



Public Health
England

Protecting and improving the nation's health

Radiotherapy Dataset v5.0 (RTDS)

Implementation Plan

National Information Standard (SCCI0111)

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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1. Introduction

The management and delivery of the national Radiotherapy Dataset (RTDS) standard for England (SCCI0111) until March 31st 2016 lies with the National Clinical Analysis and Specialised Applications Team (NATCANSAT), which is based at The Clatterbridge Cancer Centre NHS Foundation Trust. The National Cancer Registration Service (NCRS) within Public Health England (PHE) will take over full responsibility for managing the RTDS standard and dataset with effect from 1 April 2016.

2. Organisations Involved

There are 50 NHS Acute Trusts who provide Radiotherapy treatment services listed below:

Trust Code	Trust name
RHQ	Sheffield Teaching Hospitals NHS Foundation Trust
RTG	Derby Hospitals NHS Foundation Trust
RWD	United Lincolnshire Hospitals NHS Trust
RWE	University Hospitals of Leicester NHS Trust
RX1	Nottingham University Hospitals NHS Trust
RDE	Colchester Hospital University NHS Foundation Trust
RGN	Peterborough and Stamford Hospitals NHS Foundation Trust
RGQ	Ipswich Hospital NHS Trust
RGT	Cambridge University Hospitals NHS Foundation Trust
RM1	Norfolk and Norwich University Hospitals NHS Foundation Trust
RWH	East and North Hertfordshire NHS Trust
RAJ	Southend University Hospital NHS Foundation Trust
RA2	Royal Surrey County NHS Foundation Trust
RAL	Royal Free Hampstead NHS Trust
RAP	North Middlesex University Hospital NHS Trust
RF4	Barking, Havering and Redbridge University Hospitals NHS Trust
RJ1	Guy's and St Thomas' NHS Foundation Trust
RNJ	Barts Health NHS Trust
RPY	The Royal Marsden NHS Foundation Trust
RRV	University College London Hospitals NHS Foundation Trust
RWF	Maidstone and Tunbridge Wells NHS Trust
RXH	Brighton and Sussex University Hospitals NHS Trust
RYJ	Imperial College Healthcare NHS Trust
RBV	The Christie NHS Foundation Trust
REN	The Clatterbridge Cancer Centre NHS Foundation Trust

RXN	Lancashire Teaching Hospitals NHS Foundation Trust
RNL	North Cumbria University Hospitals NHS Trust
RR8	Leeds Teaching Hospitals NHS Trust
	The Newcastle Upon Tyne Hospitals NHS Foundation Trust
RTD	Trust
RTR	South Tees Hospitals NHS Foundation Trust
RWA	Hull and East Yorkshire Hospitals NHS Trust
RHW	Royal Berkshire NHS Foundation Trust
RNS	Northampton General Hospital NHS Trust
RTH	Oxford University Hospitals NHS Trust
RA7	University Hospitals Bristol NHS Foundation Trust
RA9	South Devon Healthcare NHS Foundation Trust
RBA	Taunton and Somerset NHS Foundation Trust
RD1	Royal United Hospital Bath NHS Trust
RD3	Poole Hospital NHS Foundation Trust
REF	Royal Cornwall Hospitals NHS Trust
RH8	Royal Devon and Exeter NHS Foundation Trust
RHM	Southampton University Hospitals NHS Trust
RHU	Portsmouth Hospitals NHS Trust
RK9	Plymouth Hospitals NHS Trust
RTE	Gloucestershire Hospitals NHS Foundation Trust
RJE	University Hospital of North Staffordshire NHS Trust
	University Hospitals Coventry and Warwickshire NHS Trust
RKB	Trust
RL4	The Royal Wolverhampton Hospitals NHS Trust
RRK	University Hospital Birmingham NHS Foundation Trust
RXW	Shrewsbury and Telford Hospital NHS Trust

They are required to capture and submit to the NCRS in PHE, the Radiotherapy Data Set for all patients they treat in facilities under their direct management or for NHS patients treated in private facilities through their contracts with private providers.

3. Current Situation/Proposed Situation

The Radiotherapy Dataset (RTDS) standard (SCCI0111) has required all NHS Radiotherapy Centres to collect and submit standardised data monthly against a nationally defined dataset since 2009 to the National Clinical Analysis and Specialised Applications Team (NATCANSAT). This will continue until 31 March of 2016.

From 1 April 2016 the submission of the dataset, unchanged apart from two minor data format changes, will be required to be submitted to the National Cancer Registration Service in Public Health England.

4. Roles and Responsibilities

The Radiotherapy providers, as expressed above are required to collect and submit the dataset and in turn, Public Health England will receive, validate, quality assure and integrate the data received from across the 50 regional Radiotherapy centres to provide a timely and definitive analytical resource. This will be linked vitally to data captured from other national cancer datasets (Cancer Outcomes and Services Dataset **COSD SCCI1521** and the Systemic Anti-Cancer Therapy dataset **SACT ISB1533** to support key service metrics to track progress in the provision of radiotherapy and other cancer services. This will enable cancer site-specific analyses of outcomes by patient and treatment variables, and provide better understanding and appreciation of the specific role of radiotherapy in improving outcomes compared with other treatment modalities.

5. Migration and Implementation Timetable

I Engagement of all 50 Radiotherapy Centres in England

Time period: July to August 2015

The Data Liaison leads in each of the NCRS offices have made contact with all Radiotherapy Providers to talk through how the change in the management of the standard and the data will affect their individual centre. Issues to be addressed are in the following range:

- Verification of RT machine manufacturers, range of equipment and oncology management systems
- Current data extraction, validation and reporting methods
- Secure key management and technical working contacts
- Offer technical support from PHE
- Request extraction and secure transfer of current dataset for testing purposes
- Local use of current range of quality reports
- Use of linked dataset with the Outpatient Commissioning Dataset for PBR/payments
- Access to historical RTDS database

II Secure and Test data extracts from RT Centres

Time period: July to October 2015

Receive test data extracts from all RT centres to identify and resolve validation, import and reporting issues for each centre. NCRS development team will scope and begin to design the method of importing and integrating RTDS data into the national ENCORE cancer registration system. The team will also scope an online upload portal and a national RTDS data timeliness and quality reporting portal to sit alongside the national reporting portals for the Cancer Outcomes and Services Dataset (COSD) and the Systemic Anti-Cancer Therapy dataset (SACT).

III Deliver Technical Solutions

Time period: September to December 2015

NCRS development team will build and deliver the upload/import portal with built in validation and launch the RTDS reporting portal to meet the current range and standard of reports already available.

IV Comparative Data Receipt and Reporting

Time period: December 2015 to March 2016

NCRS and NATCANSAT teams to receive data submissions (beginning with December submissions) from RT sites to allow comparison of upload, validation and reporting functions and consistency of results. The NCRS will request that as many of the radiotherapy providers as possible agree to support this exercise. It is not a mandatory requirement.

V Go Live

1 April 2016 sole management of the RTDS standard and dataset by PHE - effective launch date.

The implementation project is summarised in the GANNT Chart below and shows brief highlights of progress as of October 2015

	07/15	08/15	09/15	10/15	11/15	12/15	01/16	02/16	03/16	04/16
Secure Data Liaison Visits to all RT Centres	Have met with 49/50 sites									
Secure Test Data Extracts from all RT Centres	Have received 26/50 test data extracts									
SCCI RTDS standard application & ISN publication	Have received conditional approval – furnishing information to lift conditions									
Develop/deliver data mappings and ENCORE import function			Additional developers employed – development underway							
Build, Test and Deploy Reporting Function			Underway							
Build Test and Initiate data load function in Web Portal										
Comparative data collection and reporting with NATCANSAT										
PHE RTDS Standard Management go-live and Standard Conformance Date										

6. Implementation Support

The **Project Board** for RTDS will be the Radiotherapy Information Strategy Group (RISG). The RISG will oversee the transfer, implementation and future development of the standard, holding the project team to account and ensuring that the requirements specification and conformance requirements are adhered to.

The **Project Team** for RTDS, which is responsible operationally for working with data providers and OMS suppliers is drawn widely from across PHE's specialist resources.

Management Lead:	Stephen Raynor, Head of Registration NCRS
Clinical Lead	Dr Rachael Brock, NCRS East
Technical Development lead:	Alan McDonald, Senior Infrastructure Support Manager NDR
Dataset & Reporting lead:	Barry Plewa, Deputy Head of Registration NCRS London
Data Management/Security Lead:	Dr Brian Shand, Software Developer NDR
Analytical Leads:	Sarah Lawton, Senior Analyst NCIN Nicola Cooper, Senior Analyst NCIN Caroline Brook, Head of Registration Northern & Yorkshire Dr Margreet Luchtenborg, Principal Analyst NCIN
Data Liaison Lead:	Karen Graham, National Head of Data Liaison, NCRS
Data Extraction Lead:	Michael Sharpe, Data Liaison Manager, NCRS London
Project Coordinator:	Elsita Payne, Head of Registration NCRS North West

In addition to the project leads and their access to resources and expertise in their teams, additional specialist resources will be engaged to build technical capacity for web development, system development and reporting portal development.

The implementation project will provide technical capacity and expertise to set up the service working with RT centre technical personnel, where needed, to build extraction tools to obtain the nationally defined dataset from RT equipment and oncology management systems.

Additionally, the NCRS has a national team of data liaison staff based in local offices who will coordinate communications and relationship management with each of the RT centres

nationally throughout implementation and subsequently in support and maintenance of the standard.

Data providers in the radiotherapy centres and system suppliers can access implementation support from the senior members of the national project team or from the local data liaison teams.

7. RTDS Glossary

Term	Acronym	Definition
4D Adaptive Radiotherapy	4D ART	The ability to take account of the tumour shape in the three physical dimensions plus the fourth dimension of change with time. It can work well for tumours in areas of the body that may move during treatment, for example due to breathing.
Brachytherapy	BT	Is the delivery of radiation using sealed sources which are placed close to the site that is to be treated. Isotopes used in brachytherapy can be applied directly to the tumour by surface applicators inserted into body cavities and tubular organs via specially designed delivery systems (intracavitary and intraluminal therapy) or inserted directly into a tumour (interstitial radiotherapy).
Cancer outcomes and services data set	COSD	The COSD is the national standard for reporting cancer in the NHS in England. It replaced the previous National Cancer Dataset and includes the former Cancer Registration dataset and additional site specific data items relevant to the different tumour types.
Chemoradiation		Chemoradiation is when chemotherapy and radiotherapy is given together. Chemotherapy may be given intravenously via a pump or orally during part of the radiotherapy course. Radiotherapy and chemotherapy treatments may also be alternated between each other.
Extensible markup language	XML	Extensible markup language (XML) is a set of rules for encoding documents in machine-readable form.
External Beam Radiotherapy	EBR	Radiation therapy given 'from a distance'. This includes most conventional radiotherapy given using linear accelerators. Includes electrically generated and radioisotope beams.
Image Guided Brachytherapy	IGBT	Image guided brachytherapy (IGBT) uses cross sectional image data to create 3D models. This allows clinicians to more precisely plan and deliver the radiation to the target while sparing surrounding health tissues.
Image Guided Radiotherapy	IGRT	IGRT is any imaging at pre-treatment and delivery, the result of which is acted upon, that improves or verifies the accuracy of radiotherapy. IGRT encompasses the whole range of imaging from simple to more complex imaging that allows direct visualization of the tumour and surrounding tissue. Using scanning during treatment enables verification of tumour position in relation to adjacent soft tissue organs.
Intensity Modulated Radiotherapy	IMRT	IMRT is a high precision form of radiotherapy. It moulds (conforms) the shape and dose of the

		radiation precisely to the volume of tumour tissue that needs to be treated, reducing exposure to healthy surrounding tissue. Doses can also be varied to different areas at variable risk of harbouring tumour deposits.
Intra-operative radiotherapy	IORT	IORT applies therapeutic levels of radiation to a target area while the area is exposed during surgery
Linear Accelerator	LA	A radiotherapy machine capable of generating high energy penetrating x-ray and electron beams for the delivery of radiotherapy.
Magnetic Imaging Resonance	MRI	MRI is a medical imaging technique, which makes use of the property of nuclear magnetic resonance (NMR) to image nuclei of atoms inside the body. This allows greater clarity of soft tissue structures.
Molecular Radiotherapy	MRT	MRT is the treatment of disease with radiopharmaceuticals. It delivers high radiation doses to a specific target and spares health organs from serious side effects.
National Cancer Intelligence Network	NCIN	NCIN uses the information collected about cancer patients for analysis, publication and research. NCIN is one of a number of Health Intelligence Networks operated by Public Health England
National Cancer Registration Service	NCRS	The NCRS is the national cancer registration service for England collecting cancer data from all NHS Providers of cancer care in England. It is part of PHE.
Oncology Management System	OMS	A database associated with a radiotherapy machine, which verifies treatment to be delivered against preset criteria and tolerances, and records the details of treatment delivered.
Patient Administration System	PAS	A database that stores demographic, clinical, administrative details of patient attending a hospital.
Positron Emission Tomography	PET	PET scanning is a nuclear medicine imaging technique that produces a three-dimensional image or picture of functional processes in the body.
Proton Beam Radiotherapy		Proton Beam Radiotherapy uses a high-energy beam of protons rather than high energy X-rays to deliver a dose of radiotherapy. Proton beam treatment directs the radiation dose to precisely the depth where it is needed, with minimal damage to surrounding tissue. The treatment is therefore particularly suitable to complex childhood cancers.
Public Health England	PHE	An Executive Agency of the Department of Health
Radiotherapy Data set	RTDS	The data standard
Stereotactic Body Radiotherapy/Stereotactic Ablative Radiotherapy	SBRT/SABR	SBRT or SABR refers to the precise irradiation of an image defined extra cranial lesion associated with the use of high radiation dose in a small number of fractions

Stereotactic Radiosurgery	SRS	SRS refers to the precise irradiation of an image defined lesion, similar to SABR, but given as a single fraction. It has become the standard treatment for a number of cranial treatments
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