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# **National Prostate Cancer Audit State of the Nation report 2024**

## **Outlier Communications**

# National Prostate Cancer Audit

## NPCA State of the Nation report 2024 Outlier Communications



Royal College  
of Surgeons  
of England

The Royal College of Surgeons of England is an independent professional body committed to enabling surgeons to achieve and maintain the highest standards of surgical practice and patient care. As part of this it supports audit and the evaluation of clinical effectiveness for surgery. Registered Charity no: 212808.



HQIP

Healthcare Quality  
Improvement Partnership

The National Cancer Audit Collaborating Centre (NATCAN) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). NATCAN delivers national cancer audits in non-Hodgkin lymphoma, bowel, breast (primary and metastatic), oesophago-gastric, ovarian, kidney, lung, pancreatic and prostate cancers. HQIP is led by a consortium of the Academy of Medical Royal Colleges and the Royal College of Nursing. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical, and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies. <https://www.hqip.org.uk/national-programmes>



THE BRITISH ASSOCIATION  
OF UROLOGICAL SURGEONS

The British Association of Urological Surgeons (BAUS) was founded in 1945 and exists to promote the highest standards of practice in urology, for the benefit of patients, by fostering education, research and clinical excellence. BAUS is a registered charity and qualified medical practitioners practising in the field of urological surgery are eligible to apply for membership. Registered Charity no: 1127044



The British Uro-oncology Group (BUG) was formed in 2004 to meet the needs of clinical and medical oncologists specialising in the field of urology. As the only dedicated professional association for uro-oncologists, its overriding aim is to provide a networking and support forum for discussion and exchange of research and policy ideas. Registered Charity no: 1116828



NDRS

NATIONAL DISEASE REGISTRATION SERVICE

This work uses data that has been provided by patients and collected by the NHS as part of their care and support. For patients diagnosed in England, the data is collated, maintained and quality assured by the National Disease Registration Service (NDRS), which is part of NHS England. Access to the data was facilitated by the NHS England Data Access Request Service.



GIG  
CYMRU  
NHS  
WALES

Rhwydwaith  
Cancer Cymru  
Wales Cancer  
Network

NHS Wales is implementing a new cancer informatics system. As a result, the quality and completeness of data from Wales is likely to have been impacted due to implementation of this new system across multiple NHS organisations (Health Boards), which has resulted in data being supplied by both old and new systems. Additionally, and reflecting the uncertainty of data quality, the data submitted to the audit may not have undergone routine clinical validation prior to submission to the Wales Cancer Network (WCN), Public Health Wales

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# Outlier Communications

## Introduction to the NPCA Outlier Process

The National Prostate Cancer Audit (NPCA) publishes risk-adjusted performance indicators of the quality of care received by men diagnosed with prostate cancer.

Using [funnel plots](#) to compare individual hospital results with the national average, we can identify 'potential negative outliers' whose performance is outside normal limits (further from the national average than would usually occur by chance alone).

An estimate for a performance indicator more than two but below three standard deviations from the national average for two consecutive years is deemed to be an 'alert'. The condition that an estimate should be within the defined range twice in a row before it is considered an 'alert' was added to reduce the chance that a Trust/Health Board is erroneously identified as a potential outlier.

An estimate for a performance indicator more than three standard deviations from the national average is deemed to be an 'alarm'. Trusts/ Health Boards in the current report cycle (State of the Nation 2024) were considered potential outlier 'alarm' Trusts according to the [NPCA Outlier Policy 2024](#). The outlier approach was adapted from the *'NCAPOP Outlier Guidance: Identification and management of outliers'*<sup>1</sup>.

The potential outlier 'alarms' relate to two adjusted treatment-related outcomes.

**Performance indicator 6:** *Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical*

*prostatectomy (presented at the level of the surgical centre).*

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*

Following notification of potential 'alarm' outlier status, each trust was given the opportunity to review their individual data and check this against the NPCA data gathered from their hospital. The trust was then invited to respond by letter to the NPCA team, about the possible underlying causes, and any relevant improvements interventions adopted/ or planned.

The CQC was notified as part of this year's audit process.

This document publishes the trust responses following this process, to support learnings from hospitals who are embarking upon an improvement journey.

Professor Noel Clarke, Urological Clinical Lead representing the British Association of Urological Surgeons

Dr Alison Tree, Oncological Clinical Lead representing the British Uro-oncology Group

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<sup>1</sup> [HQIP-NCAPOP-Outlier-Guidance\\_21022024.pdf](#)

## Responses from Trusts to the Potential 'outlier' alarm 'case to answer' during the NPCA Outlier Policy<sup>2</sup>

Each Trust was contacted by means of a letter to the Clinical Lead. The letter contained an aggregate table explaining the distribution of certain patient characteristics of the patients of interest from their trust compared to national demographics. Trusts were also provided, on request, with a password protected spreadsheet which contained patient level data to support the review.

The following trusts were contacted in relation to the following specific performance indicators:

### Surgical centres

**Performance indicator 6:** Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (presented at the level of the surgical centre).

*For men who underwent a radical prostatectomy between 1 September 2020 and 31 August 2021.*

- East Kent Hospitals University NHS Foundation Trust (page 5)

### Radiotherapy centres

**Performance indicator 7:** Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).

*For men who underwent radical prostate radiotherapy between 1 September 2020 and 31 August 2021.*

- Sheffield Teaching Hospitals NHS Foundation Trust (page 6)
- Royal Surrey County Hospital NHS Foundation Trust (page 10)

The responses from individual outlier trusts in relation to their potential outlier 'alarm' status are as follows:

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<sup>2</sup> <https://www.npca.org.uk/resources/npca-outlier-policy-2024/>

**Response from East Kent Hospitals University NHS Foundation Trust**

**Performance indicator 6:** *Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (presented at the level of the surgical centre).*

## Response from Sheffield Teaching Hospitals NHS Foundation Trust

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*



### Sheffield Teaching Hospitals NHS Foundation Trust

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26 November 2024

Noel Clarke & Alison Tree  
Urological and Oncological Clinical Leads  
National Prostate Cancer Audit  
The Royal College of Surgeons of England  
38-43 Lincoln's Inn Fields  
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Private and Confidential

Dear Mr Clarke and Dr Tree

**Re: Potential Outlier Notification**

## Response from Sheffield Teaching Hospitals NHS Foundation Trust

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*

Thank you for your e-mail and letter to Dr Omar Din and Mr Yahia Al-Tamimi of 8<sup>th</sup> October 2024 alerting us that according to the data for radical radiotherapy that you have for our Trust, our “complication rate at 2 years sits outside the expected ‘alarm’ limits for the national mean rate for gastrointestinal (GI) complications at this time-point” and our Trust has therefore been “flagged” as a potential outlier.

The data shows the proportion of patients experiencing at least one GI (gastrointestinal) complication requiring an intervention within 2 years of radical radiotherapy for men who underwent a radical radiotherapy between 1 September 2020 and 31 August 2021 is 19.1% compared with the England average of 10%.

We have been an outlier in previous years and continue to take this seriously, in order to make improvements to patient outcomes. We have conducted two deep dives to explore patient characteristics, endoscopy findings and reviewed radiation doses to identify any areas of concern and room for improvement. In both cases we concluded that our data suggests there was a high proportion of patients with a pre-existing bowel condition. In last year’s deep-dive, radiation proctitis was documented to be mostly minor with only 1 (2%) documented to have extensive proctitis. In addition, a significant proportion (39.5%) of the endoscopies done also revealed a separate pathology (diverticulosis, haemorrhoids, or polyps) which could account for the reason for endoscopy referral. Argon Plasma Coagulation treatment was needed in only a minority of cases (12.5%). Please advise how patients with pre-existing bowel conditions should be reflected in the data collection.

I also note from the Data Overview provided that the percentage of patients with zero Charlson comorbidities recorded for our trust is higher than the national average (84% vs. 70%).

We have used the NPCA data to make a positive impact and below is a summary of improvements that have been implemented over the last few years. Some of the impact of these changes will not be seen until future NPCA results, due to the time it takes for late rectal toxicity to become apparent.

### Summary of improvements since 2019:

- Fixed field IMRT to VMAT for all prostate RT.
- Daily CBCT image guided radiotherapy for all treatments (including pelvic nodes).
- Reduced nodal irradiation in line with national figures (previously noted to be high).

## Response from Sheffield Teaching Hospitals NHS Foundation Trust

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*

- Planning MR for the vast majority of Prostate RT for the last two years (now extending to prostate and nodal RT treatments also).
- Reduced PTV margins from 10mm/5mm to 8mm/4mm.
- Rectal spacer service for one geographical area (approx. 20% of population). In discussion with Cancer Alliance about more widespread availability.
- PROMs (Patient Reported Outcome Measures) introduced for all patients for first two years (EPIC-26) post radiotherapy.
- Job planned Radiotherapy Peer review meeting introduced at a time when all Consultant Clinical Oncologists can attend.
- Review of rectal doses using ProKnow, for the 2019/20 cohort.

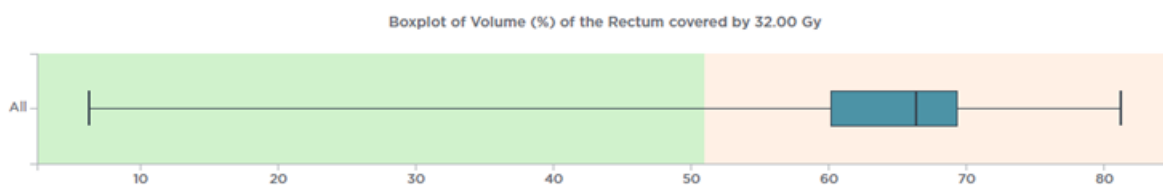
### ProKnow comparison (2019/20):

The team has reviewed recent data for prostate treatment plans on ProKnow which confirms that techniques currently in use in Sheffield are delivering rectal doses which are within the expected range compared with other English radiotherapy centres. In response to last year's deep dive into the audit results, we had already described that the techniques in place in 2019/20 would have resulted in somewhat higher rectal doses, and the changes in technique mentioned above were not all in place by the time the audited 2020/21 patients were treated.

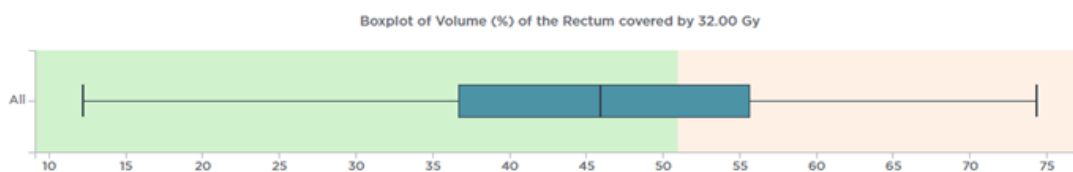
### V32Gy Rectal Volume Analysis (ProKnow):

The national metric indicates <51% is where plans should be sitting. Below are box and whisker plots of Sheffield and national data. Note the scale is not equal between plots.

#### Sheffield 2019/20 for patients receiving 60Gy/20#



#### Sheffield 2023/24 for patients receiving 60Gy/20#

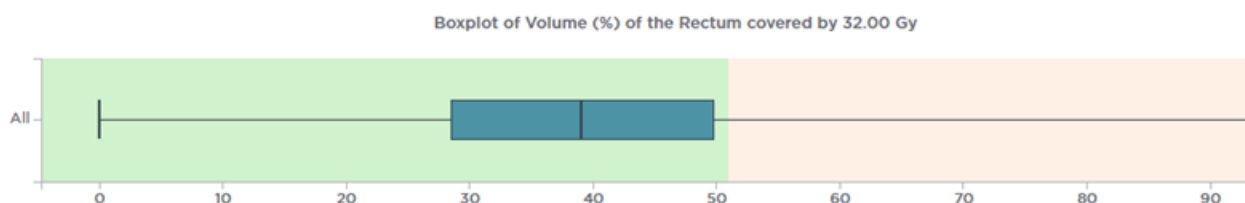




## Response from Sheffield Teaching Hospitals NHS Foundation Trust

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*

### National Radiotherapy Centre data 2023 for patients receiving 60Gy/20#



These data show clear improvements in plan quality for more recently treated patients. Sheffield data is currently in line with the national picture. However, these quality improvements may take some time to become evident on NPCA toxicity data.

The Team has identified further improvements as follows:

- Adjust higher dose constraints for the rectum from V60Gy<3% to <0.01%. Currently being implemented into radiotherapy protocols for Prostate only Radiotherapy.
- Review our own PROMS data, once two-year follow up data available.
- Arrange to visit another centre or invite external review for shared learning – in particular, a high-volume centre with a low rectal toxicity rate.

In summary, changes to our techniques and radiotherapy delivery since 2020 have made a difference, however the NPCA data will not reflect these improvements until after the 2020/21 cohort of data becomes available.

Yours sincerely

Janet Brain  
Clinical Effectiveness Lead  
Sheffield Teaching Hospitals NHS Foundation Trust

## Response from Royal Surrey County Hospital NHS Foundation Trust

**Performance indicator 7:** *Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).*



**Royal Surrey**  
NHS Foundation Trust

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Thursday 21st November 2024

Dr Tree and Professor Clarke

**Performance indicator 6: Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal [GI] complication) up to 2 years following radical prostate radiotherapy (presented at the level of the radiotherapy centre).**

### Re: NPCA Potential Outlier Notification

Thank you for your letter dated 7<sup>th</sup> October 2024 informing us of the information recorded in relation to radical radiotherapy, which set our Trust as outside the expected 'alarm' limits for the national mean rate for gastrointestinal (GI) complications. Many thanks for providing us the source data, which we have conducted a local review. Due to operational pressures in the Trust at this time, we are still looking to complete the review as some of the patients have had their investigations out of area. However, we have provided the following response by way of explanation.

The adjusted percentage of men receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity within two years after radical radiotherapy (GI complication) for RSFT (Royal Surrey NHS Foundation Trust) remains above the National figure by 6.9%. This data applies to patients having undergone radiotherapy in 2020/2021. 54 patients were identified in the NPCA data who experienced radiation proctitis from the total of 302 patients in the audit.

From the review of the data, we found that two of the patients were wrongly coded. One patient had palliative radiotherapy to the prostate, and another patient had radical radiotherapy treatment for penile cancer. We would ask that these two patients be excluded from the dataset.

On closer analysis of the 52 affected patients remaining, 14 patients were found to have a radiation proctitis on colonoscopy, but they did not present with rectal bleeding. They

had colonoscopies for other indications and radiation proctitis was recorded as a finding. The indications for these colonoscopies include polyp surveillance, investigations of weight loss, haemorrhoids, and diverticulitis. Patients who have pre-existing GI issues cannot be excluded from the NPCA so would still be included in the data. As a trust, we are using patient report outcomes in our follow-ups including the use of the male health inventory, which allows early identification of any problems. Our patients are then being referred for investigations, including colonoscopies, more promptly.

We found four patients that were on the SABR arm of PACE C trial. Looking at these four patients, three met the mandatory and optimal tolerances for the rectum dose. One patient did not meet the optimal tolerances on one dose level for the rectum. This particular patient also had a large rectum accepted at CT planning, following multiple rescans and various bowel preparations tried. There was no maximum rectal measurement mandated by the trial. Upon review, we felt that the low dose rectum PTV could have been optimised further and the high dose reduced in the overlap region, which would have helped reduce the overall rectal dose. This was our first SABR delivery in this cohort and we have refined our planning procedures since. We are also prioritising all SABR prostate patients to have a spacing gel to reduce the rectal doses further. All non SABR treatment plans were checked using DVH and plan parameters, they were all within planning limits and treated as per our protocol.

Prior to the NPCA audit findings, we have already implemented changes to improve practice and specifically reduce bowel and rectal radiation doses. This is unlikely to reflect an improvement in results (of reducing the proportion of GI complications) until data for patients having undergone radiotherapy from 2021 onwards are made available.

The changes that have been put into effect since 2021 include:

- Switching to VMAT technique radiotherapy treatment for all patients so the dose distribution is more conformal
- MRI fusion planning is available, which allows more accurate delineation of the prostate
- Margin for the treated high dose radiation volume is reduced (CHIIP trial margins)
- Daily CBCT image guidance is done for radiotherapy treatment
- Identifying cohorts of patients to have a Space OAR to reduce rectal radiation dose
- Appropriate reduction in number of patients receiving pelvic lymph node radiotherapy
- Automated contouring as standard prior to clinician checks during planning.

The improvements in practice that are currently being implemented:

- Peer review for all uro-oncology clinicians
- Standardisation of SV outlining by using the PACE protocol

For the future, we are looking at newer technologies including MRI planning and embarking on more SABR prostate trials to improve our expertise.

The on-going national data collection should demonstrate further embedded improvements. I hope this is acceptable, but please let me know if anything further is required at this stage.

Yours sincerely

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