



Computerised cancer histopathology reporting, data recording and downloading to cancer registries

The demands that have been placed on NHS histopathologists have increased dramatically over recent years. It is essential that Laboratory Information Systems (LIMS) change and adapt to the requirements of the histopathologist.

From 1st January 2016, all NHS Trusts will be required to provide pathology data items for patients diagnosed with or receiving cancer treatment in or funded by the NHS in a specified electronic format as mandated within the Cancer Outcomes and Services Dataset (COSD). To be able to provide this data in an itemised format, it is essential that LIMS are able to capture this data.

Pathologists and the report recipients, including clinicians, patients and management must all be regarded as stakeholders in the design of LIMS.

There are many poor systems in current use, and whilst the Royal College of Pathologists has recommended for many years that LIMS are able to capture itemised data related to pathology not all are currently able to do so.

The Royal College of Pathologists' Working Group on Cancer Services has considered what should be regarded as minimum requirements of LIMS in relation to the histopathology reporting of cancer specimens, and has made the following recommendations for use by commissioners and suppliers.

1. Histopathology computer systems should be compatible with associated laboratory management systems, local clinical database systems and hospital patient administration and information systems.
2. Computer systems must be capable of secure, accurate and confidential recording of patient and pathology information, and allow varying levels of user access.
3. Systems should allow for the direct entry of patient details and pathology-reporting data items using proformas or, for example, templates with pick-lists with defined choices and help screens. A 'free text' option must also be available..
4. Systems should allow interrogation of a patient's entire pathology data record, enabling current and previous requests and reports to be linked.
5. Pathology reports must contain all of the data items contained in the Royal College of Pathologists' datasets for reporting cancer and should support arrangements with national Cancer Registries for providing the pathology data items mandated by the Cancer Outcomes and Services Dataset.
6. Recording and retrieval of coded information according to SNOMED must be included, and plans should be in place to adopt SNOMED CT prior to 26th April 2017 when antecedent versions will cease to be licensed.
7. All units of measurement should be uniform and standard (for example, all distances in millimetres), according to Royal College of Pathologists' datasets for reporting cancer.



8. Systems must allow the generation of a final authorised pathology report in both electronic and printed format. Mechanisms should restrict the issue of incomplete reports or those containing inconsistent data in different parts of the report. Systems must also allow the generation of supplementary reports to include additional information that becomes available after MDT discussion, further investigations e.g. immunohistochemistry and molecular genetics, and external opinions.
9. It must be possible to generate both full text reports and synoptic reports in the datasets for reporting cancer format from the same data/text entry. The synoptic report contents should be in a format that is automatically transferable to a stand-alone relational database.
10. It must be possible to undertake an audit trail of any changes made to authorised reports.
11. Derived fields should be calculated from entered data wherever possible (e.g. a final pTNM stage should be calculated from previously entered information) and validations should be in place to prevent obviously erroneous data entry.
12. Systems should allow data items and/or reports to be captured and transmitted electronically in a secure, confidential form, using agreed protocols to local clinical management systems, Cancer Networks and national Cancer Registries.
13. Systems should allow intelligent interrogation of databases for laboratory data/workload analysis and the generation of report lists for use by multidisciplinary management teams, audit, and research. This may be achieved either directly in the system or by export of data in an itemised format for analysis in a separate system.
14. Systems should support a continuing programme of development to allow updating of data items (including the introduction and deletion of data items), in line with advances in knowledge and regular reviews of the Royal College of Pathologists' datasets for reporting cancer.
15. It is desirable for the system to be able to store and link graphical images and complex external reports (such as molecular pathology data and graphical data) to cases.
16. Systems should allow the download of anonymous data for audit purposes. For certain key data items (e.g. tumour and dysplasia grading, positivity of clinical cytology or incidence of common diagnoses), pathologists should be able to benefit from automatic audit and benchmarking.

The above list is not exhaustive and merely represents key points that the group feel require emphasis.

Revised September 2015