

## Position Statement

**Subject: Implementation of Structured Pathology Reporting of Cancer**  
**Approval Date:** March 2015, May 2019  
**Review Date:** May 2023  
**Reviewed By:** Board of Directors  
**Number:** 2/2015

---

The purpose of structured reporting is to improve health outcomes by ensuring optimal clinical understanding of the patient's disease from the pathological report, in order that the most appropriate cancer treatment plan can be developed.

## 1. Background

### Roundtable

Studies show that the traditional narrative style of reporting, leads to the omission of essential information necessary for patient management,<sup>1-3</sup> and that structured reporting significantly enhance the completeness and quality of data in pathology reports.<sup>4-7</sup> Consequently minimum or comprehensive datasets for the reporting of cancer have been developed<sup>8,9</sup> around the world. Both the United Kingdom,<sup>10</sup> and United States<sup>11</sup> have produced standardised cancer reporting protocols or "datasets" for national use for many years.

In response to the growing body of evidence, the Cancer Institute NSW convened a National Round Table meeting in 2007, drawing together the major players in pathology across Australasia. The Round Table meeting documented a number of initiatives in structured reporting in progress around Australia, however, it was apparent that each was being developed in relative isolation creating a concern that each project may end up reporting to a different standard.

The value of a national approach to structured pathology reporting of cancer (SPRC) was clearly recognised at the meeting and it was agreed that "Structured or synoptic reporting of cancer cases in anatomical pathology and haematology contributes to better cancer control at the levels of:

- clinical management and treatment planning
- cancer notification and registration
- aggregated analyses, and
- clinical research

and cancer care in Australia would benefit from the development, publication and adoption of a series of national structured reporting standards for each cancer type".

### SPRC Project

In response to the Roundtable recommendation, the Cancer Institute NSW secured funding in February 2008, from the Department of Health and Ageing (Quality Use of Pathology Programs) to work with the RCPA and Cancer Australia to develop an initial 6 reporting datasets (lung, prostate, breast, and colorectal cancers, lymphoma and melanoma) and a

framework to guide development of the datasets, in partnership with national clinician and pathologist organisations. After the initial success of this pilot, second and subsequent rounds of funding from the Department of Health and Ageing (Quality Use of Pathology Programs) were obtained to build on this foundation.

The Structured Pathology Reporting of Cancer (SPRC) Project has now been actively developing and publishing cancer datasets for more than a decade with 38 cancer datasets available on the RCPA website.<sup>1</sup>

In addition to the datasets, hyperlinked guides, proformas, request information sheets, typist templates and macroscopic dictation templates are published to facilitate implementation.

All published datasets have followed a standard development methodology or “framework”, using an Australasian expert committee, with a National Pathology Accreditation Advisory Council (NPAAC) template, organised by a RCPA Project Manager under the oversight of the Cancer Services Advisory Committee (CanSAC).

## ICCR

In 2011, the International Collaboration on Cancer Reporting (ICCR), was convened with a view to reducing the global burden of cancer dataset development and reduplication of effort by the different international organisations engaged in the development of standardised cancer reporting datasets. Since its inception, the ICCR has rapidly gained momentum in the development of cancer datasets that are freely available for use by organisations globally. In time, this will enable the alignment and normalisation of pathology cancer data around the world as producers of datasets adopt and incorporate the ICCR datasets. In this way the SPRC Project, in conjunction with the ICCR, will provide a full and current suite of cancer datasets for use in Australian pathology laboratories.

## **2. Structured pathology reporting of cancer**

### Benefits of SPRC

From the outset the main aims of the SPRC Project were to:

- Improve outcomes for cancer patients. Pathology reports are needed to guide treatment of the individual patient. Improved completeness of cancer reporting has long term cost implications for public health by ensuring the most effective and timely treatment based on accurate and complete information.
- Improve the evidence base in pathology cancer reporting. Each dataset is thoroughly researched by the expert team using the most recent peer-reviewed literature. This ensures that the elements included in the dataset are based on the latest evidence which in turn raises the standard of cancer reporting.
- Move text/narrative to a strategic communication tool. The traditional text based model of pathology reporting uses text to report both the basic parameters of the report e.g. size, weight, distances, invasion as well as the uncertainties and clarifications necessary to a complete understanding of the case. A structured pathology report encourages the use of text for this latter purpose but uses the structured approach to record the basic elements thereby placing emphasis on the text used.

In addition, it was recognised that structured pathology reports would be needed to:

---

<sup>1</sup> [www.rcpa.edu.au/Library/Practising-Pathology/Structured-Pathology-Reporting-of-Cancer/Cancer-Protocols](http://www.rcpa.edu.au/Library/Practising-Pathology/Structured-Pathology-Reporting-of-Cancer/Cancer-Protocols)

- Support any national cancer data strategy. Extracting information from a largely text based paper report is extremely difficult and involves an intense manual effort. The combination of standardised content, as well as a structured format of discrete fields, support a fully electronic approach to transfer of information to the cancer registries.
- Facilitate access to essential data. Pathology reports contain a wealth of information related to cancer and human disease. Moving from a text based model of reporting to a structured approach opens up this wealth of knowledge for a wide range of purposes: epidemiology; linking to archival tissue specimens for research; trial and outcomes analysis; monitoring quality of patient care and providing much needed data to policy makers.
- Support the e-health implementation. The current text based reports contain data that is often the most critical for patient care and prognosis. This data is also valuable for research, epidemiology, and education purposes. However, this style of report lacks adequate structure to support these needs accurately and efficiently. For data to be moved between electronic systems accurately and for that data to be useable for decision support, data mining and analysis it needs to be moved in a discrete data format.

### Implementation path

In order for Australasia to start reaping the benefits of structured pathology reporting of cancer, widespread compliance with the published protocols in accordance with the Roundtable recommendation is essential.

In describing the implementation of structured pathology reporting of cancer in Ontario, Canada, Srigley et al described a spectrum of reporting from traditional narrative reports with no prescribed content or format (Level 1), to fully conformant, structured and encoded information at Level 6.<sup>6</sup> This approach has been further developed for the Australian context by the Structured Pathology Reporting of Cancer (SPRC) Project (Figure 1).

**Figure 1: Structured pathology reporting of cancer compliance matrix**

	ENTRY LEVEL						GOAL STATE
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	
DATA ENTRY	Narrative only		Use of a structured format	Structured data entry using data entry tools eg drop down lists, multi/single select, conditional logic enabled	Level 4 plus full compliance with mandatory LIS Functional Requirements		
CONTENT	Non-RCPA protocol compliant	RCPA protocol content compliant					
DATA STORAGE	Data stored as a single text field or as a text field per reporting segment eg macroscopic				Individual data elements stored in discrete data fields		
CODING	No coding					SNOMED CT or other coding enabled	
MESSAGING	Discrete data elements are not sent via HL7 <sup>®</sup> messaging					Discrete data elements sent via HL7 <sup>®</sup> messaging	

\*Adapted from Srigley JR, McGowan T, Maclean A et al "Standardized Synoptic Cancer Pathology Reporting: A Population-Based Approach". Journal of Surgical Oncology 2009;99:517-524

<sup>®</sup> Health Level 7 is a not-for-profit organisation defining interoperability and standards in healthcare information technology

However, a survey by NEHTA in 2011 reported that 82% of the large laboratories (>5000 requests per day) in Australia, handling 80% of the pathology work, have no capability of structured reporting or could only implement it as word documents. In New Zealand, the widespread inability of local LIS to accommodate structured reporting prompted the development of a web-based structured reporting tool for the most common cancers. While the situation in Australia has improved since 2011 and many sites have already implemented structured reporting to Level 3, it must be acknowledged that many Laboratory Information Systems cannot go beyond Level 3 (refer Figure 1) without specific investment.

### Compliance

Compliance at Level 3 will improve the completeness, conciseness, conformity and clarity of cancer reports and requires only that cancer report *content* complies with the available SPRC published datasets and that a structured or *synoptic* format is used (though not necessarily using advanced data entry tools). Level 3 is 'entry level' compliance for Australasia which can be achieved using a simple word processor or text editor, and is the simplest form of implementation that does not require investment in new technology.

Therefore, compliance at Level 3 is considered achievable by all laboratories in Australasia and the College considers this to be the minimum level of compliance for reporting of cancers for which published protocols exist.

The implementation of structured reporting at Level 3 provides an excellent foundation for further progress to Level 6. In the course of implementing to Level 3, it is expected that some software-capable organisations will find it easier and more effective to implement at higher levels with the added benefits gained.

A simple implementation guide has been developed to provide guidance to laboratories implementing SPR to Level 3.

### **References**

- 1 Zarbo RJ (1992). Interinstitutional assessment of colorectal carcinoma surgical pathology report adequacy. A College of American Pathologists Q-Probes study of practice patterns from 532 laboratories and 15,940 reports. *Archives of Pathology and Laboratory Medicine* 116(11):1113-1119.
- 2 Leslie K, Rosai J (1994). Standardization of the surgical pathology report: formats, templates, and synoptic reports. *Seminars in Diagnostic Pathology* 11(4):253-257.
- 3 Kempson RL (1992). The time is now. Checklists for surgical pathology reports. *Archives of Pathology and Laboratory Medicine* 116(11):1107-1108.
- 4 Cross SS, Feeley KM, Angel CA (1998). The effect of four interventions on the informational content of histopathology reports of resected colorectal carcinomas. *J Clin Oncol* 16(6):481-482.
- 5 Mathers M, Shrimankar J, Scott D, Charlton F, Griffith C, Angus B (2001). The use of a standard proforma in breast cancer reporting. *J Clin Pathol* 54(10):809-811.
- 6 Strigley JR, McGowan T, MacLean A, Raby M, Ross J, Kramer S, Sawka C (2009). Standardized synoptic cancer pathology reporting: A population-based approach. *J Surg Oncol* 99(8):517-524.

- 7 Gill AJ, Johns AL, Eckstein R, Samra JS, Kaufman A, Chang DK, Merrett ND, Cosman PH, Smith RC, Biankin AV, Kench JG (2009). Synoptic reporting improves histopathological assessment of pancreatic resection specimens. *Pathology* 41(2):161–167.
- 8 Australian Cancer Network Colorectal Cancer Guidelines Revision Committee (2005). *Guidelines for the Prevention, Early Detection and Management of Colorectal Cancer*. The Cancer Council Australia and Australian Cancer Network, Sydney.
- 9 Maughan NJ, Morris E, Forman D, Quirke P (2007). The validity of the Royal College of Pathologists' colorectal cancer minimum dataset within a population. *British Journal of Cancer* 97(10):1393–1398.
- 10 RCP (Royal College of Pathologists) (2009). Datasets and tissue pathways. Available from: <http://www.rcpath.org/index.asp?PageID=254>.
- 11 CAP (College of American Pathologists) (2012-2013). Cancer protocols and checklists. Available from: [http://www.cap.org/apps/cap.portal?\\_nfpb=true&cntvwrPtl\\_t\\_actionOverride=%2Fportlets%2FcontentViewer%2Fshow&\\_windowLabel=cntvwrPtl\\_t&cntvwrPtl\\_t%7BactionForm.contentReference%7D=committees%2Fcancer%2Fprotocols%2Fprotocols\\_index.html&\\_state=maximized&\\_pageLabel=cntvwr](http://www.cap.org/apps/cap.portal?_nfpb=true&cntvwrPtl_t_actionOverride=%2Fportlets%2FcontentViewer%2Fshow&_windowLabel=cntvwrPtl_t&cntvwrPtl_t%7BactionForm.contentReference%7D=committees%2Fcancer%2Fprotocols%2Fprotocols_index.html&_state=maximized&_pageLabel=cntvwr) online text.