safe reading of chemical pathology reports: the RCPAQAP Report Assessment Survey*, Pathology (June 2016) 48(4), pp. 357–362
2. Badrick,T, Gay.S, McCaughey, Georgiou A, External Quality Assessment beyond the analytical phase: an Australian perspective, Biochemia Medica 2017:27(1):73-80