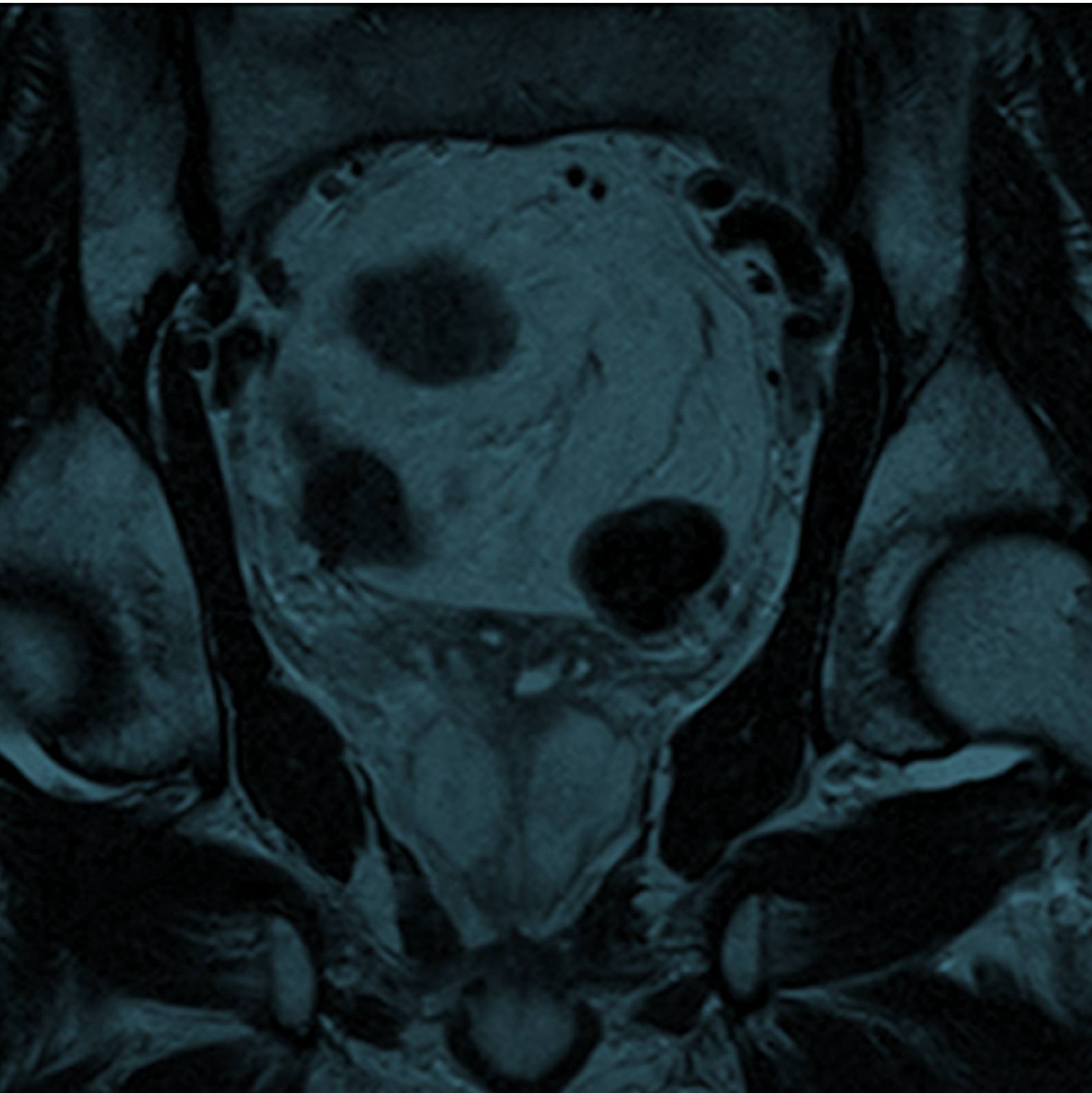


Annual Report 2022

Prostate Cancer services during the COVID-19 Pandemic
(published January 2023)



National Prostate Cancer Audit

Ninth Year Annual Report – Prostate Cancer services during the COVID-19 Pandemic

London: The Royal College of Surgeons of England, 2023.



Royal College
of Surgeons
of England

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The Royal College of Surgeons of England (RCS) 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.

The NPCA is based at the The Clinical Effectiveness Unit (CEU). The CEU is an academic collaboration between The Royal College of Surgeons of England and the London School of Hygiene and Tropical Medicine, and undertakes national clinical audits and research. Since its inception in 1998, the CEU has become a national centre of expertise in methods, organisation, and logistics of large-scale studies of the quality of surgical care. The CEU managed the publication of the NPCA Annual Report, 2022.

In partnership with:



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. It is intended that this website will be a resource for urologists, their patients, other members of the healthcare team and the wider public.



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.



NDRS
NATIONAL DISEASE REGISTRATION SERVICE

National Cancer Registration and Analysis Service (NCRAS), Public Health England collects patient-level data from all NHS acute providers and from a range of national data feeds. Data sources are collated using a single data processing system ('Encore') and the management structure is delivered through eight regional offices across England.

The NCRAS is the data collection partner for the NPCA.

Commissioned by:



HQIP
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The Healthcare Quality Improvement Partnership (HQIP) is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. 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 www.hqip.org.uk/national-programmes

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We would also like to thank all urologists, uro-oncologists and their clinical and non-clinical teams at NHS Trusts in England and Health Boards in Wales who collected and submitted data for the audit. Your support is key to enabling the NPCA to evaluate the care that men receive following a diagnosis of prostate cancer in England and Wales and whether this care reflects recommended guidelines and quality standards. The NPCA compares NHS Providers in England and Wales and provides these results to underpin quality improvement activities.

We are grateful to the National Cancer Registration and Analysis Service (NCRAS) which is part of the National Disease Registration Service, NHS Digital (NHS D)² and the Wales Cancer Network, Public Health Wales for supporting routine cancer data submissions from Trusts and Health Boards and for supplying data for this report. We particularly appreciate the efforts of the cancer intelligence analysts and cancer information specialists at NCRAS and the Wales Cancer Network who supplied the data during the COVID-19 pandemic.

We would like to thank BAUS and BUG for their continued professional guidance and for raising awareness amongst urological and uro-oncological colleagues. We would also like to thank all members of the NPCA Patient and Public Involvement (PPI) Forum for providing advisory support and ensuring the voice of patients is central to the direction and delivery of the NPCA. A lay report summarising the key results will be developed in consultation with the NPCA PPI Forum and published in spring 2023.

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¹ The NPCA is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. 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/>

² This work uses data that has been provided by patients and collected by the NHS as part of their care and support. The data are collated, maintained and quality assured by the National Disease Registration Service, which is part of NHS Digital. <http://www.ndrs.nhs.uk/>

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Foreword

This 2022 NPCA report has been produced as services have been moving back to ‘normality’ but still with added pressures and the aftermath of an extremely difficult period. The pandemic has continued to bring challenges during the data-gathering process which underpins the production of this report. As a result, this year we have continued to use the Rapid Cancer Registration Dataset (RCRD) for England which has been collated successfully by NCRAS staff, giving us access to information we might otherwise have been unable to acquire. We have also received the standard (i.e. ‘usual’) dataset from the team at Public Health Wales despite considerable ongoing pressures. We continue to rely on and be grateful for the efforts and excellence of these teams, which has ensured that this and future NPCA reports can be developed and distributed in a more timely and clinically useful manner. We would like to thank all teams for their outstanding contributions.

This 9th NPCA Annual Report covers the diagnostic period between April 1st 2020, and March 31st 2021, to bring clinicians and patients up to date with the prostate cancer landscape as it stood during the pandemic in England and Wales. It also covers the period, for England, up to the end of December 2021 and for Wales, up to the end of March 2021, giving an insight into the effect of the pandemic on prostate cancer diagnosis and treatment.

The RCRD for England provided quick access to information which would otherwise have been inaccessible, but because of its rapid acquisition, without having the comprehensive range of data available for previous reports, there was inevitably some missing detail that would usually be included in a ‘normal’ year. This has meant that, as in last year’s report, we were again able to report on four of our usual indicators for both England and Wales and a further two for Wales alone.

Given the unusual public health circumstances, the NPCA have not carried out an outlier process for this annual report, similar to last year. However, individual provider results can still be accessed on our website, and we would urge health-care commissioners, hospital trusts, individual practitioners, and patients to make use of these.

Having data on services in England up to the end of 2021 and for Wales up until the end of March 2021, we were also able to report the national and regional picture relating to the impact of COVID-19 on diagnosis and treatment provided compared to the same time periods in 2019. This year, for the first time, we report on the impact of COVID-19 in Wales in 2020 and the patterns of change in diagnoses and treatment rates are similar to those we reported for England last year.³ For England this year, we report on the impact of COVID-19 throughout 2021 and we can see a recovery in many regions for diagnoses and treatment services during this year.

The NPCA Quality Improvement (QI) Programme continues to address issues of variation in provision, and we were pleased with the response to our QI event in December 2021 which focused on reducing variation in the treatment of men with high-risk/locally advanced prostate cancer. Building on the successes of that event, we have planned our next workshop for early 2023. We have a dedicated QI section on the NPCA website (<https://www.npca.org.uk/quality-improvement/>) so please look and use it when you can!

The 2021 organisational audit had a fantastic response rate of 93%. We have published the results on our [website](#) giving a ‘state-of-the-nation’ overview illustrating how prostate cancer diagnostic and treatment services are organised. We have recently updated this organisational audit and, in parallel with the launch of this report, the website reflects any changes over the last year.

We would like to express our great thanks to the members of the NPCA Patient and Public Involvement (PPI) Forum and patient organisations, including Tackle Prostate Cancer and Prostate Cancer UK, for their support. The PPI Forum continues to be at the forefront of all that we do at the NPCA. Our regular meetings with our PPI members allow us to ensure that the work that we are doing at the audit is relevant and important to the patient population. The members review and advise on the appropriateness of our patient information displayed on our website and the members are co-authors on some of the upcoming publications from the NPCA.

/continued over

³ Annual Report 2021. Accessible at https://www.npca.org.uk/content/uploads/2022/01/NPCA-Annual-Report-2021_Final_13.01.22-1.pdf

Foreword

For 2023, the NPCA will continue to work with the National Cancer Registration and Analysis Service and the Wales Cancer Network, to receive the most complete, accurate, timely data possible and to develop our activities aimed at maintaining and improving the quality of services for patients. We will also strengthen our collaborations with existing partners such as the British Association of Urological Surgeons, the British Uro-oncology Group, and NHS Improvement's Getting It Right First Time programme in England, whilst reaching out to other research and treatment collaborative groups to use the power of the NPCA prostate cancer data resource to monitor and improve the quality of care.

After nearly 10 years of the NPCA, we are proud to say that the NPCA is an important prostate cancer resource nationally and internationally. We hope the results presented in this report will continue to assist clinicians, patients and health-care commissioners across the spectrum of prostate cancer care. Given the challenges over the last couple of years for the National Health Service, we hope that this report can shed light on the impact of COVID-19 on prostate cancer services in England and Wales. Evidence in this report demonstrates that there has been some recovery of diagnostic and treatment services in 2021 and we, at the NPCA, want to do all that we can to continue to support this ongoing work.



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Executive Summary

Background

The aim of the NPCA is to assess the process of care and its outcomes in men diagnosed with prostate cancer in England and Wales. The audit determines whether prostate cancer care is consistent with current recommended practice, and it provides information to support healthcare providers, commissioners, regulators, patient groups and patients in helping to improve prostate cancer diagnosis and treatment. In this report we make use of the rapid dataset for England as well as the standard or 'usual' dataset from Wales (i.e., data from the same source as in previous reports: CaNISC, Patient Episode Database for Wales (PEDW) and ONS in Wales) to describe process and outcome measures from selected aspects of the care pathway for men with prostate cancer.

Data collection and analysis

This report presents results from the prospective audit for men diagnosed with, or treated for, prostate cancer between 1st April 2020 and 31st March 2021 in England and Wales.⁴ The basis of the audit is routine data sources. However, this year, as last year, data flows have been subject to COVID-19-related disruption and standard (fully processed) cancer registration data for the reporting period are currently unavailable. Notwithstanding this we have still been able to receive Cancer Network Information System Cymru (CaNISC), Patient Episode Database for Wales (PEDW) and Office for National Statistics (ONS) data in Wales. We also continue to receive quarterly extracts of the Rapid Cancer Registration Dataset (RCRD) in England which has been linked to Hospital Episode Statistics (HES), ONS, the Radiotherapy Data Set (RTDS) and the Systemic Anti-Cancer Therapy (SACT) database. Going forward, we will explore the potential of using more rapidly available data for more frequent reporting and feedback of results.

A comparison of data from the standard NPCA dataset with the RCRD can be found [here](#).

Using the RCRD for England and the data from Wales we report specific information for performance indicators relating to diagnosis, staging and treatment during the first year of the COVID-19 pandemic. These include one disease presentation indicator and three treatment-outcome performance indicators for both England and Wales, and two related to treatment allocation for Wales. We also report specifically on the impact of COVID-19: for England, we report diagnosis and treatment rates in 2021 at the level of the seven NHS regions, and at SMDT or surgical/radiotherapy centre level; for Wales, we report for the first time on diagnosis and treatment rates during 2020 and early 2021, at national level and for the four SMDTs.

How to use this report and the NPCA website

The information presented here reports prostate cancer services in England and Wales, showing variation across providers. Due to the unavailability of standard cancer registration data,⁵ the NPCA has not carried out a formal outlier process in this report. Rather, a breakdown of results at the level of each Trust/Health Board and specialist MDT is provided in the appendices and is available on our [website](#) to facilitate local quality improvement activities. We recommend that these data provide a starting point for all for reflection on the reasons behind variation in practice and outcome, and that this report be used to identify such areas. An action plan template can be found on our website which some may find useful.⁶

The NPCA team are aware of COVID-related changes in the process and breadth of data collection and collation and, as a consequence, its potential shortfalls. For this reason, we would encourage circumspection in making comparisons with every aspect of the findings in our previous reports. However, where we have reported indicators we are confident that the data are robust and it is therefore reasonable to act appropriately in relation to these findings.

Users of this report should take time to identify areas for improvement in data completeness, service availability and patient outcomes. An important aspect of this is the engagement of clinicians to ensure that the data reported on their behalf is both complete and accurate. We also encourage clinical leads and other MDT members to attend our next Quality Improvement workshop (in Spring 2023), where audit results provide a foundation for discussion and improvement in care. The event will be advertised on our [QI webpage](#).

These results can be used by patient charities and support groups to inform their patient and carer networks and by patients to start conversations with their care providers. A lay summary of the report will be published alongside this report in early 2023. Previous lay summaries of our Annual Reports and patient-focussed slide sets for use by support groups can be found on our website at www.npca.org.uk

⁴ Medium-term indicators require longer follow-up (up to two years' post-treatment) so the time period for genitourinary (GU) or gastrointestinal (GI) complications is for treatments received from 1st October 2018 to 30th September 2019.

⁵ Standard cancer registration data for diagnoses in England from 1st January 2020 were unavailable during the preparation of this report. For updates regarding future availability please refer to the monthly National Disease Registration Service [newsletters](#)

⁶ 2022 QI action plan available on the NPCA website

Key Findings

Data quality

- Comprehensive recording of key data (PSA, Gleason score and TNM stage) remained high in Wales, continuing the high standard of 2021 (PSA, Gleason score and TNM variables: 83%, 83% and 70%, respectively). For England, the data completeness of PSA was 63% and 54% for TNM. Information on Gleason score was not available in the data for England for 2019-20⁷ so it was not possible to place men in a risk group.
- Recording of performance status remained high in Wales (100%) and increased in England (66% versus 61% in the previous report).

Prospective audit in England and Wales

- The number of men diagnosed with prostate cancer in England and Wales between 1st April 2020 and 31st March 2021 was 32,426. This is a decrease on the number (45,885) reported in last year's report which covered the period 1st April 2019 to 31st March 2020.
- Synchronous pelvic lymphadenectomy was much more common in Wales than in England: almost half of the prostatectomies performed in Wales included this (49%) compared to a fifth of those in England. This discrepancy between the countries was also found previously (59% vs 21%, in last year's report).
- The proportion of men presenting with metastatic disease at diagnosis in England and Wales between 1st April 2020 and 31st March 2021 is 17%, an increase from 13% in last year's report.
- The proportion of men recorded as having an emergency readmission within 90 days of radical prostate cancer surgery between 1st April 2020 and 31st March 2021 is 12%, similar to the 13% reported last year.

Medium-term outcomes are similar or better than previous years:

- a. Genitourinary complications following radical prostatectomy have remained stable: 7% of men experienced at least one genitourinary complication within two years of their prostatectomy (surgery performed between 1st October 2018 and 30th September 2019).
- b. Gastrointestinal complications following radical radiotherapy has reduced slightly from 11% last year: 10% of men experienced a gastrointestinal complication within two years of their radiotherapy (radiotherapy between 1st October 2018 and 30th September 2019).

Prospective audit in Wales

(These indicators were unavailable for England, so comparative figures from last year's report are given only for Wales)

- 9% of men with low-risk disease had radical treatments and were potentially "over-treated" in Wales between 1st April 2020 and 31st March 2021.⁸ This represents a slight decrease from 2019-2020 when 10% of men were potentially "over-treated" in Wales.
- 28% of men with high-risk disease did not have radical treatments and were potentially "under-treated" in Wales between 1st April 2020 and 31st March 2021.⁵ This has decreased from 2019-2020 when 40% of men were potentially "under-treated" in Wales.

⁷ Gleason score is part of the data submitted to the NDRS, but currently cannot be easily extracted from the pathology data in order to be included in the Rapid Cancer Registration Data. This will be possible once Trusts are able to submit the pathology data in XML format – for further information see http://www.ncin.org.uk/collecting_and_using_data/data_collection/cosd_downloads_v9

⁸ Prostate Cancer. NICE Quality Standard [QS91], 2015 (Updated May 2019) QS2: 'men with low-risk localised prostate cancer for whom radical treatment is suitable are offered a choice between active surveillance, radical prostatectomy or radical radiotherapy'; QS3: 'men with intermediate- or high-risk localised/locally advanced localised prostate cancer who are offered non-surgical radical treatment are offered radical radiotherapy and ADT in combination'

Impact of the COVID-19 pandemic in England and Wales

- The COVID-19 pandemic has had a profound impact on the care provided to patients with cancer, with delays in prostate cancer diagnosis and treatment.
- Wales in 2020:
 - During the first 'lockdown period' April – June 2020 (Q2), there was a 52% reduction overall in the number of patients newly diagnosed with prostate cancer compared with the same period in 2019 (range across the four SMDTs: 34% to 75% decrease). By October – December 2020 (Q4) there was a 25% reduction overall compared with the same time periods in 2019 (range: 47% decrease to 24% increase).
 - There was a 43% reduction in the number of men undergoing radical prostatectomy (RP) in Q2 2020 compared with 2019 which varied by SMDT (range: 16% to 67% decrease). During Q4 there was a 4% reduction in surgical activity compared with 2019 with both Betsi Cadwaladr and Swansea Bay performing more RPs than during the same quartile of 2019 (range: 67% decrease to 150% increase).
 - During Q2 2020 there was a 67% reduction in patients received radiotherapy (RT) compared with 2019 (range: 50% to 83% decrease). By Q4, there was an overall 3% reduction in the number of men starting radical radiotherapy compared with 2019.
 - Increasing use of a hypofractionated regimen was evident across Wales and by July – September (Q3) of 2020 all RT was performed using a hypofractionated regime.
- England in 2021:
 - Overall, there was a 19% reduction in the number of men diagnosed in January to March (Q1 2021) compared to the same period in 2019 (range across seven NHS regions: 12% to 31% decrease). By Q4 2021 the number of men diagnosed had returned to the levels of 2019 (range: 5% increase to 16% decrease).
 - In Q1 of 2021 there was a 41% reduction overall in the number of men undergoing RP compared with 2019. Surgical activity increased for most regions during 2021 and in some, rose higher than in the same quartiles of 2019. Overall however, the number of procedures in Q4 was 14% lower than in 2019, varying by region.
 - During Q1 of 2021 there was a 31% reduction in RT compared with 2019. Despite some recovery, particularly in certain regions, in Q4 the number of men starting RT remained lower than in 2019. A reduction in activity was observed in all seven regions by the end of the year.
 - In 2021, there was evidence of a steadily increasing use of docetaxel, but the level of usage remains relatively low. The utilisation of enzalutamide has continued to increase during 2021.
 - The use of a hypofractionated radiotherapy regimen stabilised across each region, with standard radiotherapy being used less than in 2019 in all regions during 2021.

Table 1. Recommendations, key findings and related national guidance

These recommendations are based on results from data collected in the audit period of 1st April 2020 to 31st March 2021.

No.	Recommendation	Audience	Annual Report 2022 findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
Data quality					
R1	<p>Aim to achieve high completeness of key data items at the point of collection by NHS organisations in England, particularly TNM staging variables.</p> <p>A clinician responsible for reviewing and checking their team's data returns should be identified, mirroring the approach in Wales where data completeness remains high.</p>	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<p>Performance status:</p> <p>England, from COSD (66%) Wales (100%)</p> <p>Stage variable assigned:</p> <p>England, from RCRD (70%)</p> <p>Risk group assigned:</p> <p>Wales (95%) (Results 3.1, Table 3 and 4)</p>	<p>Performance status:</p> <p>Increase: England, from COSD (61%) No change: Wales (100%)</p> <p>Risk group assigned:</p> <p>No change: Wales (94%)</p>	<p>The Cancer Outcome and Services Data set (COSD) has been the national standard for reporting cancer in the NHS in England since January 2013. Feedback reports for the data submitted are available through the Cancer Stats website.</p> <p>The Welsh Cancer Intelligence and Surveillance Unit collects, analyses and releases information about cancer in Wales.</p>
R2	Review recording of whether lymphadenectomy was carried out, working with data specialists.	Prostate cancer teams (local and specialist MDTs) within NHS/Health Boards	Recommendation in light of R14 – R17 .	N/A	<p>The Cancer Outcome and Services Data set (COSD) has been the national standard for reporting cancer in the NHS in England since January 2013. Feedback reports for the data submitted are available through the Cancer Stats website.</p> <p>The Welsh Cancer Intelligence and Surveillance Unit collects, analyses and releases information about cancer in Wales.</p>
Disease status					
R3	Seek advice from a doctor if any of the following new symptoms are experienced: urinary symptoms, erectile problems, blood in their urine or unexplained back pain, as early diagnosis improves outcomes.	Patients	<p>Overall 17% of men in England and Wales were diagnosed with metastatic disease at diagnosis. (ranging from 5% to 30% by specialist MDT; unadjusted results).</p> <p>(Results 3.3.1, Performance indicator 1, Figure 1).</p>	Increase: 13% of men in England and Wales	<p>NHS Long Term Plan for Cancer 2019</p> <p>'...build on work to raise greater awareness of symptoms of cancer, lower the threshold for referral by GPs, accelerate diagnosis and treatment...'</p> <p>Cancer delivery plan for Wales 2016 - 2020</p> <p>'... develop a programme of awareness campaigns for cancer'</p>

No.	Recommendation	Audience	Annual Report 2022 findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
R4	Ensure that a family history of prostate, breast or ovarian cancer is reported to a healthcare provider as it should precipitate a genetic counselling referral.	Patients / patient groups	Overall 17% of men in England and Wales were diagnosed with metastatic disease at diagnosis. (ranging from 5% to 30% by specialist MDT; unadjusted results). (Results 3.3.1, Performance indicator 1, Figure 1).	Increase: 13% of men in England and Wales	NHS Long Term Plan for Cancer 2019 <i>'...build on work to raise greater awareness of symptoms of cancer, lower the threshold for referral by GPs, accelerate diagnosis and treatment...'</i> <i>'routinely offer genomic testing to all people with cancer for whom it would be of clinical benefit'</i> Cancer delivery plan for Wales 2016 - 2020 <i>'... develop a programme of awareness campaigns for cancer'</i>
Outcomes of treatment					
R5	Undertake internal audit and review of radiotherapy treatment delivery processes; target volume delineation, margins, dosimetric constraints, online imaging and patient setup. In England, participation in the RT Operational Delivery Networks may support this. ⁹	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards and Cancer Alliances	10% of men experienced at least one bowel complication (defined as receiving a procedure of the large bowel and confirmed diagnosis of radiation toxicity) within two years after radical radiotherapy. (Results 3.3.1, Performance indicator 4, Figure 4).	Reduction: 11% of men in England and Wales	NICE Guideline [NG131], 2019 1.3.20 Offer people with localised and locally advanced prostate cancer receiving radical external beam radiotherapy with curative intent planned treatment techniques that optimise the dose to the tumour while minimising the risks of normal tissue damage.
R6	Initiate routine integration of radiotherapy peer review ¹⁰ as standard for radical prostate cancer cases. ⁹	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	10% of men experienced at least one bowel complication (defined as receiving a procedure of the large bowel and confirmed diagnosis of radiation toxicity) within two years after radical radiotherapy. (Results 3.3.1, Performance indicator 4, Figure 4).	Reduction: 11% of men in England and Wales	RCR guidance Radiotherapy target volume definition and peer review: second edition 2022 Recommendation 1: Radiotherapy target volume contours should be subject to systematic review by appropriately trained and experienced peer professionals.
R7	Consider establishing radiotherapy centre specialist gastrointestinal services to offer advice to people with bowel-related side effects of radiotherapy.	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	10% of men experienced at least one bowel complication (defined as receiving a procedure of the large bowel and confirmed diagnosis of radiation toxicity) within two years after radical radiotherapy. (Results 3.3.1, Performance indicator 4, Figure 4).	Reduction: 11% of men in England and Wales	NICE Guideline [NG131], 2019 1.3.39 Offer people with signs or symptoms of radiation-induced enteropathy care from a team of professionals with expertise in radiation-induced enteropathy (who may include oncologists, gastroenterologists, bowel surgeons, dietitians and specialist nurses).
R8	Consider initiation of routine hospital level PROMS programmes as part of post treatment follow up to support the identification of these side effects.	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	10% of men experienced at least one bowel complication (defined as receiving a procedure of the large bowel and confirmed diagnosis of radiation toxicity) within two years after radical radiotherapy. (Results 3.3.1, Performance indicator 4, Figure 4).	Reduction: 11% of men in England and Wales	NICE Guideline [NG131], 2019 1.3.39 Offer people with signs or symptoms of radiation-induced enteropathy care from a team of professionals with expertise in radiation-induced enteropathy (who may include oncologists, gastroenterologists, bowel surgeons, dietitians and specialist nurses).

⁹ RT Operational Delivery Networks in England. <https://www.england.nhs.uk/wp-content/uploads/2019/01/Operational-Delivery-Networks-for-External-Beam-Radiotherapy-Services-adults.pdf>

¹⁰ The term 'peer review' as applied to radiotherapy contouring implies that all contours are reviewed by more than one consultant oncologist (or other peer professional with appropriate competencies) with the relevant site-specific expertise. Prospective peer review should be performed in situations where a clinically important difference in judgement between oncologists might occur.

No.	Recommendation	Audience	Annual Report 2022 findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
R9	Support radiotherapy centres to integrate IMRT into standard radiotherapy practice for primary radical RT. ⁹	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	6% of men in England and 1% of men in Wales receive 3D conformal radiotherapy. (Results 3.2, Table 5).	Reduction: 7% of men in England and <1% of men in Wales	NICE Guideline [NG131], 2019 1.3.20 Offer people with localised and locally advanced prostate cancer receiving radical external beam radiotherapy with curative intent planned treatment techniques that optimise the dose to the tumour while minimising the risks of normal tissue damage.
R10	Ensure that men who are offered prostate cancer treatment are made aware of the side effects including: loss of libido, problems getting or keeping erections, loss of ejaculatory function, a worsening of sexual experience, urinary incontinence and/or bowel side effects.	Patients and Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<i>Radical prostatectomy – urinary complications</i> 7% of men experienced at least one genitourinary complication requiring a procedural/surgical intervention within two years after radical prostatectomy. (Results 3.3.1, Performance indicator 3, Figure 3). <i>Radical radiotherapy – bowel complications</i> 10% of men experienced at least one bowel complication within two years after radical radiotherapy. (Results 3.3.1, Performance indicator 4, Figure 4).	No change: 7% of men in England and Wales Reduction: 11% of men in England and Wales	NICE Guideline [NG131], 2019 1.1.12 Tell people with prostate cancer and their partners or carers about the effects of prostate cancer and the treatment options on their: <i>sexual function</i> <i>physical appearance</i> <i>continence</i> <i>other aspects of masculinity.</i> Support people and their partners or carers in making treatment decisions, taking into account the effects on quality of life as well as survival. NICE Quality Standard [QS91], 2015 QS4: men with adverse effects of prostate cancer treatment are referred to specialist services.
R11	Empower patients to ask to be referred to specialist support services if they are experiencing physical or psychological side effects during, or following, prostate cancer treatment. These should be offered early and on an ongoing basis, in keeping with national recommendations.	Patients and Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	Recommendation in light of R15 .	N/A	NICE Guideline [NG131], 2019 1.1.11 Ensure that mechanisms are in place so people with prostate cancer and their primary care providers have access to specialist services throughout the course of their disease.

No.	Recommendation	Audience	Annual Report 2022 findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
R12	Make available sources of further information and support for men with prostate cancer and carers. These are accessible via GP services and from prostate cancer charities including Prostate Cancer UK (www.prostatecanceruk.org) and Tackle Prostate Cancer (www.tackleprostate.org). Both of these charities operate nationwide support networks.	Patients and Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	Recommendation in light of R7 and R15 .	N/A	<p>NICE Guideline [NG131], 2019</p> <p>1.1.3 Offer people with prostate cancer advice on how to get information and support from websites, local and national cancer information services, and from cancer support groups.</p> <p>1.1.4 Choose or recommend information resources for people with prostate cancer that are clear, reliable and up to date. Ask for feedback from people with prostate cancer and their carers to identify the highest quality information resources.</p>
Treatment allocation: recommendations on the basis of Welsh data¹¹					
R13	Continue to advocate active surveillance in the first instance for men with low-risk prostate cancer.	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	9% of men diagnosed with low-risk localised cancer in Wales underwent radical prostate cancer therapy within 12 months of diagnosis. (Results 3.3.2, Performance indicator 5, Table 6).	Decrease: 10% of men were 'potentially over-treated' in Wales	<p>NICE Quality Standard [QS91], 2015</p> <p>QS2: men with low-risk prostate cancer for whom radical treatment is suitable are also offered the option of active surveillance.</p> <p>NICE Guideline [NG131], 2019</p> <p>1.3.7 Offer a choice between active surveillance, radical prostatectomy or radical radiotherapy to people with low-risk localised prostate cancer for whom radical treatment is suitable.</p>
R14	Discuss with your clinical specialist the option of disease monitoring with active surveillance in the first instance.	Patients with low-risk prostate cancer and clinical specialists	9% of men diagnosed with low-risk localised cancer in Wales underwent radical prostate cancer therapy within 12 months of diagnosis. (Results 3.3.2, Performance indicator 5, Table 6).	Decrease: 10% of men were 'potentially over-treated' in Wales	<p>NICE Quality Standard [QS91], 2015</p> <p>QS2: men with low-risk prostate cancer for whom radical treatment is suitable are also offered the option of active surveillance.</p> <p>NICE Guideline [NG131], 2019</p> <p>1.3.7 Offer a choice between active surveillance, radical prostatectomy or radical radiotherapy to people with low-risk localised prostate cancer for whom radical treatment is suitable.</p>

¹¹ In this report we make use of a new rapid dataset for England (the RCRD) as well as the 'usual' dataset from Wales to describe process and outcome measures from selected aspects of the care pathway for men with prostate cancer. The RCRD does not contain information on metastases or Gleason grade which precluded using our risk-stratification algorithm to assign a risk group. As a result, it was not possible to produce indicators based on a risk group for England in this report.

/Table 1 continued

No.	Recommendation	Audience	Annual Report 2022 findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
R15	Investigate why men with high-risk/locally advanced disease are not considered for radical local treatment.	Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	28% of men diagnosed with locally-advanced prostate cancer did not undergo radical treatment within 12 months of diagnosis in Wales and were 'potentially under-treated'. (Results 3.3.2, Performance indicator 6, Table 6).	Decrease: 40% of men were 'potentially under-treated' in Wales	NICE Guideline [NG131], 2019 <i>1.3.13 Do not offer active surveillance to people with high-risk localised prostate cancer.</i> NICE Guideline [NG131], 2019 <i>1.3.14 Offer radical prostatectomy or radical radiotherapy to people with high-risk localised prostate cancer when it is likely the person's cancer can be controlled in the long term.</i>
R16	Discuss with your clinical specialist the radical treatment options available to men with high-risk/locally advanced disease.	Patients and clinical specialists	28% of men diagnosed with locally-advanced prostate cancer did not undergo radical treatment within 12 months of diagnosis in Wales and were 'potentially under-treated'. (Results 3.3.2, Performance indicator 6, Table 6).	Decrease: 40% of men were 'potentially under-treated' in Wales	NICE Guideline [NG131], 2019 <i>1.3.13 Do not offer active surveillance to people with high-risk localised prostate cancer.</i> NICE Guideline [NG131], 2019 <i>1.3.14 Offer radical prostatectomy or radical radiotherapy to people with high-risk localised prostate cancer when it is likely the person's cancer can be controlled in the long term.</i>
Overall recommendations					
R17	Review of the NPCA indicators for providers should be undertaken within the region and nationally, and fed through to providers. Pay particular attention to variations in service provision (diagnostics, treatment and support services) and treatment outcomes. Where variation is apparent, agree quality improvement action plans and present these to the Trusts and Health Boards which should put in place follow-up procedures to monitor the implementation of practice changes to address problems identified.	Commissioners and health care regulators	Recommendation in light of R1 – R16 .	N/A	<i>This recommendation is based on the views of the NPCA CRG.</i>
R18	Ensure that radiotherapy and surgical treatment centres continue to integrate and upgrade evidence-based treatments and support services for patients. ¹²	Commissioners and health care regulators	Recommendation in light of R7–R11 and R14 .	N/A	<i>This recommendation is based on the views of the NPCA CRG.</i>

¹² Treatments including radical prostatectomy, external beam radiotherapy, hypofractionated radiotherapy and brachytherapy. NHS England. Guidelines for the Management of Prostate Cancer <https://www.england.nhs.uk/mids-east/wp-content/uploads/sites/7/2018/05/guidelines-for-the-management-of-prostate-cancer.pdf>

Table 2. Impact of COVID-19: recommendations, key findings and related national guidance

These recommendations are based on results from data collected in England during 2021 and Wales during 2020/21.

No.	Recommendation	Audience	Annual Report 2022 results findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
Diagnosis and radical treatment					
CRI	Review the diagnostic and treatment activity for your region during 2020 and 2021 illustrating how your service responded during this time and to support decision making in response to current changes in demand.	Cancer alliances. Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<p>England (2021)</p> <p>From January - December:</p> <p>The number of men newly diagnosed with prostate cancer in England in 2021 was 40,107, which as a proportion of 2019 was 93% (43,305 in 2019). (Results 4.3, Figure 8)</p> <p>The number of men undergoing radical prostatectomy in England in 2021 was 5,834, which as a proportion of 2019 was 82% (7,137 in 2019). (Results 4.3, Figure 12)</p> <p>The number of men initiating radical radiotherapy in England was 10,500, which as a proportion of 2019 was 82% (12,793 in 2019). (Results 4.2, Figure 16)</p> <p>Wales: (2020)</p> <p>From April - December:</p> <p>There was a 52% reduction in the number of men newly diagnosed with prostate cancer during Q2 compared with the same period in 2019. There was a 25% reduction in Q4 2020 compared with the same time periods in 2019. (Results 4.2, Figure 6)</p> <p>There was a 43% reduction in the number of men undergoing radical prostatectomy in Q2 compared with 2019. Surgical activity increased and during Q4, there was a 4% reduction in surgical activity compared with 2019. (Results 4.2, Figure 11)</p> <p>During Q2, 145 fewer men initiated radical radiotherapy, a 67% reduction compared with 2019. There was an overall 3% reduction in Q4 compared with 2019. (Results 4.2, Figure 14)</p>	<p>England (2020)</p> <p>From April - December:</p> <p>Increase: The number of men newly diagnosed with Prostate Cancer (PCa) in England in Q2-Q4 was 21,260, which as a proportion of the same period in 2019 was 67% (31,541 in 2019)</p> <p>Increase: The number of men undergoing radical prostatectomy in England in Q2-Q4 was 3,798 which as a proportion of 2019 was 74% (5,141 in 2019)</p> <p>Decrease: The number of men initiating radical radiotherapy in England in Q2-Q4 was 7,930 which as a proportion of 2019 was 87% (9,144 in 2019)</p>	<p>NHS England Cancer Recovery Taskforce: Cancer Services Recovery Plan, 2020</p> <p><i>'Phase 1: ensure continuation of essential cancer treatment and screening for high risk individuals during the initial peak of the pandemic.</i></p> <p><i>Phase 2: restore disrupted services as far as possible to at least pre-pandemic levels.</i></p> <p><i>Phase 3 (to run until March 2021): full recovery of NHS cancer services in England, including ensuring that care for all patient groups continues to be safe, effective and holistic.'</i></p> <p>NHS England 2021/22 priorities and operational planning guidance, 2021</p> <p><i>'To restore full operation of all cancer services... local systems, drawing on advice and analysis from their Cancer Alliance, will ensure that there is sufficient diagnostic and treatment capacity in place'</i></p>

No.	Recommendation	Audience	Annual Report 2022 results findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
CR2	Monitor adherence to the recommended diagnostic pathway for suspected prostate cancer.	Cancer alliances. Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<p>England (2021) From January - December: The number of men newly diagnosed with prostate cancer in England in 2021 was 40107, which as a proportion of 2019 was 93% (43305 in 2019). (Results 4.3, Figure 8)</p> <p>Wales (2020) From April - December: There was a 52% reduction in the number of men newly diagnosed with prostate cancer during Q2 compared with the same period in 2019. There was a 25% reduction in Q4 2020 compared with the same time period in 2019. (Results 4.2, Figure 6)</p>	<p>England (2020) From April - December: Increase: The number of men newly diagnosed with PCa in England in Q2-Q4 was 21,260, which as a proportion of the same period in 2019 was 67% (31,541 in 2019) (Results 4.2, Figure 6)</p>	<p>NHS England Implementing a timed prostate cancer diagnostic pathway, 2018</p> <p><i>'Improve performance against national standards (particularly 62 day performance and the 28 day faster diagnosis standard)'</i></p> <p>NHS England Cancer Recovery Taskforce: Cancer Services Recovery Plan, 2020</p> <p><i>'Phase 1: ensure continuation of essential cancer treatment and screening for high risk individuals during the initial peak of the pandemic.</i></p> <p><i>Phase 2: restore disrupted services as far as possible to at least pre-pandemic levels.</i></p> <p><i>Phase 3 (to run until March 2021): full recovery of NHS cancer services in England, including ensuring that care for all patient groups continues to be safe, effective and holistic.'</i></p> <p>NHS England 2021/22 priorities and operational planning guidance, 2021</p> <p><i>'All systems are expected to work with regions to deliver increased capacity to meet the diagnostic needs for their population, in line with the recommendations of the Richards review.'</i></p>
Hypofractionation					
CR3	Continue to increase the use of hypofractionated radiotherapy.	Radiotherapy centres. Cancer alliances. Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<p>England (2021) From January - December: Of the men undergoing radical radiotherapy during 2021 there was consistently lower levels of conventional radiotherapy being used across all regions in 2021 compared to 2019. (Results 4.2, Figure 17a)</p> <p>Wales (2020) From April - December: Of the men undergoing radical radiotherapy in 2020, 98% used a hypofractionated regimen. (Results 4.2, Figure 15)</p>	<p>England (2020) From April - December: Of the men undergoing radical radiotherapy there was an increase in the use of a hypofractionated regimen, 78% (7,148/9,109) in 2019 vs 85% (6,595/7,772) in 2020 (Results 4.2, Figure 12)</p>	<p>Guidance pre-dating the COVID-19 pandemic: NICE Guideline [NG131], 2019</p> <p><i>'1.3.17 For people having radical external beam radiotherapy for localised prostate cancer: offer hypofractionated radiotherapy (60 Gy in 20 fractions) using IMRT, unless contraindicated'</i></p> <p><i>Guidance published during the COVID-19 pandemic recommended 'the wider use of short, high daily dose (hypofractionated) radiotherapy' including:</i></p> <p>NICE Guideline [NG162], 2020</p> <p>RCR Coronavirus Guidance</p>

No.	Recommendation	Audience	Annual Report 2022 results findings underlying recommendation	Previous results (Annual Report 2021)	National guidance
Systemic anti-cancer treatment					
CR4	Offer enzalutamide (or apalutamide) with androgen deprivation therapy (or abiraterone for patients intolerant of enzalutamide) to people with newly diagnosed metastatic disease instead of docetaxel, where appropriate.	Cancer alliances. Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards	<p>England (2021)</p> <p>From January - December:</p> <p>The utilisation of enzalutamide has continued to increase during 2021 with 1793 patients receiving enzalutamide during that year (compared to 1065 patients in 2020 and just 7 patients in 2019).</p> <p>(Results 4.2, Figure 18 a,b and c)</p>	<p>England (2020)</p> <p>From April -December:</p> <p>There was a 74% reduction in the number of men receiving docetaxel in Q2-Q4 (1458 vs 377; 2019 vs 2020, respectively)</p> <p>During the same time period, there was a marked increase in the number of men receiving enzalutamide in Q2-Q4 (3 vs 1011; 2019 vs 2020, respectively)</p> <p>(Results 4.2, Figure 14)</p>	<p>Guidance pre-dating the COVID-19 pandemic: NICE Guideline [NG131], 2019</p> <p>'1.5.6 Offer docetaxel chemotherapy to people with newly diagnosed metastatic prostate cancer who do not have significant comorbidities'</p> <p>Updated guidance 2020:</p> <p>NICE Guideline [NG161], 2020. NHS England interim treatment changes during the COVID-19 pandemic</p> <p>'Option to give enzalutamide with androgen deprivation therapy for patients with newly diagnosed metastatic disease instead of docetaxel to reduce toxicity and potential for admission. For patients who are intolerant of enzalutamide, give the option of switching treatment to abiraterone'</p> <p>Updated guidance 28.10.21:</p> <p>Project information Apalutamide for treating prostate cancer [ID1534] Guidance NICE</p> <p>[NICE updated guidance to add when published]</p>

Diagnosis & staging

For men diagnosed in England and Wales April 2020 - March 2021:

32,426 men were **diagnosed** with prostate cancer in England and Wales between **1st April 2020 and 31st March 2021**



decrease compared with 45,885 men in 2019-2020*
*this may be explained by the reporting period being pre-COVID-19 in last year's report

58% of men were **70 years or older**



17% of men presented with **metastatic** disease

Treatment outcomes

For men undergoing surgery in England and Wales between April 2020 - March 2021:

12% of men were **readmitted** within 3 months following surgery



Decreased compared with 13% in 2019-2020

For men undergoing radical treatment between October 2018 and September 2019:

7% experienced at least one **genitourinary** complication requiring a procedural/surgical intervention within two years after **radical prostatectomy**

10% experienced at least one **gastrointestinal** complication requiring a procedural/surgical intervention within two years after **radical radiotherapy**

Stable compared with 7% in last year's report

Decrease compared with 11% in last year's report

Treatment allocation

For men diagnosed in Wales April 2020 - March 2021:

Low-risk, localised disease

High-risk/locally advanced disease

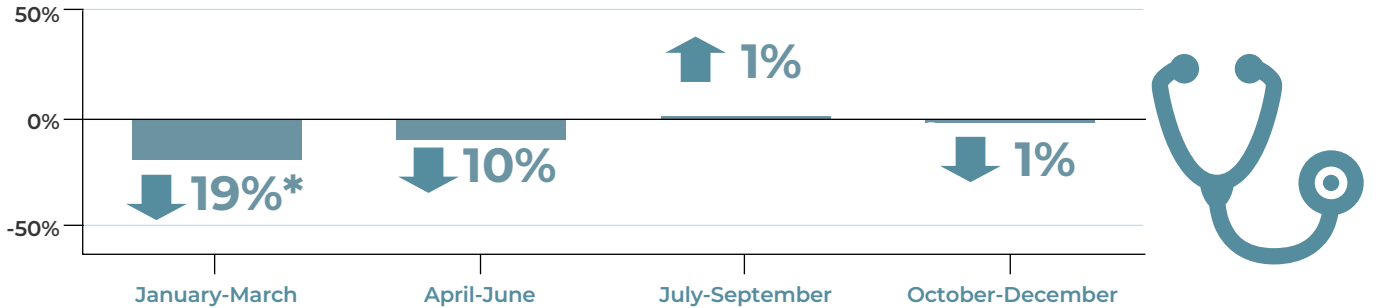
9% of men had radical treatments and were **potentially 'over-treated'** - 10% in 2019-2020

28% of men did not have radical treatments and were **potentially 'under-treated'** - 40% in 2019-2020



Impact on Diagnosis

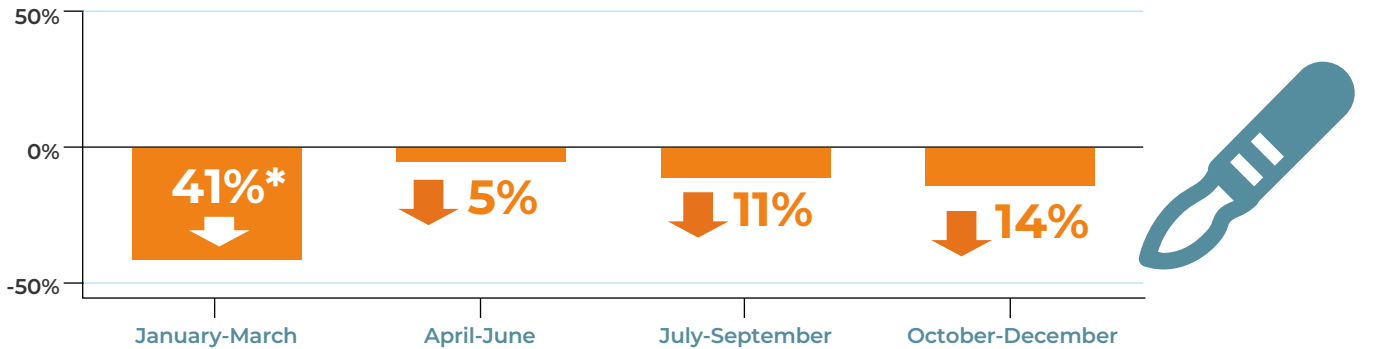
Number of patients newly diagnosed with prostate cancer in 2021 (compared to same period in 2019)



* There was a 19% reduction in the number of men diagnosed between January-March 2021 compared with same period in 2019

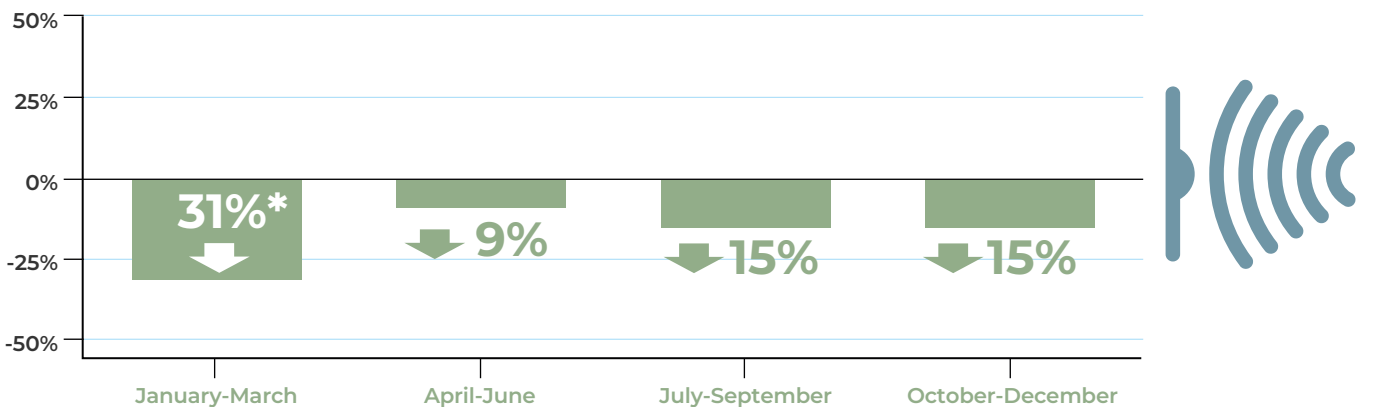
Impact on Radical treatment received

Number of patients undergoing radical prostatectomy in 2021 (compared to same period in 2019)



* There was a 41% reduction in the number of men undergoing prostatectomy between January-March 2021 compared with same period in 2019

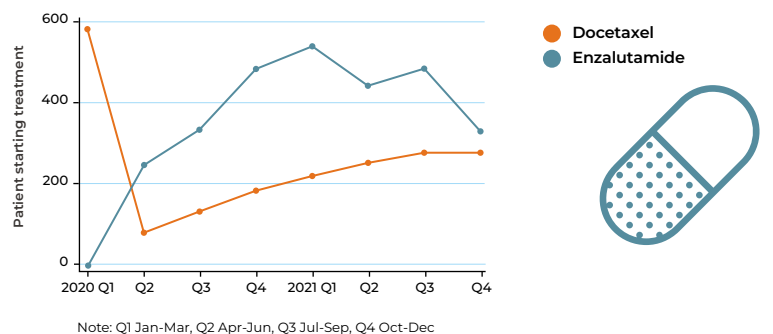
Number of patients undergoing radical radiotherapy in 2021 (compared to same period in 2019)



* There was a 31% reduction in the number of men undergoing radiotherapy between January-March 2021 compared with same period in 2019

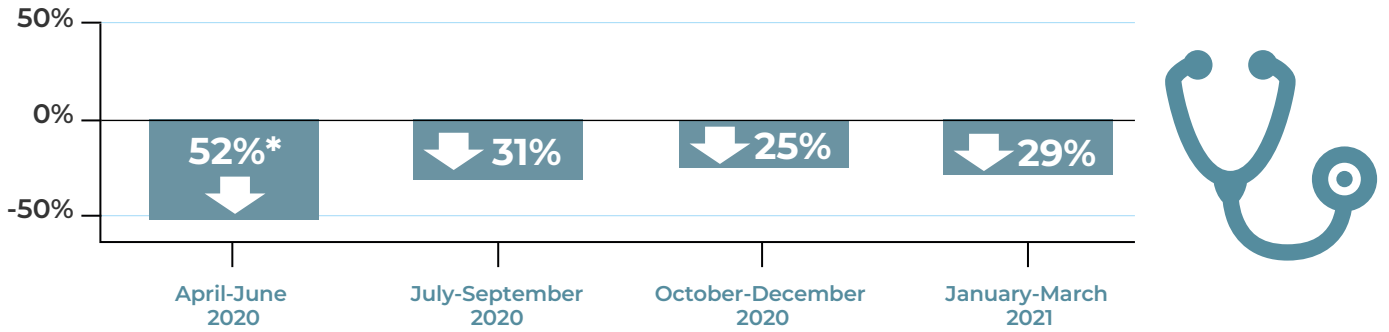
Impact on systemic therapy

There has been a dramatic shift in utilisation rates of **Docetaxel** and **Enzalutamide** during 2020 and 2021.



Impact on Diagnosis

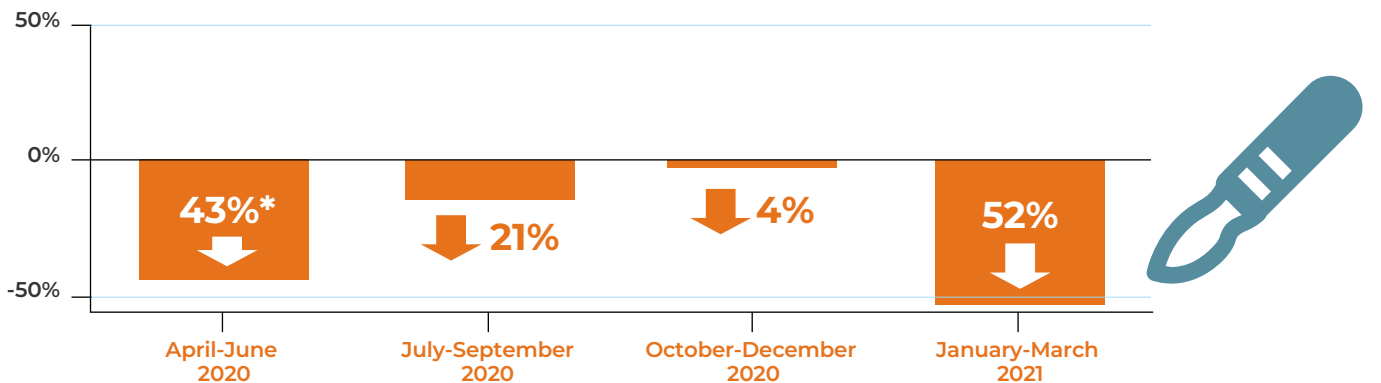
Number of patients newly diagnosed with prostate cancer in 2020 or 2021 (compared to same period in 2019)



* There was a 52% reduction in the number of men diagnosed between April - June 2020 compared with same period in 2019

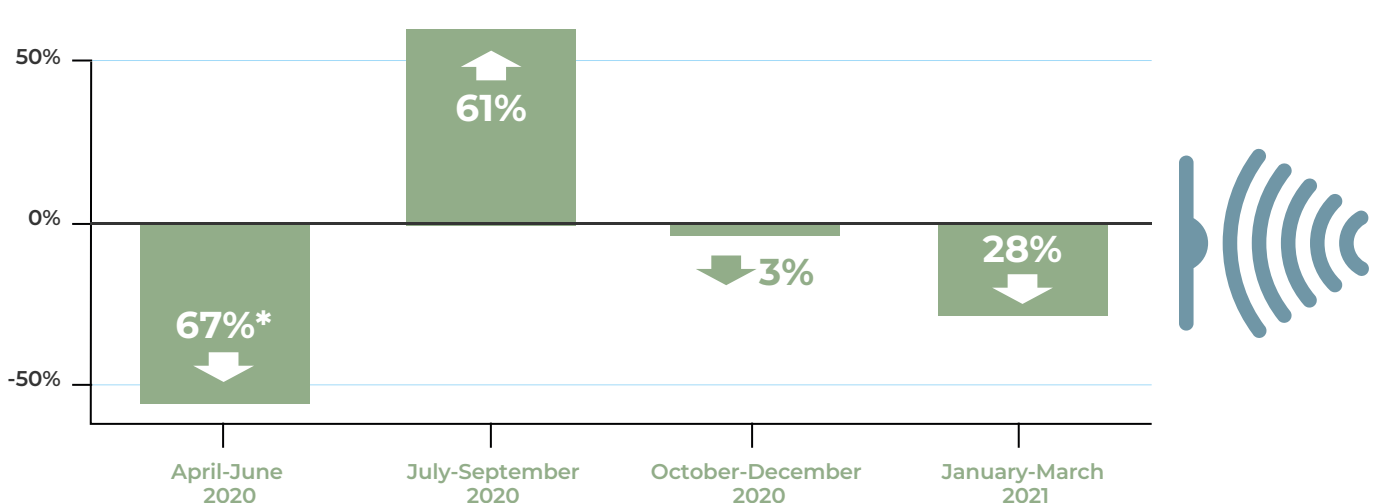
Impact on Radical treatment received

Number of patients undergoing radical prostatectomy in 2020 or 2021 (compared to same period in 2019)



* There was a 43% reduction in the number of men undergoing prostatectomy between April - June 2020 compared with same period in 2019

Number of patients undergoing radical radiotherapy in 2020 or 2021 (compared to same period in 2019)



* There was a 67% reduction in the number of men undergoing radiotherapy between April - June 2020 compared with same period in 2019

1. The National Prostate Cancer Audit (NPCA): Introduction

The National Prostate Cancer Audit has been reporting annually for nine years, developing and adding indicators year-on-year until last year when, as a consequence of the COVID-19 pandemic, fewer indicators were reported. Similarly this year we will be reporting fewer indicators: although the NPCA still covers the whole patient care pathway from diagnosis through to treatment and treatment-related outcomes, the unprecedented circumstances of the pandemic mean that data capture, collection and collation has been affected severely. We are fortunate to be able to report as usual for Wales and in addition, we have been able to access a Rapid Cancer Registration Dataset (RCRD) for England, provided by NCRAS.

Limiting the impact of the adverse events of radical treatments remains a priority area. We use our previously developed and validated performance indicators to identify men experiencing moderate genitourinary (GU) complications following surgery (radical prostatectomy) and moderate GI toxicity following radiotherapy (external beam radiation [EBRT]).^{13,14} We have been able to do this for this report using the RCRD for England and the standard audit dataset for Wales.

The key indicators regarding potential “over-treatment” of low-risk disease and potential “under-treatment” of high-risk localised/locally advanced disease, which have shown improving trends over the first years of the Audit, could only be reported for Wales again this year as risk stratification was not possible using the English RCRD dataset.

Despite the ongoing challenges relating to COVID-19, we have been able to report on several key indicators and describe the impact of COVID-19 on diagnosis and treatment services during the pandemic. This year we report on the impact of COVID-19 on diagnostic and treatment services in Wales for the first time, looking at 2020 and the first quarter of 2021 compared to 2019. In England, we compare the impact of COVID-19 on diagnostic and treatment services in 2021 to both 2019 and 2020. We hope that the findings included, reporting where we have robust data available, will continue to drive quality improvement in centres across the country.

1.1. Aim and objectives

The aim of the NPCA is to assess the process of care and its outcomes in men diagnosed with prostate cancer in England and Wales.

The key objectives of the Audit are to investigate:

- service delivery and organisation of prostate cancer care in England and Wales.
- the characteristics of men newly diagnosed with prostate cancer.
- the diagnostic and staging process and planning of initial treatment.
- the initial treatments that men received and the determinants of variation.¹⁵
- overall and disease-free survival with further follow-up.¹⁶

The NPCA determines whether the care received by men diagnosed with prostate cancer in England and Wales is consistent with current recommended practice and provides information to support healthcare providers, commissioners and regulators in helping to improve care for patients. The NPCA is the first national audit which can report on process and outcome measures from all aspects of the care pathway for men with prostate cancer. This year we focus on indicators for selected parts of the pathway for which we have robust, complete data.

13 Sujenthiran A, Charman S et al. [Quantifying severe urinary complications after radical prostatectomy: the development and validation of a surgical performance indicator using hospital administrative data.](#) *BJU int* (2017); 120:219-225

14 Sujenthiran A, Nossiter J et al. [National population-based study comparing treatment-related toxicity in men who received Intensity-modulated versus 3D-Conformal Radical Radiotherapy for prostate cancer.](#) *Int J Radiat Oncol Biol Phys.*(2017); 99: 1253 -1260

15 For example, a [short report](#) published in October 2020 explored geographical variation in the management of high-risk/locally advanced prostate cancer in England and investigated potential determinants for receipt of treatment including age, comorbidities, socioeconomic status and ethnicity, which was explored further in a corresponding [peer-reviewed publication](#).

16 Outcome measures of survival are not used in this year's Annual Report but will be used in future reports when the NPCA data has sufficient follow-up.

2. Methods

For full details of our methodology including the data used, definition of variables and details of statistical analysis, please see the most recent version of the NPCA Annual Report Methodology Supplement (www.npca.org.uk).

NPCA dataset and Rapid Cancer Registration Dataset

The NPCA uses patient data collected routinely by the national Cancer Registration and Analysis Service (NCRAS) in England and the Wales Cancer Network (WCN) including data on the diagnosis, management and treatment of every patient newly diagnosed with prostate cancer in England and Wales.

For England, NCRAS provide data from its cancer analysis system, which collates patient data from a range of national data feeds across all NHS providers. For this annual report NCRAS provided data from the Rapid Cancer Registration Dataset (RCRD), which is sourced from the Cancer Services and Outcomes Dataset (COSD), which contains proxy tumour registrations up to December 2021, as the standard Cancer Registration data were unavailable. A key advantage of the RCRD is that the lag between diagnosis and data availability is short (6-9 months). However, several of the standard data items are unavailable when using this data source (for example Gleason grade) or they are insufficiently complete for use (section 2.3).

The RCRD is linked to Hospital Episode Statistics (HES) data, the Office for National Statistics (ONS) dataset, the National Radiotherapy Dataset (RTDS) and the Systemic Anti-Cancer Dataset (SACT).

In Wales the standard NPCA data items (available on the NPCA website¹⁷) were available for men diagnosed up to 31st March 2021. These data were captured through CaNISC and linked to additional data items from the Patient Episode Database for Wales (PEDW), ONS and CaNISC.

We urge centres to work with their data collection leads to ensure prostate cancer data is collected as completely as possible as the audit is only as accurate as the data we receive.

2.1. Patient cohort

Patients are eligible for inclusion in the prospective audit if they had newly diagnosed prostate cancer using the ICD-10 diagnostic code of "C61" (malignant neoplasm of the prostate). The data collection period reported here includes patients diagnosed between 1st April 2020 and 31st March 2021 in England and Wales which allows the assessment of short-term indicators.

Medium-term indicators require longer follow-up (up to two years' post-treatment), so the diagnostic period is earlier, reporting for patients undergoing treatment during the period 1st October 2018 to 30th September 2019.

For England, we report on the impact of the COVID-19 pandemic on the diagnosis and treatment of men with prostate cancer during 2021 and compare this to the 'usual' patterns of care in 2019, and to the situation in 2020. For Wales we report on the impact of the COVID-19 pandemic on the diagnosis and treatment of men with prostate cancer during 2020 and early 2021, and compare this to the 'usual' patterns of care in 2019.

Level of reporting

It is recommended that the care of patients eligible for radical prostate cancer treatments should be coordinated by specialist MDTs (SDMT).²² These hubs are made up of one or more specialist cancer centres coordinating services for referring local Trusts or Health Boards.¹⁹

This year, findings are presented locally and nationally with results at the level of the specialist MDT, or the surgery or radiotherapy centre (see appendices below and at www.npca.org.uk).

2.2. Definitions

Disease status and risk stratification

Using the Welsh data, men were assigned to a prostate cancer 'risk group' according to a modified D'Amico classification, which is a three-tiered disease status category, assigned according to their TNM stage, Gleason score and PSA level, using an algorithm previously developed by the NPCA.²⁰

In England, the RCRD did not contain information on Gleason grade which precluded using our risk-stratification algorithm to assign a risk group, despite the provision of individual T, N and M components. As described previously, disease staging (stage I-IV) derived by NCRAS from TNM status was available but did not map well to the previous risk groups.²¹ For example, the group of men with primary metastatic disease did not map to stage IV, which also included N1 patients. The locally advanced risk group comprised men with T_{3/4}, N₁, Gleason \geq 8 and PSA $>$ 20mg/dl, while stage III included only men with T_{3/4}. The low-risk group included only T₁ patients, while stage I included T_{2a}.

The RCRD disease staging was used to adjust for extent of disease for the treatment-outcome performance indicators (section 2.4). However, because of the mapping problems described above it was not possible to produce indicators based on a risk group for England.

¹⁷ <https://www.npca.org.uk/resources/npca-minimum-dataset/>

¹⁸ NICE 2002. [Improving outcomes in urological cancer](#).

¹⁹ Aggarwal A, Nossiter et al. [Organisation of Prostate Cancer Services in the English National Health Service](#). Clin Oncol (R Coll Radiol) 2016; 28:482-9.

²⁰ NPCA Annual Report 2016. Download from: <https://www.npca.org.uk/reports/npca-annual-report-2016/>

²¹ https://www.npca.org.uk/content/uploads/2021/12/NPCA-comparison-of-standard-and-rapid-cancer-registry-data_19.12.21.pdf

Treatment allocation

A patient was considered to have undergone radical prostate cancer therapy if he was identified as having received a radical prostatectomy, radical external beam radiotherapy or brachytherapy within 12 months of his diagnosis date.

HES and PEDW records, for England and Wales respectively, were used to identify patients who had undergone a radical prostatectomy using the OPCS-4 procedure code "M61". Where information on radical prostatectomy was missing in the PEDW data for Wales, this information was added from the NPCA dataset.

2.3. Performance indicators included in this report

In this Annual Report, the NPCA report on six performance indicators which are summarised here. For further detail, please see the most recent version of the NPCA Annual Report Methodology Supplement (www.npca.org.uk).

For England and Wales:

Disease presentation

Performance indicator 1: Proportion of men diagnosed with metastatic disease (presented at SMDT level).

This *process* indicator provides information on the variation of the proportion of men diagnosed with metastatic prostate cancer at first presentation. Such patients are usually incurable in the long-term and this feature may be a manifestation of late presentation and diagnosis.

Outcomes of treatment: short-term

Performance indicator 2: Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery (at the surgery centre level).

This *outcome* indicator was derived from linkage with HES/PEDW admissions. An overnight stay is not required for a patient to fall into this category. An emergency readmission code indicates that "admission was unpredictable and at short notice because of clinical need" (HES data dictionary²²). It will usually reflect that a patient experienced a complication related to radical prostate cancer surgery after discharge from hospital.

Outcomes of treatment: medium-term

Performance indicator 3: Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (at the surgical centre level).

We used a coding-framework based on OPCS-4 procedure codes to capture genitourinary complications that required an intervention.²³ These included complications arising in the urinary tract, not those related to sexual dysfunction. Men with an associated diagnosis of bladder cancer (ICD-10 "C67" code) or who received post-operative radiotherapy were excluded.

Performance indicator 4: 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 (at the radiotherapy centre level).

We used a coding-framework based on OPCS-4 procedure codes to capture interventions required to treat gastrointestinal (GI) toxicity. This indicator also required the presence of specific ICD-10 diagnosis codes relating to GI toxicity.²⁴ This combination approach allowed us to exclude men who had GI interventions for reasons unrelated to radiotherapy, such as part of a screening programme. Men with an associated diagnosis of bladder cancer, those who received additional brachytherapy and those who had received a radical prostatectomy prior to radiotherapy were excluded.

For Wales only:

Treatment allocation

Performance indicator 5: Proportion of men with low risk localised prostate cancer undergoing radical prostate cancer therapy (at the SMDT level).

This *process* indicator provides information about the potential "over-treatment" of men with low-risk prostate cancer.

Performance indicator 6: Proportion of men with high-risk/locally advanced disease receiving radical prostate cancer therapy (at the SMDT level).

This *process* indicator provides information about potential "under-treatment" of men with high-risk/locally advanced disease.

²² http://content.digital.nhs.uk/media/23711/Admitted-Patient-Care/pdf/Admitted_Patient_Care_.pdf

²³ More detail of the genitourinary procedure codes can be found here: Sujenthiran A, Charman S, Parry M et al. [Quantifying severe urinary complications after radical prostatectomy: the development and validation of a surgical performance indicator using hospital administrative data](#). *BJU int* (2017); 120:219-225

²⁴ More detail of the gastrointestinal procedure codes and diagnostic codes indicating radiation toxicity can be found here: Sujenthiran A, Nossiter J, Charman S et al. [National population-based study comparing treatment-related toxicity in men who received Intensity-modulated versus 3D-Conformal Radical Radiotherapy for prostate cancer](#). *Int J Radiat Oncol Biol Phys*. (2017); 99: 1253 -1260

2.4. Statistical Analysis

There were four centres in England undertaking less than 10 procedures. Centres that performed less than 10 procedures per year were excluded.

Indicators 2, 3 and 4 were adjusted for patient age, comorbidity, socio-economic status and disease stage (for English patients). Multivariate logistic regression was used to estimate the probability of a patient having an event. At provider level the individual probabilities were summed to give the expected number of events and the number of events was then divided by those expected.

Comorbidity was captured using the Royal College of Surgeons (RCS) Charlson comorbidity score²⁵ based on ICD-10 diagnosis codes in HES/PEDW. The Index of Multiple Deprivation (IMD) was used to categorise patients into five socioeconomic groups (1=least deprived; 5=most deprived) based on the areas where they lived. The five categories were fifths of the national IMD ranking of these areas.

Funnel plots were generated for treatment-outcome performance indicators 1-4 using control limits defining differences corresponding to two standard deviations (inner limits) and three standard deviations (outer limits) from the national average. Funnel plots display variation graphically across treatment centres for our performance indicators according to the number of patients treated at that centre.

²⁵ Armitage JN and van der Meulen J. [Identifying co-morbidity in surgical patients using administrative data with the Royal College of Surgeons Charlson Score](#). Br J Surg 2010; 97:772-81.

3. Results

3.1. Audit participation and data completeness

30,741 men were diagnosed with prostate cancer in the NHS in England from 1st April 2020 to 31st March 2021, of whom 30,275 (98%) could be assigned a valid NHS provider (Table 3). Prostate cancer diagnostic services are provided at 126 NHS Trusts across 46 specialist MDTs in England, and 6 Health Boards across 4 specialist MDTs in Wales.²⁶ Surgical services were provided by 52 centres and radiotherapy services by 53 centres during this period.

In Wales we received a total of 1,685 NPCA records of newly diagnosed prostate cancer patients: all could be assigned a valid NHS provider.

Completeness of pre-treatment data items

Data completeness remains consistently high for Wales, with performance status reaching 100% completeness (Table 3). 95% of Welsh men could be assigned to a risk group (Table 4) due to the consistent and accurate recording of PSA, Gleason score and TNM variables (83%, 83% and 70%, respectively).

Based on RCRD, completeness of performance status in England (66%) increased compared with the previous year's result (61%) but it remains lower than in Wales. Information on Gleason score was unavailable in the RCRD, making it impossible to stratify men in a risk group. RCRD staging information was missing for 30% of men in the cohort.

Table 3. Data completeness for selected data items for men newly diagnosed with prostate cancer in England and Wales over the period of 1st April 2020 – 31st March 2021

Data variable	England		Wales	
	N	%	N	%
Diagnostic and staging variables				
No. of men with new diagnosis of prostate cancer	30,741 [RCRD]		1,685 [NPCA]	
Performance status completed	20,260 [RCRD]	66%	1,685 [NPCA]	100%
Biopsy performed	16,104 ^a [HES]	52%	813 [NPCA]	48%
PSA completed	19,245 [RCRD]	63%	1,395 [NPCA]	83%
Gleason score completed ^b	-	-	1,395 [NPCA]	83%
TNM completed	16,512 [RCRD]	54%	1,173 [NPCA]	70%
Stage completed ^c	21,661 [RCRD]	70%	N/A	-

Acronyms: RCRD = Rapid Cancer Registration dataset; NPCA = National Prostate Cancer Audit dataset; PSA = Prostate Specific Antigen; TNM = Tumour, Nodes, Metastases Classification of Malignant Tumours.

a Inpatient only
b Unavailable in the RCRD for England
c Stage variable only available for England from RCRD; Gleason score unavailable in RCRD therefore unable to assign a risk group for English men

Data quality: recommendations

R1. Aim to achieve high completeness of key data items at the point of collection by NHS organisations in England, particularly TNM staging variables.

R2. Review recording of whether lymphadenectomy was carried out, working with data specialists.

- A clinician responsible for reviewing and checking their team's data returns should be identified, mirroring the approach in Wales, where data completeness remains high.

²⁶ <https://www.npca.org.uk/reports/npca-organisational-audit-2019/>

3.2. Audit findings

Patient and diagnostic characteristics are summarised in Table 4.

Patient characteristics

Prostate cancer is significantly more common in older men with over a third of men diagnosed with prostate cancer aged between 70 and 80 at diagnosis (41% for England and 40% for Wales). There are a significant proportion being diagnosed when they are 80 or more years old (18% and 14% in England and Wales, respectively). This is consistent with last year's report. In England, 20% of men had at least one co-morbidity versus 17% of men in Wales. Of the men who had performance status recorded in England, 35% had a reduced performance status (of ≥ 1) versus 36% of men in Wales.

Table 4. Patient and diagnostic characteristics for men newly diagnosed with prostate cancer in England and Wales between 1st April 2020 and 31st March 2021

Data variable	England		Wales	
	N	%	N	%
No. of men with new diagnosis of prostate cancer	30,741		1,685 ^a	
Age				
<60	3,471	11%	180	11%
60-69	9,303	30%	590	35%
70-79	12,454	41%	681	40%
≥ 80	5,513	18%	234	14%
Total	30,741	100%	1,685	100%
Missing	0		0	
Performance status				
0	13,153	65%	1,080	64%
1-2	5,196	26%	552	33%
≥ 3	1,911	9%	53	3%
Total	20,260	100%	1,685	100%
Missing	10,481		0	
Charlson score				
0	24,904	81%	1,389	82%
1	3,010	10%	210	12%
≥ 2	2,827	9%	86	5%
Total	30,741	100%	1,685	100%
Missing	0		0	
Prostate Specific Antigen (PSA)				
<10	9,041	47%	821	59%
10-20	3,851	20%	284	20%
>20	6,353	33%	290	21%
Total	19,245	100%	1,395	100%
Missing	11,496		290	

Data variable	England		Wales	
	N	%	N	%
Gleason score^b				
≤6			450	32%
7			678	49%
≥8			267	19%
Total			1,395	100%
Missing			290	
T stage				
T1	1,573	8%	155	10%
T2	9,053	47%	794	51%
T3	7,105	37%	453	29%
T4	1,385	7%	145	9%
Total	19,116	100%	1,547	100%
Missing	11,625		138	
N stage				
No	16,179	87%	1,317	87%
N1	2,459	13%	197	13%
Total	18,638	100%	1,514	100%
Missing	12,103		171	
M stage				
M0	15,023	83%	1,031	78%
M1	3,130	17%	299	22%
Total	18,153	100%	1,330	100%
Missing	12,588		355	
Risk group^c				
Low risk			92	6%
Intermediate			715	45%
High-risk/locally advanced			487	31%
Metastatic			299	19%
Total			1,593	100%
Insufficient ^d			92	
Stage^e				
I	7,495	35%		
II	3,270	15%		
III	6,309	29%		
IV	4,587	21%		
Total	21,661	100%		
Missing	9,080			
Acronyms: PSA = Prostate Specific Antigen; TNM = Tumour, Nodes, Metastases Classification of Malignant Tumours; RCRD = Rapid Cancer Registration Dataset a 125 further patients in Wales were not included in this report due to delayed clinical sign-off b Unavailable in the RCRD for England c Unadjusted values d Insufficient data indicates that one of the criteria needed for the risk group algorithm is missing so it could not be assigned e Stage variable only available for England from RCRD; Gleason score unavailable in RCRD therefore unable to assign a risk group for English men				

Diagnostic investigations

Only inpatient data on the type of biopsy technique were available this year for England and Wales.²⁷ This would seriously underestimate the number of biopsies performed, giving a potentially skewed view of the types used, and so is not reported here.

Treatment information

Treatment characteristics are summarised in Table 5.

4,931 men were identified as undergoing a radical prostatectomy in England (compared with 6,988 in 2019-2020); most were robotically assisted (94%), with the remainder being performed by standard laparoscopy (3%) or through open surgery (3%). Robot assisted prostatectomies were performed less frequently in Wales (79%), a slight

decrease from the 82% reported last year. Just under one fifth of the prostatectomies performed in England had a synchronous pelvic lymphadenectomy in England (19%). This was much more common in Wales (49%).

12,490 men underwent radical radiotherapy to the prostate in England (compared with 14,831 in 2019-2020); the vast majority were performed with Intensity-modulated Radiotherapy (IMRT) (Table 5) for first line therapy, which is consistent with the figure reported last year. However, 6% of men still had treatment using older 3D conformal methods. Of all men receiving radiotherapy, 19% received radiotherapy to the pelvic lymph nodes as well as the prostate, with the remainder of men receiving radiotherapy to the prostate +/- seminal vesicles only. Wales used IMRT routinely and 21% of Welsh men received radiotherapy to the pelvic lymph nodes as well as the prostate, although these figures for both countries rely on data on “planned region of treatment”.

Table 5. Treatment characteristics for men receiving radical radiotherapy or prostatectomy in England and Wales over the period of 1st April 2020 – 31st March 2021				
Data variable	England		Wales	
	N	%	N	%
Radical prostatectomy information				
No. of men undergoing radical prostatectomy	4,931		208	
Prostatectomy type				
Robotic Assisted Laparoscopic	4,639	94%	156	79%
Non-Robotic Laparoscopic	150	3%	31	16%
Open	142	3%	11	6%
Total	4,931	100%	198	100%
Missing	0		10	
Lymphadenectomy performed				
No	3,994	81%	82	51%
Yes	937	19%	80	49%
Total	4,931	100%	162	100%
Missing	0		46	
Radical radiotherapy information				
No. of men undergoing radical radiotherapy	12,490		562	
Radiotherapy modality				
Intensity Modulated Radiation Therapy	11,716	94%	519	99%
3D conformal	774	6%	7	1%
Total	12,490	100%	526	100%
Missing	0		36	
Planned radiotherapy region				
Prostate and/or seminal vesicles	9,805	81%	419	79%
Whole pelvis incl. lymph nodes	2,286	19%	110	21%
Total	12,091	100%	529	100%
Missing	399		33	

²⁷ HES/PEDW outpatient data were unavailable from the NDRS [National Disease Registration Service] and the Wales Cancer Network so we were unable to report on prostate biopsy utilisation and type in this report. Both inpatient and outpatient HES/PEDW are required to identify all patients who have undergone transperineal or transrectal biopsies (see the Methodology Supplement) [link to be updated before publication].

3.3. NPCA performance indicators

3.3.1. For England and Wales

Disease status at presentation

Performance indicator 1: Proportion of men diagnosed with metastatic disease (at the SMDT level).

The average proportion of men diagnosed with metastatic disease in England and Wales is 17%, across 50 specialist MDTs (ranging from 5% to 30%) (Figure 1). Although the absolute number of men with metastatic disease at diagnosis is less than last year, as a percentage of diagnoses it has increased from 13% in last year's report, which covered the pre-pandemic period to March 2020. This is not an increase in absolute numbers of stage 4 diagnoses, it's a bigger drop in diagnoses at other stages. A similar number of providers to last year fell outside the expected range, however, with 4 above the 99.8% confidence limit (compared to 5 last year) and 6 more above the 95% limit (the same number as last year).

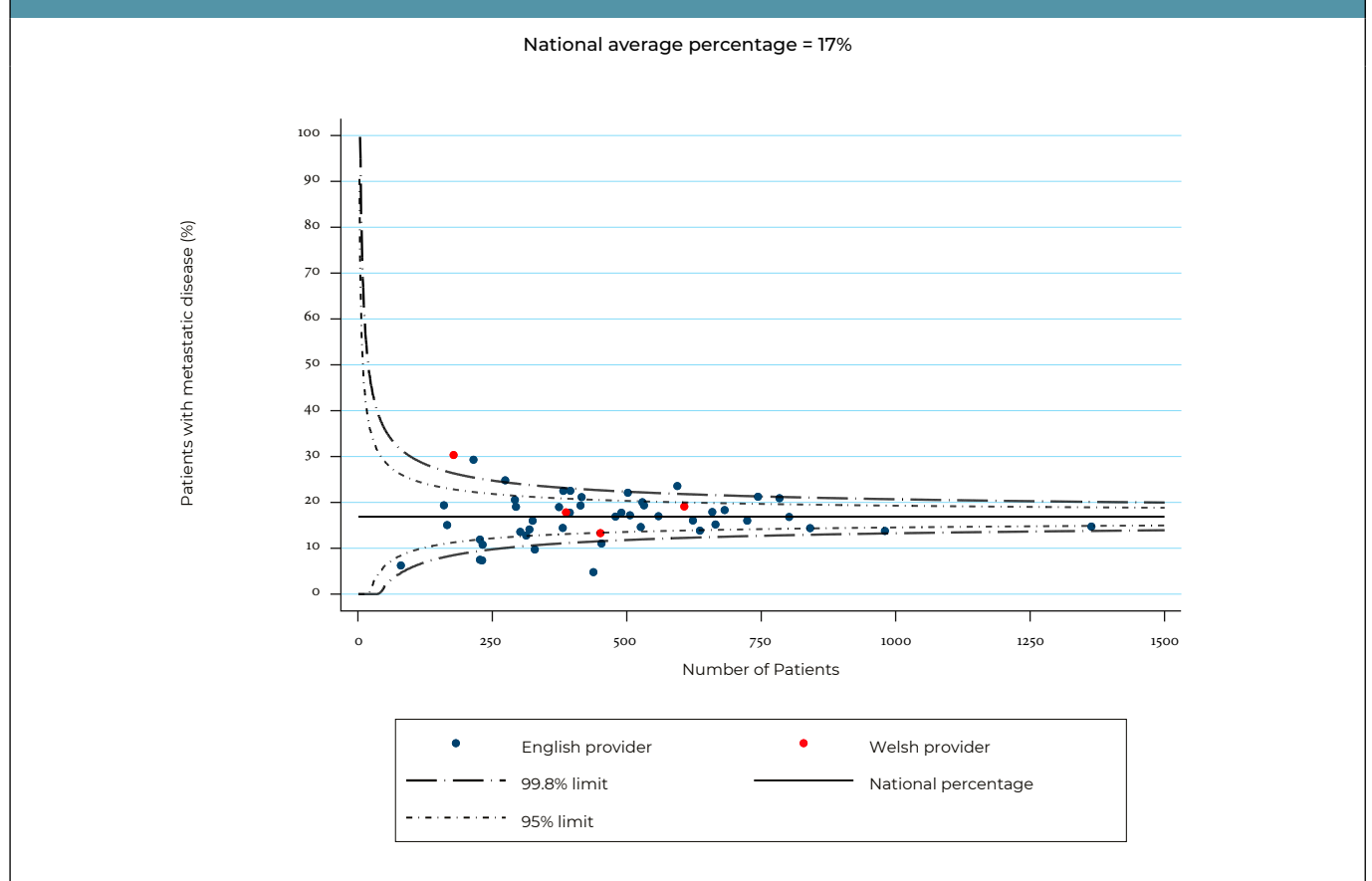
Variation in the proportion of men diagnosed at a point at which they are normally beyond curative treatment could potentially indicate late diagnosis for some men. Caution is advised when comparing these results directly to last year's report, as last year's report used a 'pre-pandemic' reporting period and this year's report uses a 'pandemic' reporting period. Two data quality issues in the RCRD mean that this indicator should also be interpreted cautiously: a high proportion of men in England have missing data on whether their disease is metastatic (which is similar to last year) and some men referred to a tertiary centre had their diagnosis allocated to the SMDT associated with that centre, rather than their diagnosing centre.

Disease status: recommendations

R3. Seek advice from a doctor if any of the following new symptoms are experienced: urinary symptoms, erectile problems, blood in their urine or unexplained back pain, as early diagnosis improves outcomes.

R4. Ensure that a family history of prostate, breast or ovarian cancer is reported to a healthcare provider as it should precipitate a genetic counselling referral.

Figure 1. Unadjusted funnel plot for the proportion of patients with metastatic disease at diagnosis across the specialist MDTs in England and Wales between 1st April 2020 and 31st March 2021

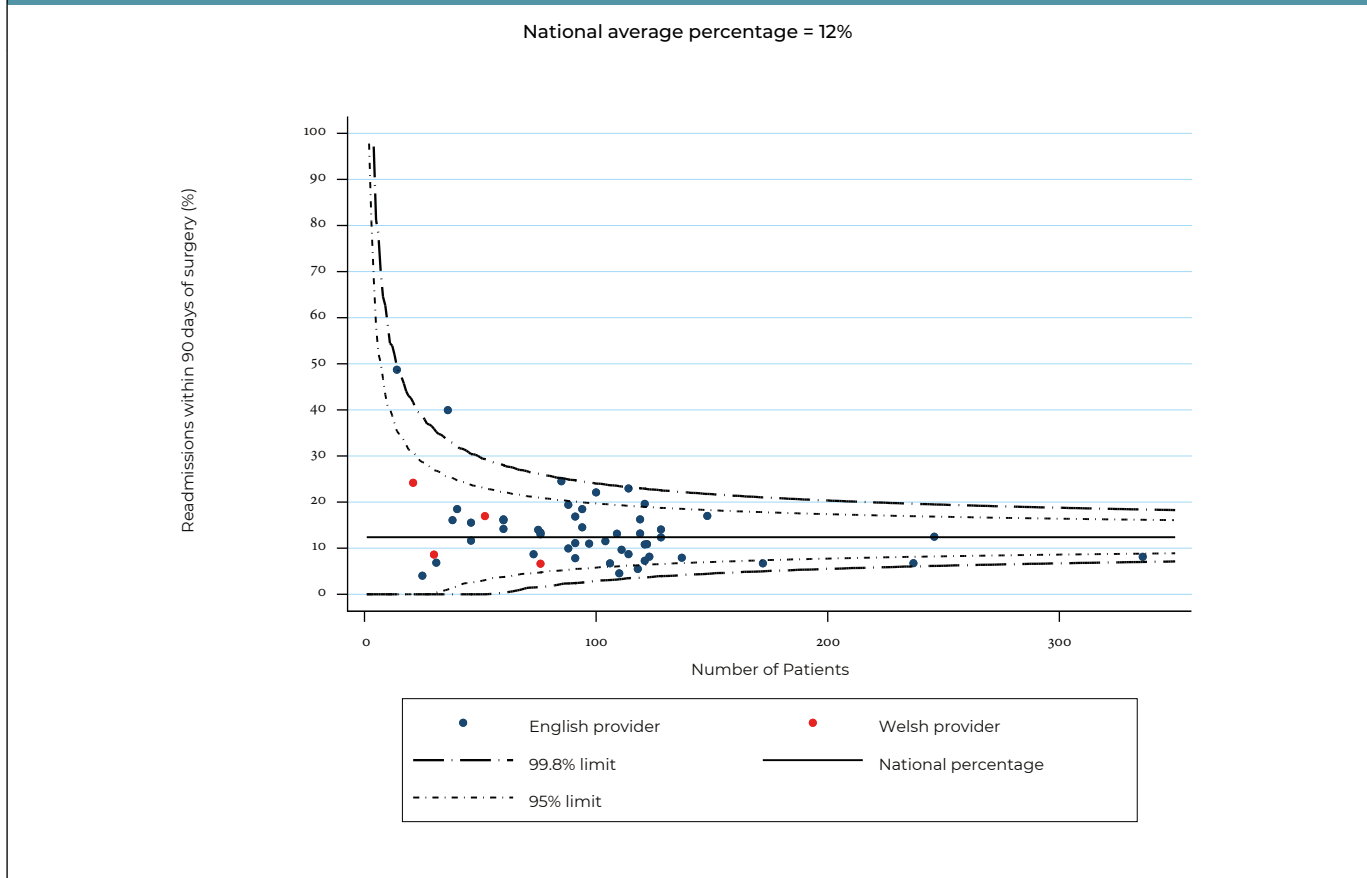


Outcomes of treatment: short-term

Performance indicator 2: Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery (at the surgery centre level).

5,139 men²⁸ underwent a radical prostatectomy at 52 NHS surgical centres between 1st April 2020 and 31st March 2021. The 90-day emergency readmission rate following radical prostatectomy was 12% (range: 4 to 48%) (Figure 2). While the rate varied between centres, only one centre had a readmission rate above the 99.8% confidence limit, compared to 4 in last year’s report. Five further centres were above the 95% limit, the same number as last year. Caution is advised when comparing these results directly to last year’s report, as last year’s report used a ‘pre-pandemic’ reporting period and this year’s report uses a ‘pandemic’ reporting period.

Figure 2. Adjusted funnel plot for the proportion of patients readmitted as an emergency within 90 days of radical prostatectomy (between 1st April 2020 and 31st March 2021) by surgical centres in England and Wales



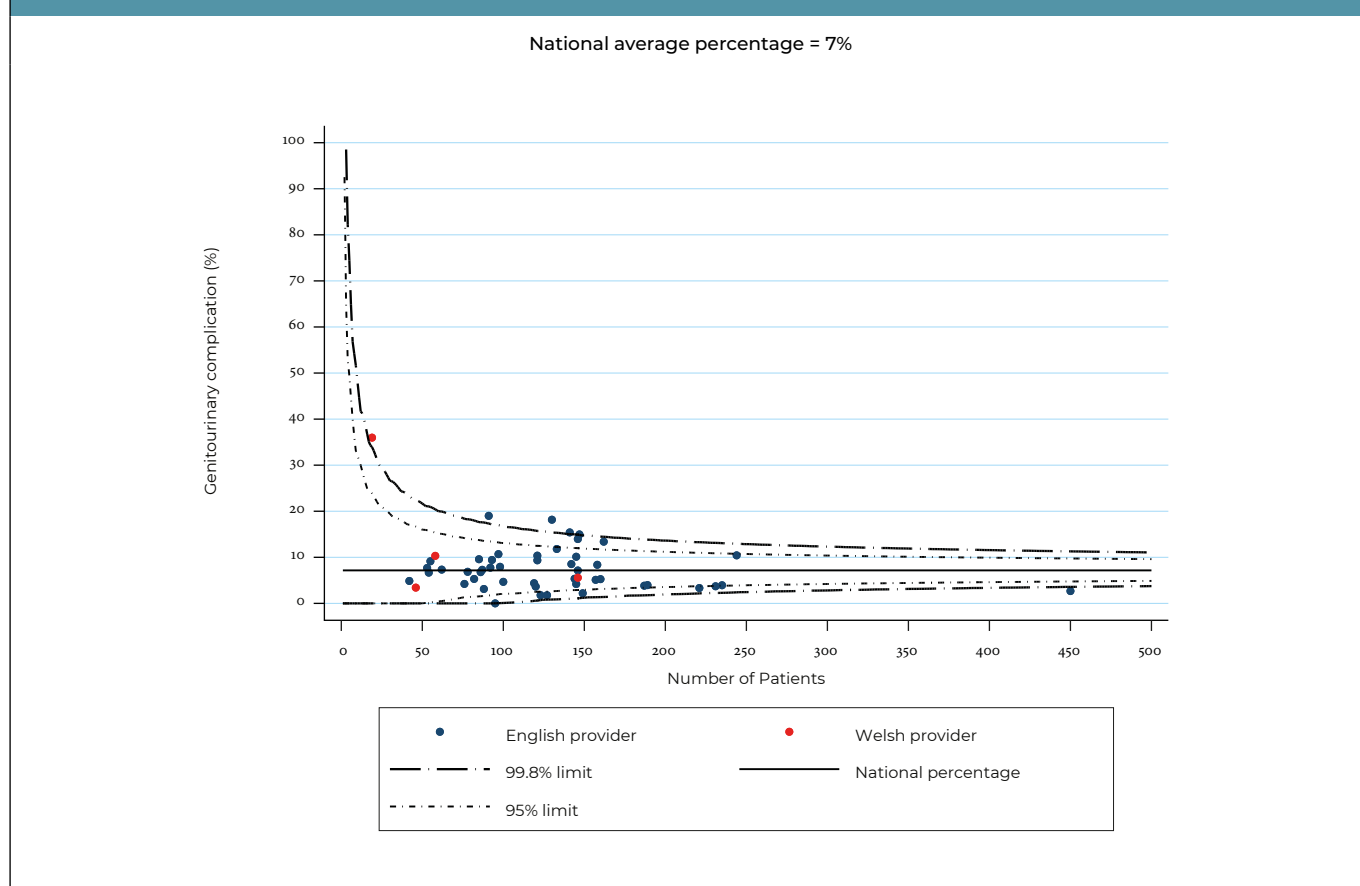
²⁸ 21 patients having surgery at NHS providers are not included in this performance indicator, 10 had missing deprivation scores which prevented risk adjustment and 11 were at providers whose surgical volume was less than 10 procedures during the year.

Outcomes of treatment: medium-term

Performance indicator 3: Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (at the surgical centre level).

6,476 men underwent a radical prostatectomy at 51 surgical centres between 1st October 2018 and 30th September 2019. Overall, 7% of men experienced at least one treatment-related GU complication within two years following surgery, with a range of 0 to 36% (Figure 3). Five centres were above the 99.8% confidence limit (compared to one last year) and two more were above the 95% limit, while four were above this limit last year.

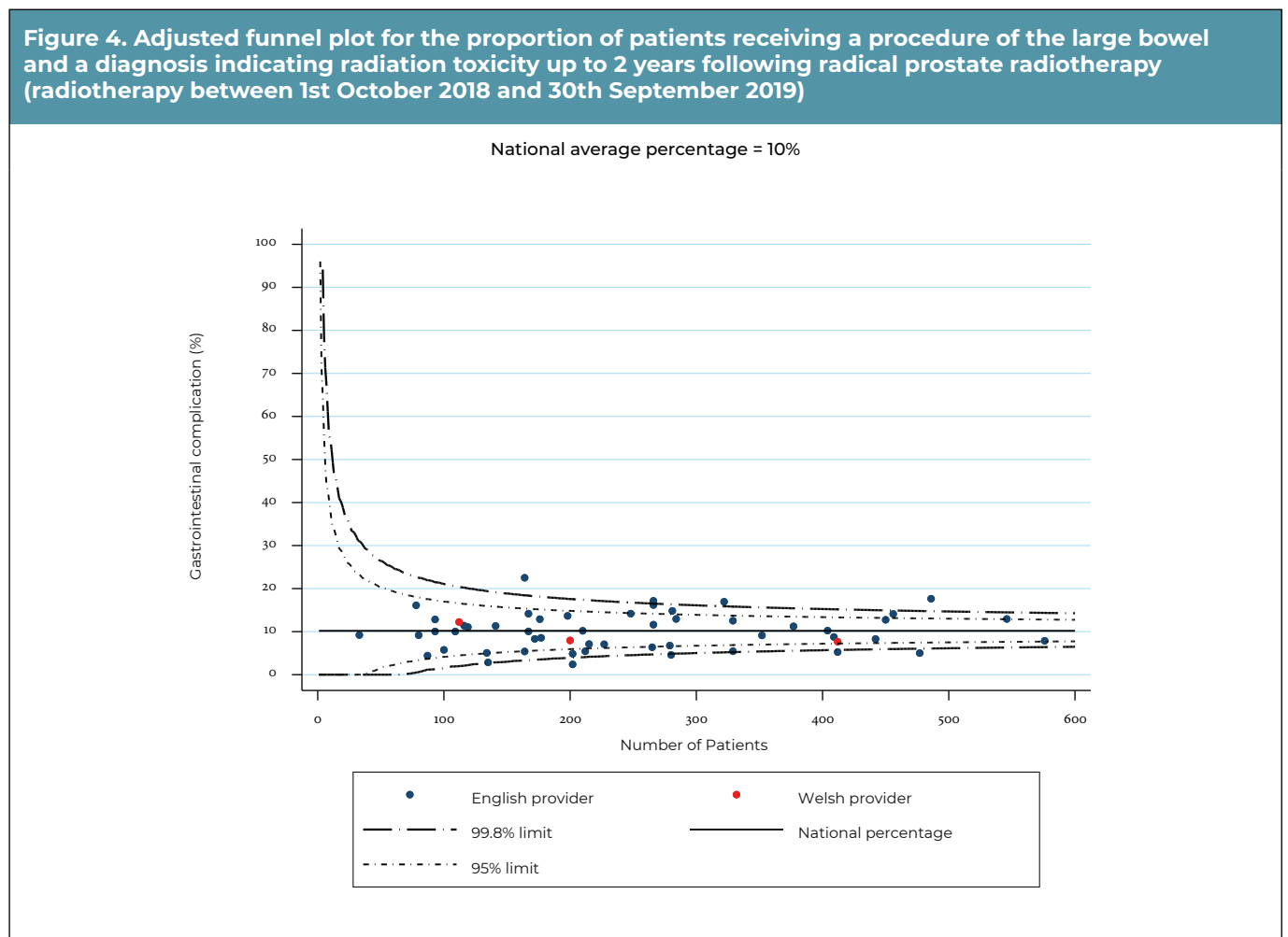
Figure 3. Adjusted funnel plot for the proportion of patients experiencing at least one genitourinary complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (surgery between 1st October 2018 and 30th September 2019) by surgical centres in England and Wales



Performance indicator 4: 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 (at the radiotherapy centre level).

13,947 men received EBRT at 54 radiotherapy centres between 1st October 2018 and 30th September 2019. Overall, 10% experienced at least one bowel complication within two years of radiotherapy (range: 2 to 23%) (Figure 4). Four centres had complication rates above the 99.8% confidence limit (compared to one last year), with four more above the 95% confidence limit (compared to five last year).

Figure 4. Adjusted funnel plot for the proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity up to 2 years following radical prostate radiotherapy (radiotherapy between 1st October 2018 and 30th September 2019)



Interpretation of performance indicators

We find that the rates of 90-day readmissions following RP during the first year of the pandemic is similar to the pre-pandemic period reported last year (12% compared to 13% last year).

The complication rates during the two years following radical surgical and radiotherapy treatment (for surgery or radiotherapy performed between 1st October 2018 and 30th September 2019) are unchanged or improving since last year's report. Caution is advised when comparing the results directly to last year's as in the previous report the reporting period was different, including men both diagnosed and treated in 2018 for England and all those in Wales treated in 2018.

The proportion of men experiencing a treatment-related GU complication within two years of surgery has remained consistent with last year at 7%. Similarly the proportion of men experiencing a treatment-related GI complication within two years of radiotherapy has improved slightly from 11% in last year's report to 10% this year. Caution is again advised when comparing these results as different reporting periods were used.

Although a formal outlier process has not been undertaken this year, providers with performance that is outside the expected range (95% or 99.8% confidence limits around the national average) for any of the indicators should review their treatment pathway and engage with other providers to try to understand why there are differences in care between their centre and others offering the same treatments. We encourage all Clinical Leads and MDT members to attend the next NPCA Quality Improvement event in February 2023.

Outcomes of treatment: recommendations

R5. Undertake internal audit and review of radiotherapy treatment delivery processes; target volume delineation, margins, dosimetric constraints, online imaging and patient setup. In England, participation in the RT Operational Delivery Networks may support this.²⁹

R6. Initiate routine integration of radiotherapy peer review³⁰ as standard for radical prostate cancer cases.²⁹

R7. Consider establishing radiotherapy centre specialist gastrointestinal services to offer advice to people with bowel-related side effects of radiotherapy.

R8. Consider initiation of routine hospital level PROMS programmes as part of post treatment follow up to support the identification of these side effects.

R9. Support radiotherapy centres to integrate IMRT into standard radiotherapy practice for primary radical RT.²⁹

R10. Ensure that men who are offered prostate cancer treatment are made aware of the side effects including: loss of libido, problems getting or keeping erections, loss of ejaculatory function, a worsening of sexual experience, urinary incontinence and/or bowel side effects.

R11. Empower patients to ask to be referred to specialist support services if they are experiencing physical or psychological side effects during, or following, prostate cancer treatment.

- These should be offered early and on an ongoing basis, in keeping with national recommendations.

R12. Make available sources of further information and support for men with prostate cancer and carers. These are accessible via GP services and from prostate cancer charities including Prostate Cancer UK (www.prostatecanceruk.org) and Tackle Prostate Cancer (www.tackleprostate.org). Both charities operate nationwide support networks.

3.3.2. For Wales only

Treatment allocation

Performance indicator 5: Proportion of men with low-risk localised prostate cancer undergoing radical prostate cancer therapy (at SMDT level).

9% of men diagnosed with low-risk clinically localised cancer underwent radical prostate cancer therapy within 12 months of diagnosis in Wales (range: 0% to 12%) in the diagnostic period 1st April 2020 to 31st March 2021. In last year's report (diagnostic period 1st April 2019 to 31st March 2020) 10% of Welsh men were found to be potentially "over-treated". There are very small numbers of events for this indicator and therefore caution is particularly advised when comparing these results as last year's report used a 'pre-pandemic' reporting period and this year's report uses a 'pandemic' reporting period.

Performance indicator 6: Proportion of men with high-risk/locally advanced disease receiving radical prostate cancer therapy (at SMDT level).

28% of men diagnosed with high-risk clinically localised prostate cancer did not have radical treatments and were potentially "under-treated" in Wales within 12 months of diagnosis (range: 18% to 35%) in the diagnostic period 1st April 2020 to 31st March 2021. These men received ADT only or were initiated on a watch and wait policy as opposed to combined ADT and radiotherapy to the prostate, a standard, potentially curative treatment. Compared to the average figure for Wales of 40% for the diagnostic period 1st April 2019 to 31st March 2020, this is a significant improvement. Caution is advised when comparing these results as last year's report used a 'pre-pandemic' reporting period and this year's report uses a 'pandemic' reporting period (Table 6).

²⁹ RT Operational Delivery Networks in England. <https://www.england.nhs.uk/wp-content/uploads/2019/01/Operational-Delivery-Networks-for-External-Beam-Radiotherapy-Services-adults.pdf>

³⁰ The term 'peer review' as applied to radiotherapy contouring implies that all contours are reviewed by more than one consultant oncologist (or other peer professional with appropriate competencies) with the relevant site-specific expertise. Prospective peer review should be performed in situations where a clinically important difference in judgement between oncologists might occur.

Table 6. Provider level (specialist MDT) data for the performance indicators 5 and 6 in Wales only

Provider name	2020/21			2019/20		
	No of patients	No of events	%	No of patients	No of events	%
Performance Indicator 5: % low risk given radical treatment – average = 9%						
Swansea Bay University Health Board	23	3	12	50	5	11
Aneurin Bevan University Health Board	24	1	4	42	6	13
Betsi Cadwaladr University Health Board	5	0	0	18	0	0
Cardiff and Vale University Health Board	40	4	10	108	11	10
Performance Indicator 6: % high risk given radical treatment – average = 72%						
Swansea Bay University Health Board	184	116	65	305	117	40
Aneurin Bevan University Health Board	48	37	75	81	57	66
Betsi Cadwaladr University Health Board	161	119	73	217	159	72
Cardiff and Vale University Health Board	94	80	82	165	124	74
Performance indicator 5: Proportion of men with low-risk localised prostate cancer undergoing radical prostate cancer therapy						
Performance indicator 6: Proportion of men with locally advanced disease receiving radical prostate cancer therapy						

Treatment allocation: recommendations based on Welsh data

R13. Continue to advocate active surveillance in the first instance for men with low-risk prostate cancer.

R14. Discuss with your clinical specialist the option of disease monitoring with active surveillance in the first instance.

R15. Investigate why men with high-risk/locally advanced disease are not considered for radical local treatment.

R16. Discuss with your clinical specialist the radical treatment options available for men with high-risk/locally advanced disease.

Overall recommendations for England and Wales

R17. Review of the NPCA indicators for providers should be undertaken within the region and nationally and fed through to providers.

- Pay particular attention to variations in service provision (diagnostics, treatment and support services) and treatment outcomes.
- Where variation is apparent, agree quality improvement action plans and present these to the Trusts and Health Boards, which should put in place follow-up procedures to monitor the implementation of practice changes to address problems identified.

R18. Ensure that radiotherapy and surgical treatment centres continue to integrate and upgrade evidence-based treatments and support services for patients.³¹

³¹ Treatments including radical prostatectomy, external beam radiotherapy, hypofractionated radiotherapy and brachytherapy. NHS England. Guidelines for the Management of Prostate Cancer <https://www.england.nhs.uk/mids-east/wp-content/uploads/sites/7/2018/05/guidelines-for-the-management-of-prostate-cancer.pdf>

4. Impact of COVID-19

The COVID-19 pandemic continues to have an impact on the care provided to patients with cancer in England and Wales.^{32,33} During the peak of the pandemic steps had to be taken to mitigate the transmission of the virus which resulted in prioritisation of acute services and reduced availability of diagnostic and treatment capacity in the NHS.^{34,35,36,37}

Following the changeable pattern of diagnostic and treatment services tracking lockdown periods and release in 2020,³⁸ we are moving nationally into a period of recovery as explained in the NHS Cancer Programme: Cancer services recovery plan and the focus on recovery has continued in this year's planning guidance.³⁹

In this section, we report for the first time on the Impact of COVID-19 in Wales in 2020 and early 2021. We describe the activity of prostate cancer services over the period from 1st January 2020 to 31st March 2021 including diagnosis and treatment and compare this with what can be considered the 'baseline' activity during 2019. We also report on the impact of further waves of the pandemic and the move towards recovery in England during 2021 (from 1st January to 31st December 2021). We have previously reported on the impact of the COVID-19 pandemic on the diagnosis and treatment of men with prostate cancer during 2020 in England.^{40,41}

For Wales we report national variation and variation by SMDT in the patterns of diagnostic and treatment activity over each quarter of 2020 (Q1: January – March, Q2: April – June, Q3: July – September and Q4: October – December) and Q1 of 2021 (January – March) compared with the same periods in 2019.

For England we report national variation, variation by seven NHS regions (East of England, London, Midlands, North East and Yorkshire, North West, South East, South West) and variation by SMDT in the patterns of diagnostic and treatment activity over each quarter of 2021 (Q1: January – March, Q2: April – June, Q3: July – September and Q4: October – December) compared with the same periods in 2019. The data for 2020 in England are also shown for comparison.

4.1. Data sources and completeness

We identified prostate cancer diagnoses between 1st January 2019 and 31st December 2021 in England and up to 31st March 2021 in Wales.

For England, the RCRD was linked to data from Hospital Episode Statistics (HES), the Radiotherapy Dataset (RTDS) and the Systemic Anti-Cancer Therapy dataset (SACT). As noted in section 2, the RCRD captures approximately 90% of cancer diagnoses that are seen in the full NCRAS dataset, with consistent completeness of data collection across trusts.

For Wales, data are captured through CaNISC and linked to additional data items from the Patient Episode Database for Wales (PEDW), ONS and CaNISC.

32 Lai et al. Estimated impact of the COVID-19 pandemic on cancer services and excess 1-year mortality in people with cancer and multimorbidity: near real-time data on cancer care, cancer deaths and a population-based cohort study. *BMJ Open* 2020.

33 Cancer Research UK COVID-19 and cancer key stats - Updated January 2022. https://www.cancerresearchuk.org/sites/default/files/cancerpathwaykeystats_jan22.pdf

34 Gathani T, Clayton G, E M, Horgan K. The COVID-19 pandemic and impact on breast cancer diagnoses: what happened in England in the first half of 2020. *British Journal of Cancer* 2020.

35 Greenwood E, Swanton C. Consequences of COVID-19 for cancer care — a CRUK perspective. *Nature Reviews Clinical Oncology* 2021; 18: 3-4.

36 Kuryba A, Boyle JM, Blake HA, Aggarwal A, Van Der Meulen J, Braun M, Walker K, Fearnhead NS. Surgical Treatment and Outcomes of Colorectal Cancer Patients During the COVID-19 Pandemic: A National Population-based Study in England. *Annals of Surgery Open*. 2021 Jun 1;2(2): e071.

37 McCormack V, Aggarwal A. Early cancer diagnosis: reaching targets across whole populations amidst setbacks. *British Journal of Cancer* 2021.

38 Impact of COVID-19 section of Annual Report 2021 accessible at https://www.npc.org.uk/content/uploads/2022/01/NPCA-Annual-Report-2021_Final_13.01.22-1.pdf

39 NHS Cancer Programme: Cancer services recovery plan <https://www.england.nhs.uk/coronavirus/publication/cancer-services-recovery-plan/>

40 Nossiter J, Morris M, Parry MG, Sujenthiran A, Cathcart P, van der Meulen J, Aggarwal A, Payne H and Clarke NW (2022), Impact of the COVID-19 pandemic on the diagnosis and treatment of men with prostate cancer. *BJU Int*, 130: 262-270

41 Annual report 2021 accessible at https://www.npc.org.uk/content/uploads/2022/01/NPCA-Annual-Report-2021_Final_13.01.22-1.pdf

4.2. Methods

For England data are presented nationally and for each of the seven NHS regions in England and at SMDT or surgical/radiotherapy centre level. Data for Wales are presented nationally and at SMDT level. Each quarter of the 2020 and 2021 calendar years is presented as a percentage of the same quarter in 2019. No formal significance tests have been done comparing geographic regions or comparing different time periods. Diagnoses are broken down by stage. The number of radical prostatectomy (RP) procedures undertaken was analysed, to assess the extent and duration of disruption to surgery. Use of radiotherapy (RT) is broken down into standard/hypo-fractionated, to assess whether any change in practice was observed. Use of docetaxel and enzalutamide in England only⁴² during 2020 and 2021 is analysed to assess the effect of guidance to substitute docetaxel with enzalutamide.

4.3. Findings

The findings section is divided into patient characteristics, diagnoses, RP, RT, and systemic therapy, subdivided by Welsh and English results. For diagnoses, RP and RT, each section starts with a graph summarising the national picture of England and Wales in 2020 and up to March 2021, before subdividing the data into individual results for Wales and England separately.

Patient characteristics

Wales

In Wales the distribution of patient characteristics, including age, Charlson score, deprivation and risk group were similar in 2020 compared with 2019 (Table 7).

England

In England the distribution of patient characteristics, including age, Charlson score, deprivation and stage (RCRD stage) were similar in 2021 compared with 2020 and 2019. In 2021 there was slightly more missing data for stage than in 2020 and 2019 (Table 7).

⁴² SACT data / Data on systemic therapy is not available in Wales

Table 7: Patient and diagnostic characteristics for men with newly diagnosed prostate cancer in England and Wales, 1st January – 31st December in 2019 and 2020, and up to 31st December 2021 in England

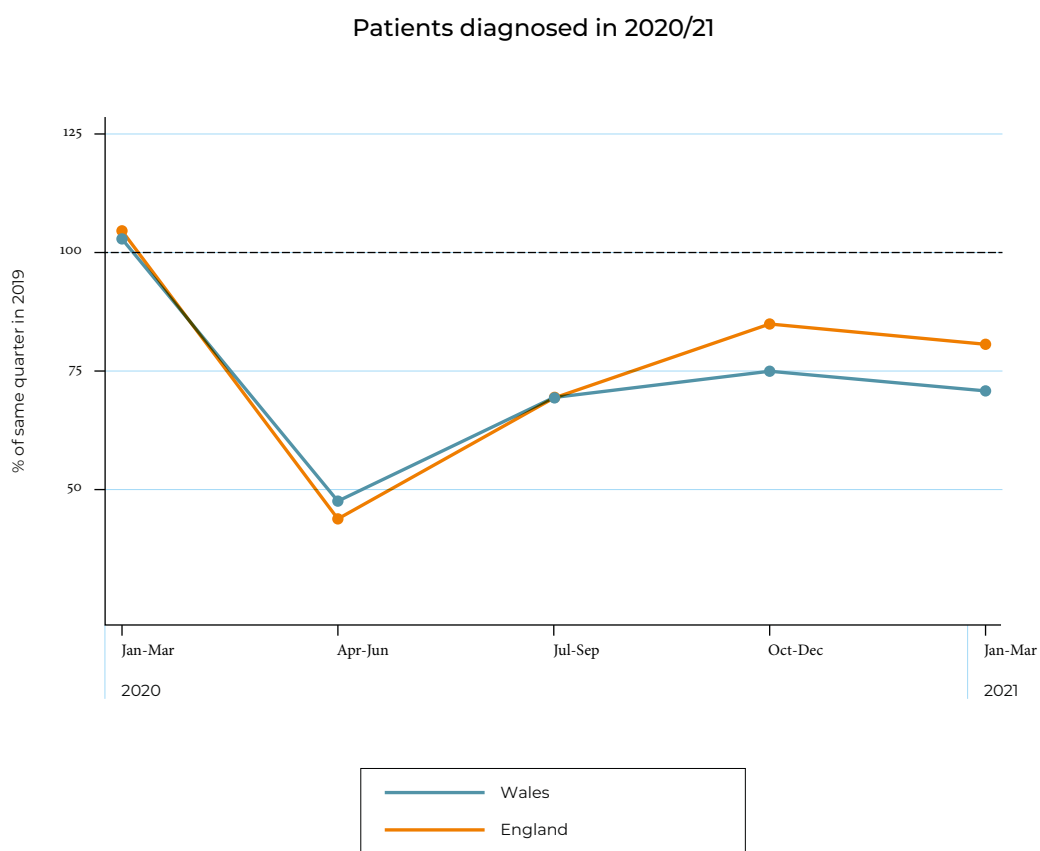
Data variable	2019				2020				2021	
	England		Wales		England		Wales		England	
	N	%	N	%	N	%	N	%	N	%
No. of men with new diagnosis of prostate cancer	43,890		2,543		33,422		1,886		40,685	
Age										
<60	5,572	13%	285	11%	3,910	12%	206	11%	4,761	12%
60-69	13,716	31%	921	36%	10,236	31%	674	36%	12,182	30%
70-79	17,222	39%	977	38%	13,474	40%	761	40%	16,590	41%
≥80	7,380	17%	360	14%	5,802	17%	245	13%	7,152	18%
Total	43,890	100%	2,543	100%	33,422	100%	1,886	100%	40,685	100%
Missing	0		0		0		0		0	
IMD										
1 (least deprived)	10,771	25%	490	23%	8,225	25%	334	22%	9,905	24%
2	10,177	23%	460	22%	7,900	24%	343	23%	9,398	23%
3	9,387	21%	451	21%	7,177	21%	352	24%	8,674	21%
4	7,585	17%	402	19%	5,742	17%	259	17%	7,170	18%
5 (most deprived)	5,970	14%	299	14%	4,378	14%	199	13%	5,538	14%
Total	43,890	100%	2,102	100%	33,422	100%	1,487	100%	40,685	100%
Missing	0		441		0		399		0	
Charlson score										
0	35,685	81%	2,138	84%	27,246	82%	1,545	82%	33,935	83%
1	4,296	10%	295	12%	3,181	10%	237	13%	3,452	8%
≥2	3,909	9%	110	4%	2,995	9%	104	6%	3,298	8%
Total	43,890	100%	2,543	100%	33,422	100%	1,886	100%	40,685	100%
Missing	0		0		0		0		0	
Risk group										
Low risk			211	9%			107	6%		
Intermediate			1,068	45%			805	45%		
Locally advanced			789	33%			548	31%		
Metastatic			324	14%			316	18%		
Total			2,392	100%			1,776	100%		
Missing			151				110			
Stage										
I	11,411	36%			8,467	35%			10,452	37%
II	5,146	16%			3,634	15%			4,458	16%
III	9,647	30%			6,994	29%			8,299	29%
IV	5,456	17%			4,810	20%			5,409	19%
Total	31,669	100%			23,905	100%			28,618	100%
Missing	12,221				9,517				12,067	

Diagnoses

England and Wales in 2020 and early 2021

Figure 5 demonstrates that the pattern of change in number of patients diagnosed in 2020 and early 2021 as a proportion of 2019 was very similar in England and Wales until the end of 2020 and start of 2021 when the proportion in Wales compared to 2019 reduced more than in England.

Figure 5. The number of men newly diagnosed with prostate cancer in 2020 and Q1 2021 presented as a proportion of the diagnoses per quarter in 2019 for England and Wales



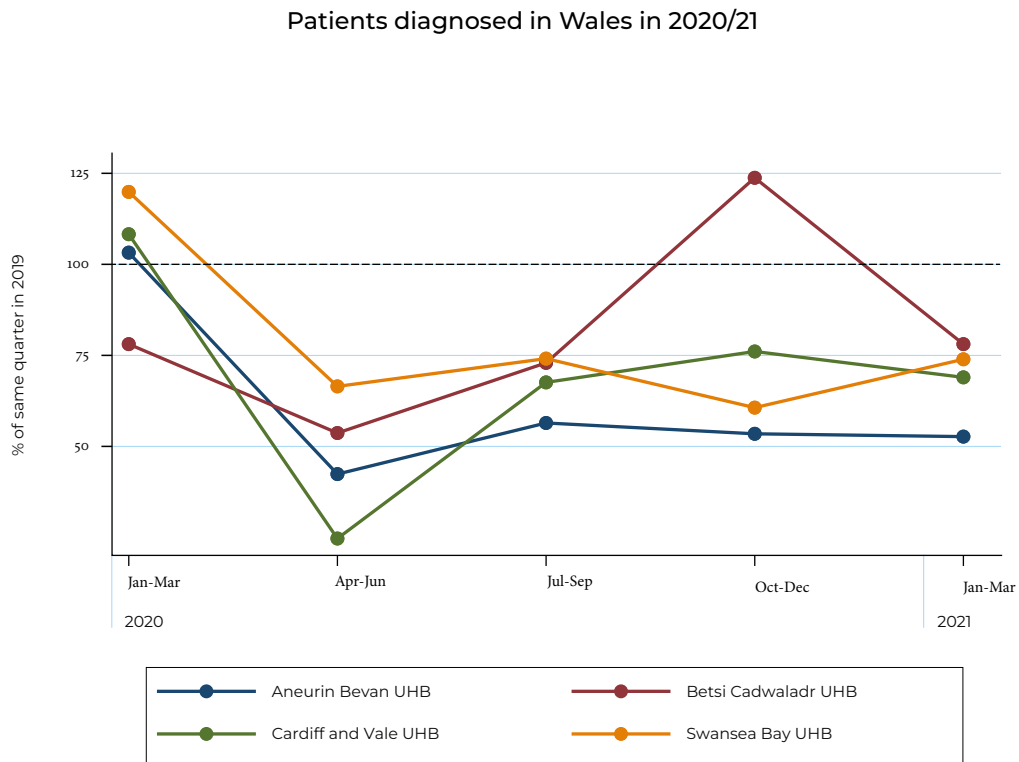
The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

Wales

During the first 'lockdown period' in the UK (counted here as covering Q2, April – June 2020), there was a 52% reduction in the number of patients newly diagnosed with prostate cancer compared with the same period in 2019. This varied by SMDT from a 75% reduction in the number of expected diagnoses in Cardiff and Vale, to a 34% reduction in the Swansea Bay. Lockdown restrictions were lifted in July 2020 and the number of men newly diagnosed with prostate

cancer increased over time during July – September (Q3) and October – December 2020 (Q4), particularly in Betsi Cadwaladr (Figure 6). Overall, there was a 31% reduction in the number of men diagnosed in Q3 (range across SMDTs: 26% to 44%). There was a 25% reduction in Q4 2020 compared with the same time periods in 2019 (range: 47% decrease to 24% increase). By Q1 of 2021, when there was a further lockdown, the overall reduction in diagnoses was 29% (627 in 2019 vs 444 in 2021), with all the SMDTs down by 25% to 50%.

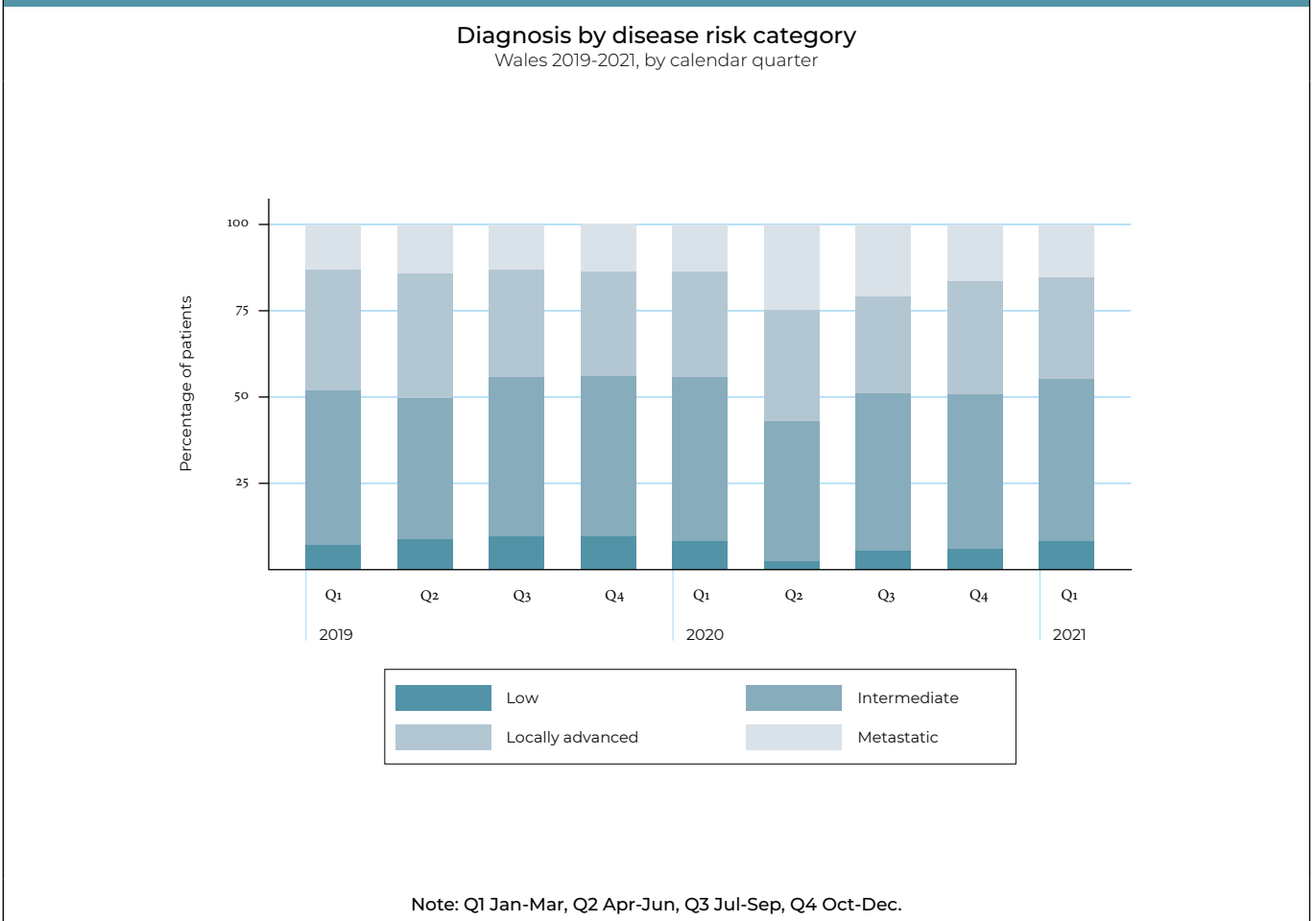
Figure 6. The number of men newly diagnosed with prostate cancer in 2020 presented as a proportion of the diagnoses per quarter in 2019 for each SMDT in Wales



The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

Since April 2020 (Q2), a higher proportion of men were diagnosed with a more advanced stage of disease compared with the same period in 2019 (Figure 7).

Figure 7. The distribution of prostate cancer diagnoses by risk group in Wales



England

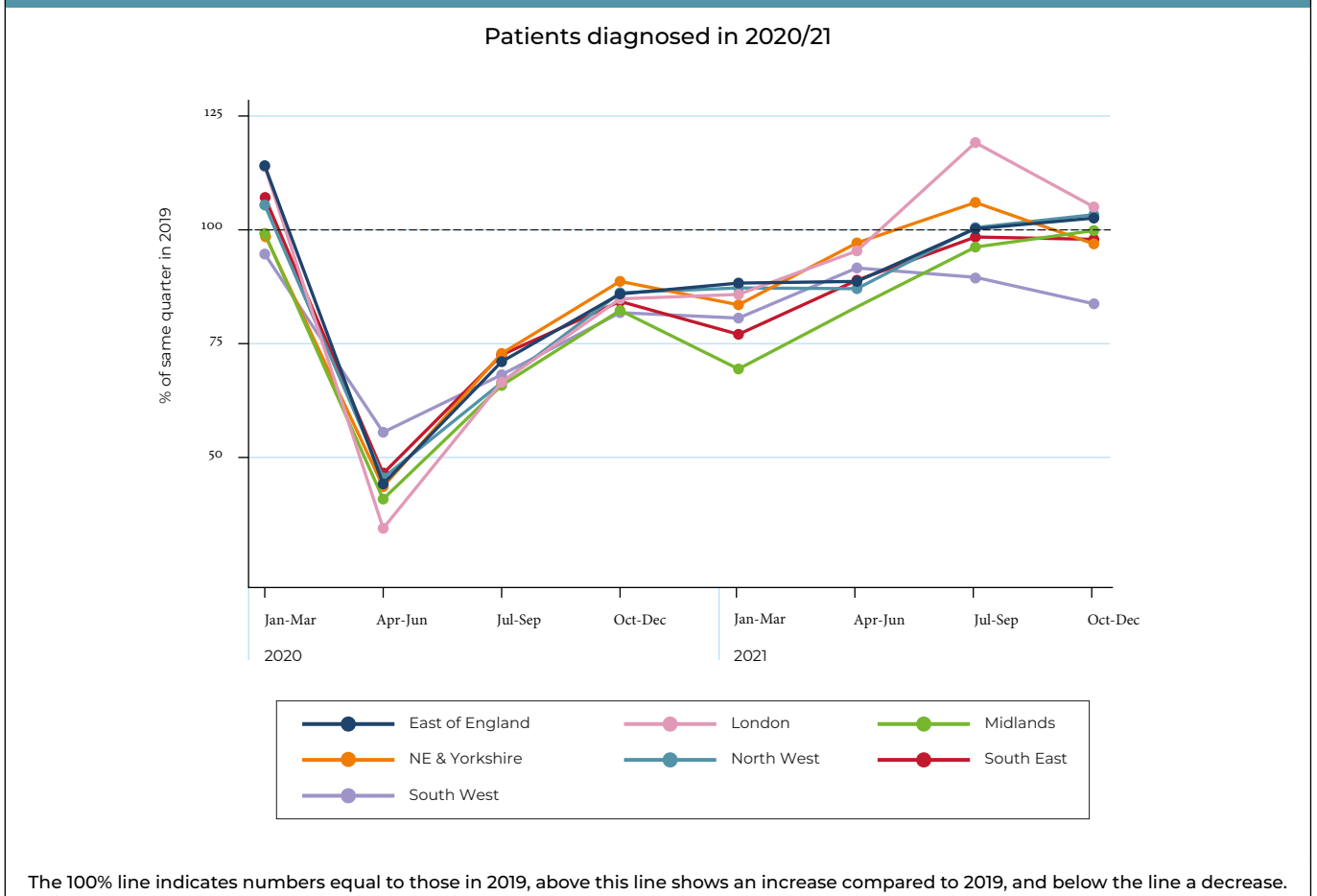
After the steep drop in diagnoses seen in 2020, there was evidence of recovery during 2021. Overall, the number of diagnoses in England in 2021 was 40,107, 93% of the 2019 figure (43,305 diagnoses in 2019).

Lockdown restrictions were in place January to March 2021 and during this time there was a 19% reduction in the number of men diagnosed (9,027 in 2021 vs 11,193 in 2019; Figure 8). Between January 2021 and March 2021, Midlands had the lowest rate compared to 2019 (31%) while the East of England was closest to the 2019 level with a reduction of only 12%. Following the lifting of lockdown restrictions towards the end of March 2021 there was a recovery in the number of

men diagnosed with prostate cancer. By Q4 of 2021 (October – December) nationally the number of diagnoses had essentially recovered to pre-pandemic levels (10,881 vs 10,998; Figure 8). The exception to this gradual upward trend was in the South West region, ending the year still 16% below their 2019 levels, while the London region had a surge of diagnoses in Q3 (July – September), an increase of 19% above the same period in 2019.

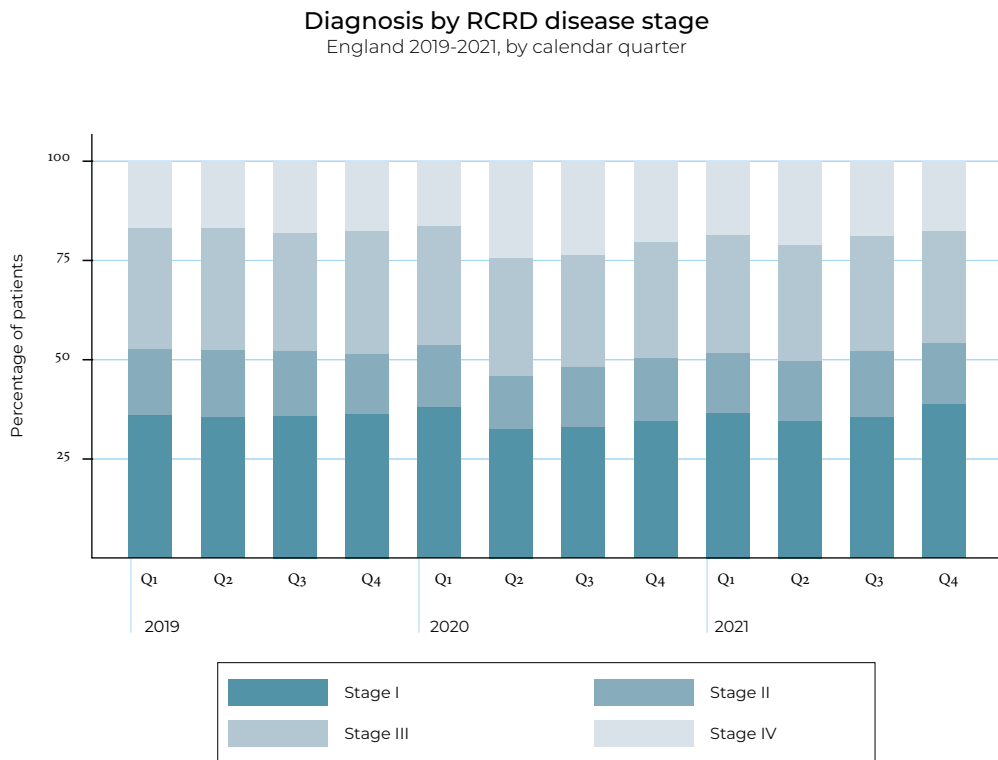
There is variability in the number of men diagnosed within each SMDT of the same region. For example, the greatest variation in Q1 of 2021 was in London, ranging from 75% to 115% of Q1 in 2019, while in Q4 of 2021 SMDTs in NE & Yorkshire ranged from 68% to 122% of Q4 in 2019 (see website for individual provider results).

Figure 8. The number of men newly diagnosed with prostate cancer in 2020 and 2021 presented as a proportion of the diagnoses per quarter in 2019 for each region in England



During 2021, the proportion of men diagnosed with stage IV disease was 19%, based on RCRD stage data (Table 7). This is compared to 20% in 2020 and 17% in 2019. Therefore, there was an increase in the proportion of men diagnosed with stage IV disease in 2020 but this is showing some sign of recovery in 2021 (Figure 9).

Figure 9. The distribution of prostate cancer diagnoses by cancer stage in England



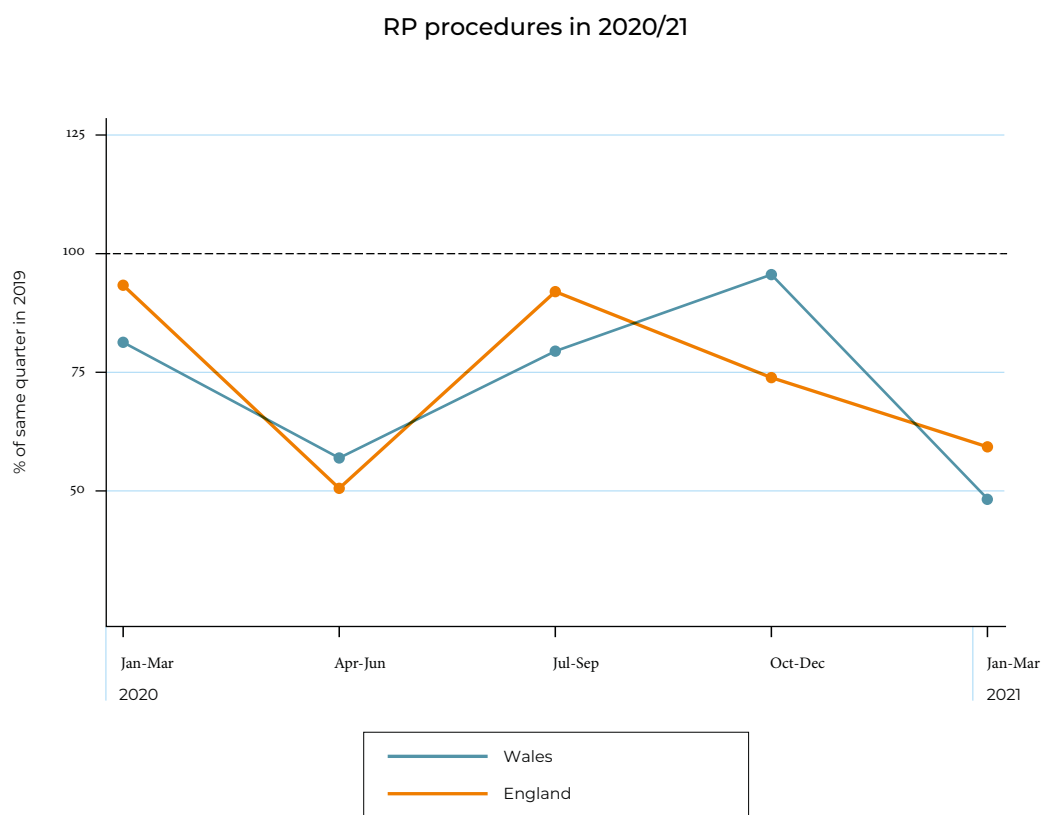
Note: Q1 Jan-Mar, Q2 Apr-Jun, Q3 Jul-Sep, Q4 Oct-Dec.

Surgery

England and Wales in 2020 and early 2021

Figure 10 demonstrates that the pattern of change in number of RP procedures in 2020 as a proportion of 2019 was similar in England and Wales. There was a somewhat slower recovery in the second half of 2020 in Wales followed by a steeper drop as 2021 started.

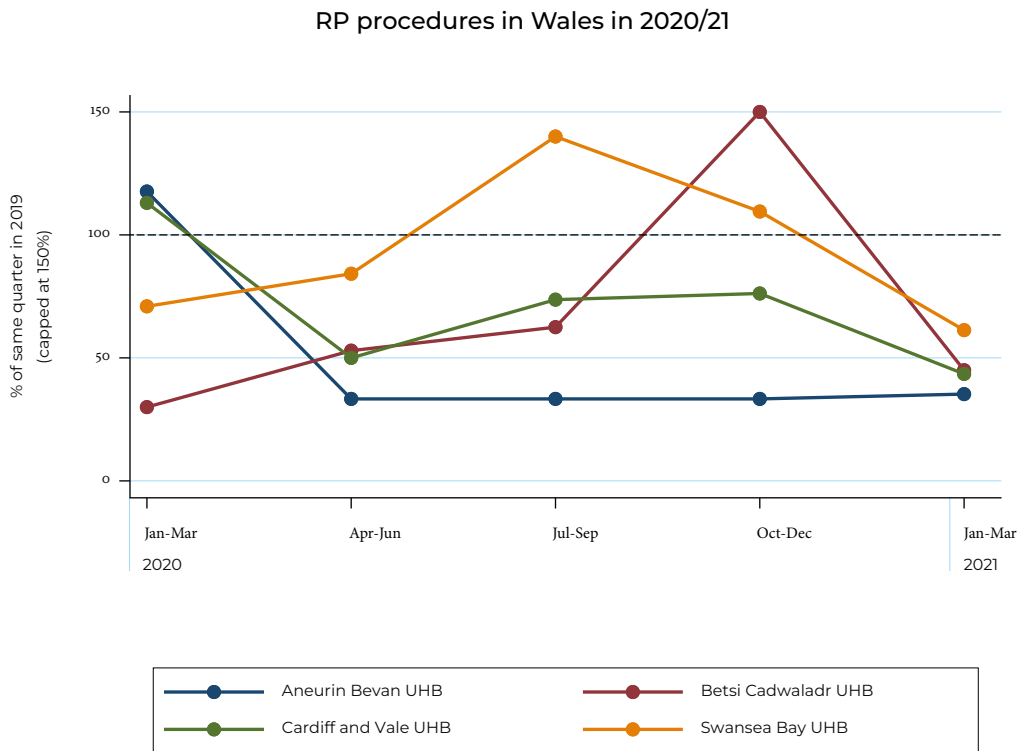
Figure 10. The number of RPs in 2020 and Q1 of 2021 presented as a proportion of the RPs per quarter in 2019 for England and Wales



Wales

There was a 43% reduction in the number of men undergoing RP from April – June 2020 (Q2) compared with 2019 which varied by SMDT (range: 16% to 67%; Figure 11). Surgical activity increased during July – September 2020 (Q3) with a resulting overall 21% reduction compared with 2019 (58 vs 73). However, in one SMDT, there was an increase in the number of radical prostatectomies performed in Q3 compared with the same period in 2019 (Swansea Bay 28 vs 20). During October – December 2020 (Q4), there was an overall 4% reduction in surgical activity compared with 2019 (range: 67% reduction to 150% increase) with both Betsi Cadwaladr and Swansea Bay performing more RPs than during the same quartile of 2019. In the first quarter of 2021, this ended at its lowest levels in all SMDTs, at an overall reduction of 52% compared to 2019 (91 in 2019 vs 44 in 2021).

Figure 11. The number of RPs in 2020 and Q1 of 2021 presented as a proportion of the RPs per quarter in 2019 for each SMDT in Wales



The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

England

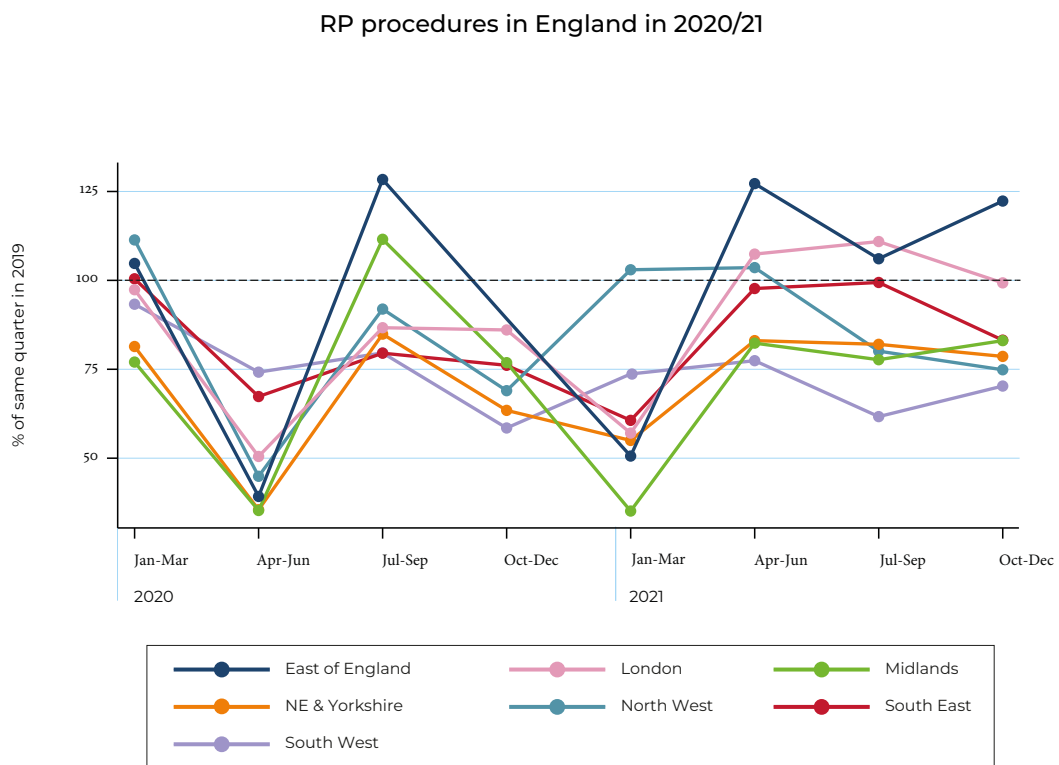
After the steep drop in the numbers of RPs performed in England in 2020 compared with 2019, there was evidence of recovery in 2021. The number of RPs performed in 2021 was 5,834 (still 18% below the number of RPs performed in 2019).

In January – March 2021 (Q1) there was a 41% reduction in the number of men undergoing RPs compared with the same period in 2019 (1,158 in 2021 vs 1,953 in 2019; Figure 12). This is likely to be due to the lockdown restrictions in place during Q1 of 2021. This varied greatly by region across 2021 with the North West the only region reaching numbers comparable to 2019 in Q1 2021 (range: 65% decrease to 3% increase; Figure

12). In the East of England and London there was an increase in the number of RPs performed in Q2 and 3 compared with the same period in 2019. This trend continued in Q4 for the East of England. Surgical activity increased for most regions from January to December in 2021. Overall, however, the number of procedures in October – December 2021 (Q4) was 14% lower than in 2019, varying by region (range: 30% decrease to 22% increase).

The spread of results across surgical centres within a region varied, with the greatest variation being seen in Q1 of 2021 being within South West, ranging from 30% to 145% of Q1 in 2019, and in Q4 it was greatest within Midlands, ranging from 47% to 160% of Q4 in 2019 (see website for individual provider results).

Figure 12. The number of men undergoing RP in 2020 and 2021 presented as a proportion of surgical activity per quarter in 2019 for each region in England

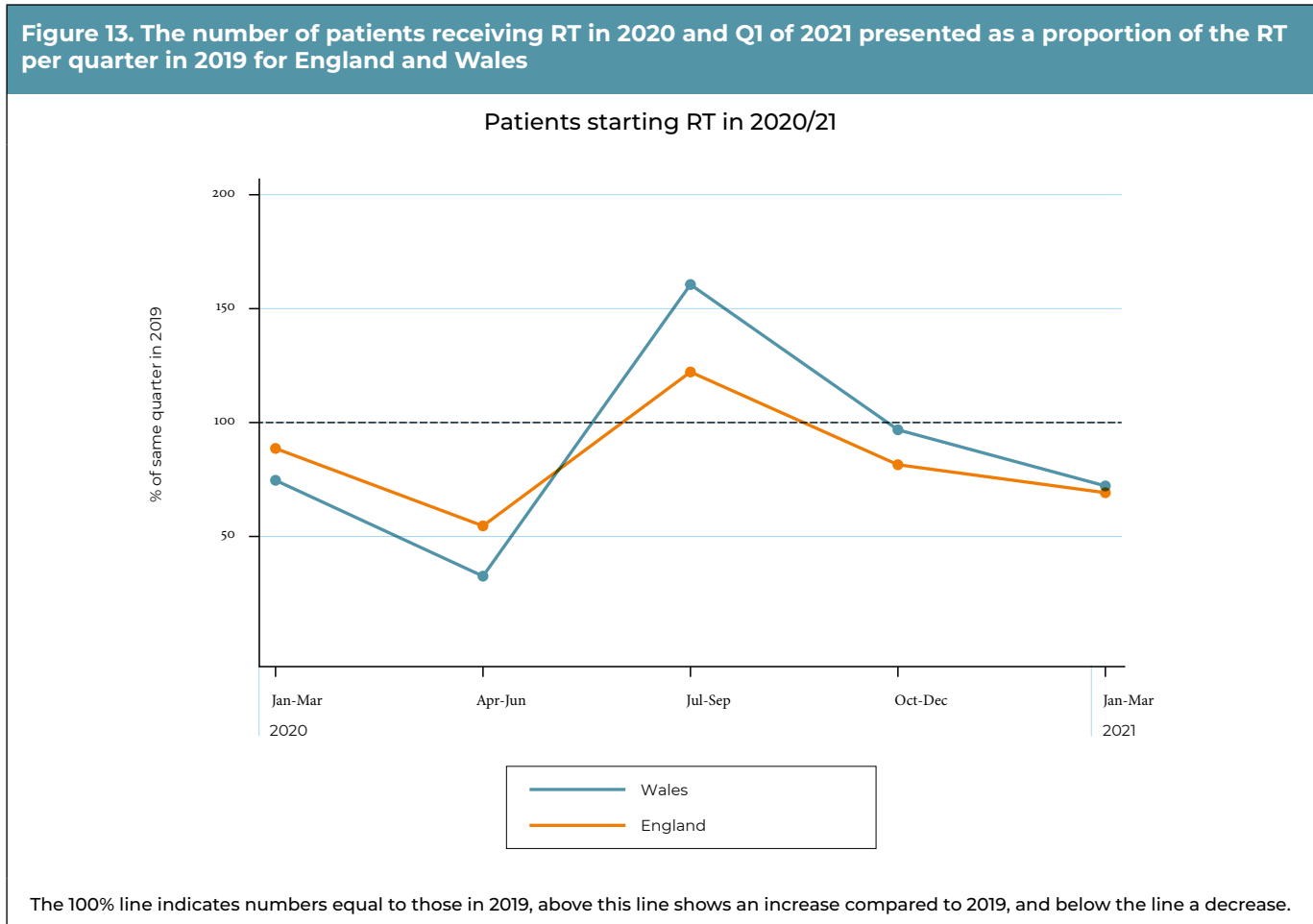


The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

Radiotherapy

England and Wales in 2020 and early 2021

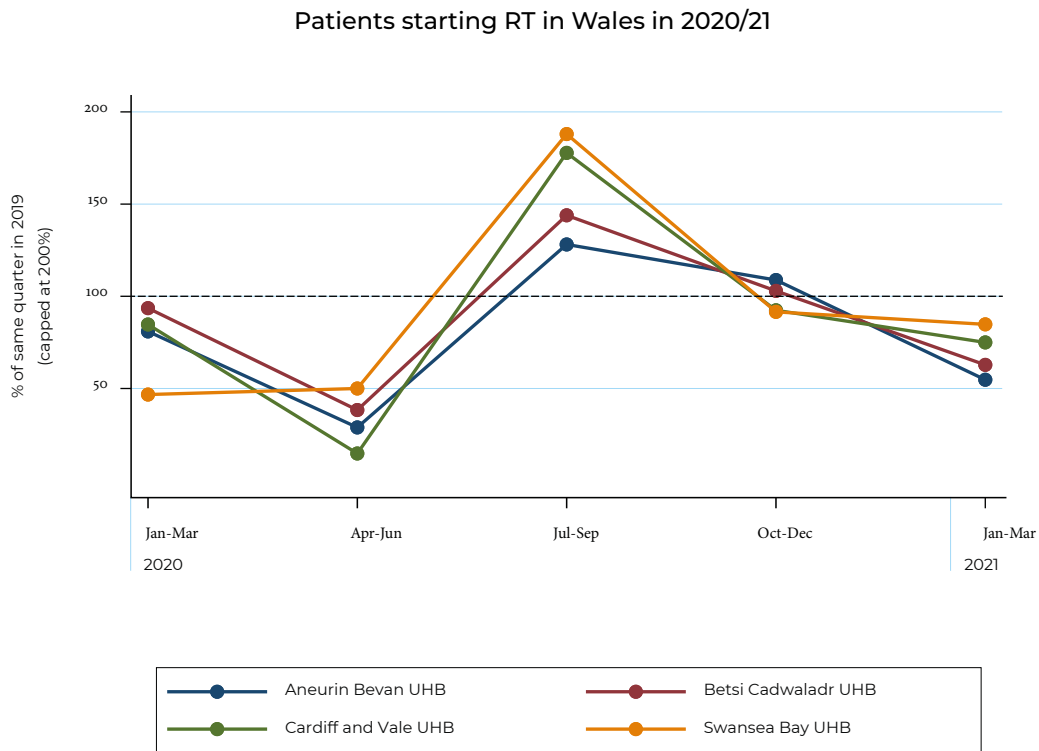
Figure 13 demonstrates that the pattern of change in number of patients starting radiotherapy (RT) in 2020 as a proportion of 2019 was very similar in England and Wales and they started 2021 in a similar position. However, there was a slightly steeper drop in RT in Q2 of 2020 in Wales, followed by a steeper increase in recovery during Q3 than in England.



Wales

During April – June 2020 (Q2), 145 fewer men initiated radical radiotherapy, a 67% reduction compared with 2019 (range: 50% to 83%; Figure 14) in keeping with guidance published at the outset of the COVID-19 pandemic advocating avoidance or deferral of EBRT. Overall, there was a 61% increase in radiotherapy activity during July – September 2020 (Q3) above 2019 levels, which ranged from 28% to 88% by SMDT (Figure 16). In the final quarter of 2020 (October – December), there was an overall 3% reduction in the number of men starting radical radiotherapy compared with Q4 in 2019 (244 vs 252). This had progressed to a 28% reduction overall in Q1 of 2021 (284 in 2019 vs 204 in 2021).

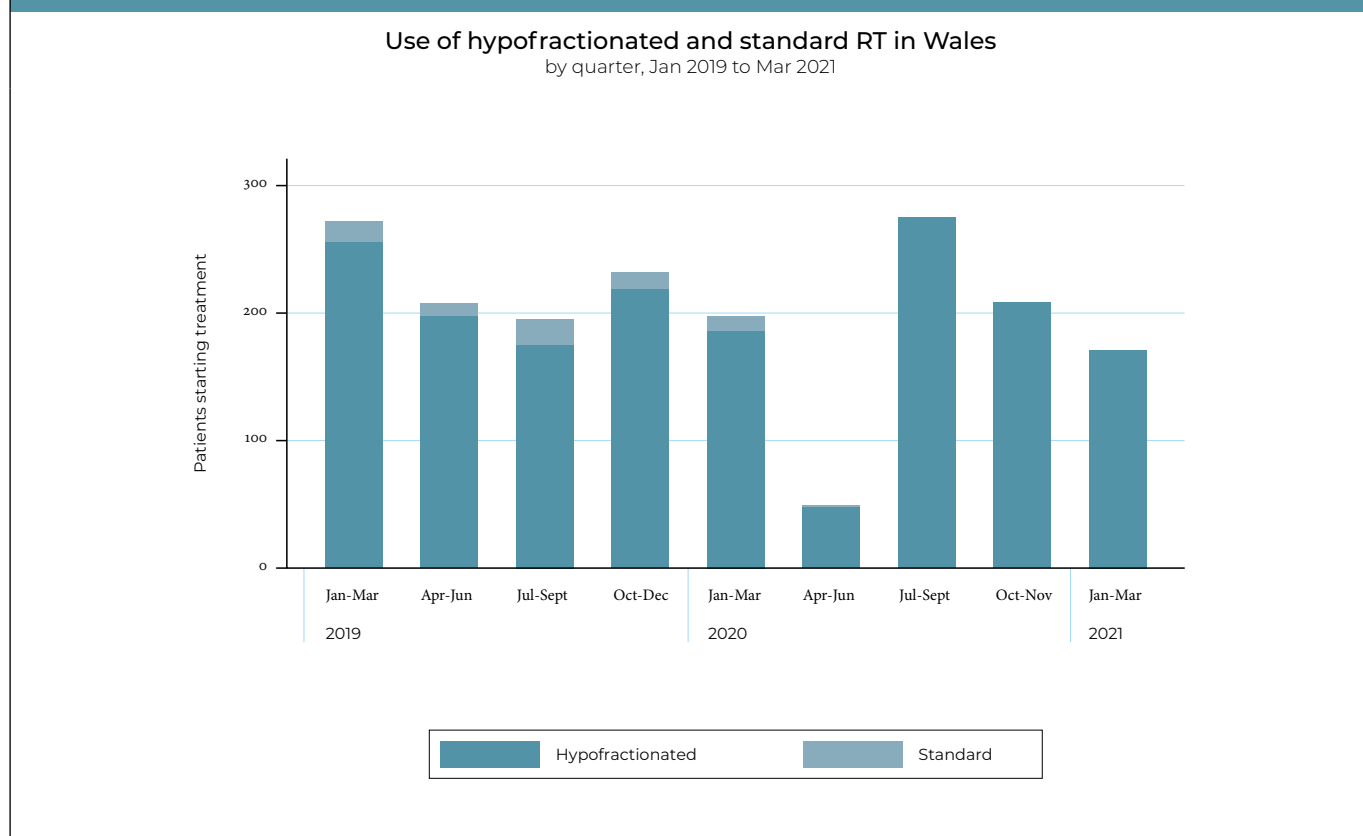
Figure 14. The number of patients starting RT in 2020 and Q1 of 2021 presented as a proportion of the RT per quarter in 2019 for each SMDT in Wales



The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

Among men undergoing radical radiotherapy in 2020 there was an increase in the administration of a hypofractionated regimen: 94% in 2019 vs 98% in 2020. The increase in use of this hypofractionated regimen was evident across Wales and from Q3 of 2020 onwards all RT was performed in this way (Figure 15).

Figure 15. The number of patients starting a hypofractionated or standard radiotherapy regimen in Wales, by quarter from January 2019 to March 2021



England

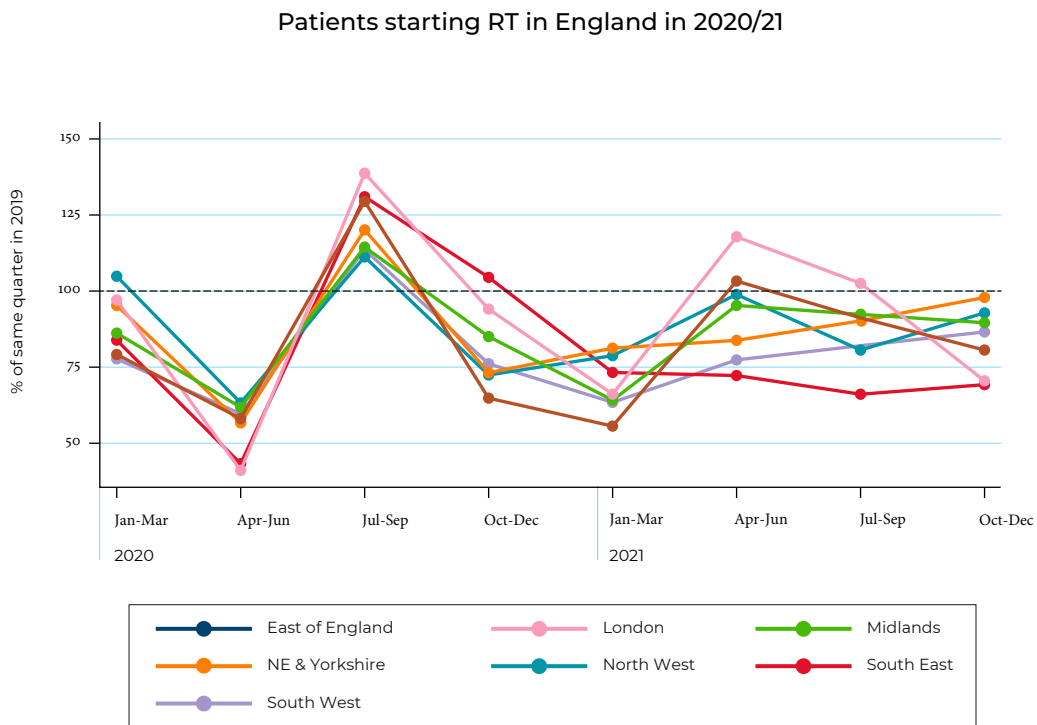
Although there was a very changeable picture of RT administration in 2020, with steep falls and rises tracking lockdown periods and release, the number of patients receiving RT in 2020 was 87% overall of the number receiving RT in 2019 (11,148 in 2020 compared to 12,793 in 2019). There was a more stable pattern of RT receipt across 2021 but in contrast to diagnoses and RPs, where an increase was seen, there was a further reduction in numbers of patients overall receiving RT. In 2021, 10,500 patients received RT in England, representing 82% of the RT numbers in 2019.

During January – March 2021 (Q1), 1,099 fewer men initiated radical radiotherapy, a 31% reduction compared with 2019 (range: 19% to 44%; Figure 16). This coincides

with the lockdown restrictions which were in place in Q1 of 2021 and the commensurate drop in diagnoses. Despite some recovery, particularly in certain regions, in the final quarter of 2021 (October – December), the number of men starting radical radiotherapy remained lower than in 2019 in that quarter (2,495 vs 2,951). A reduction in activity was observed in all seven regions by the end of the year (range: 2% to 31%; Figure 16).

As with RP surgery, there was a wide variation in number of men undergoing radical radiotherapy between RT centres within the same region. The greatest variation was within Midlands in Q1 of 2021, ranging from 35% to 136% of Q1 in 2019 across centres, while in Q4 of 2021 the greatest variation was within London, with a range from 44% to 300% of Q4 in 2019 (see website for individual provider results).

Figure 16. The number of men treated with radical RT in 2020 and 2021 as a proportion of activity per quarter in 2019 for each region in England

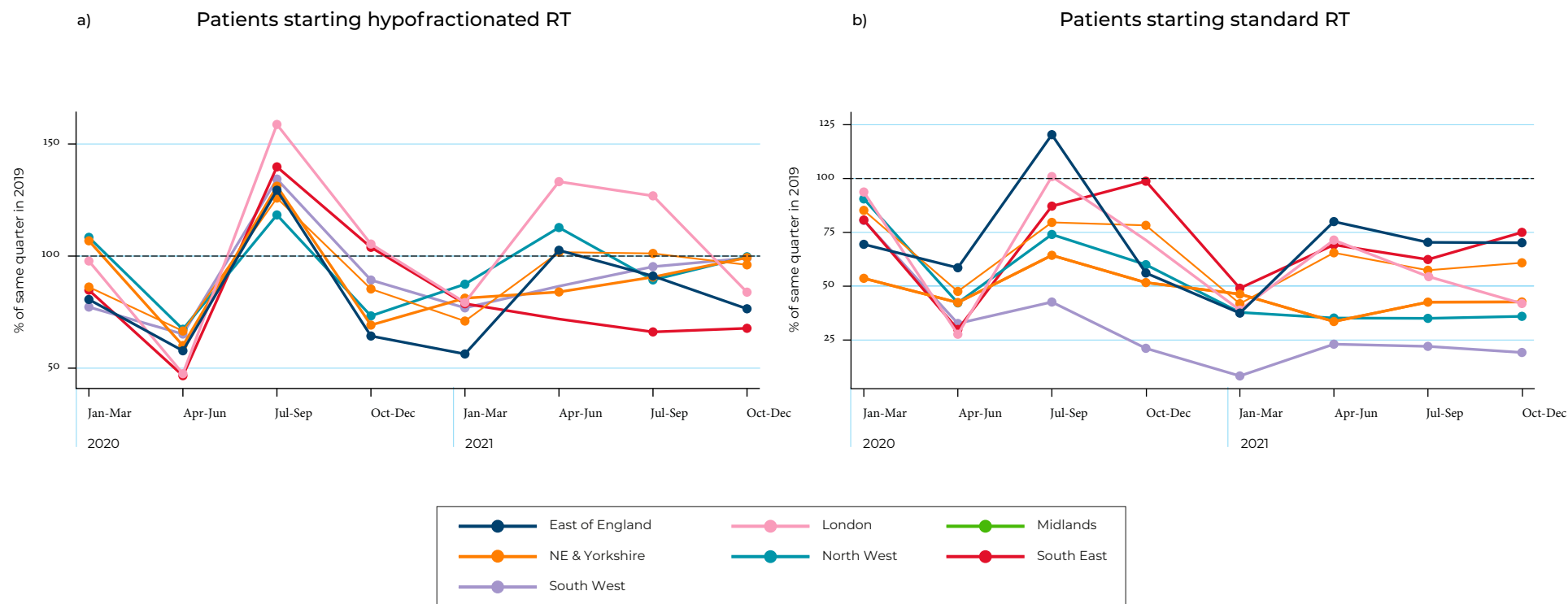


The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

We previously reported increasing use of hypofractionated prostate radiotherapy across each NHS region of England in 2020.⁴³ In 2021 the use of a hypofractionated regimen stabilised, with only London and North West demonstrating an increased use of this delivery method compared with 2019

(Figure 17a). Figure 17b shows the use of hypofractionation in 2021 compared with 2019. This demonstrated consistently lower levels of standard fractionated RT radiotherapy being used across all regions in 2021 compared to 2019.

Figure 17. The number of men undergoing a) hypofractionated or b) standard fractionated radiotherapy in 2020 and 2021 presented as a proportion of activity per quarter in 2019 for each region in England



The 100% line indicates numbers equal to those in 2019, above this line shows an increase compared to 2019, and below the line a decrease.

43 Annual Report 2021. Accessible at https://www.npca.org.uk/content/uploads/2022/01/NPCA-Annual-Report-2021_Final_13.01.22-1.pdf

Systemic treatments (England only)

The number of men receiving either docetaxel or enzalutamide remained stable in 2020 (2,031 compared with 2,036 in 2019). 2021 saw a steep increase in the use of docetaxel or enzalutamide (Figure 18a), with a 140% increase compared with 2019 (2,809 in 2021 and 2,036 in 2019). These are absolute numbers so regions with more patients will be higher on the

graphs but it is the trend across time for each region that is of note here.

We previously reported a rapid fall in the use of docetaxel and a concomitant increase in the use of enzalutamide from April 2020 onwards reflecting rapid NICE guidance published at this time.⁴⁴ In 2021, there was evidence of a steadily increasing use of docetaxel (Figure 18b) but these levels did not return to

the utilisation rates of 2019 (1,023 patients in 2021 compared to 2,029 patients in 2019). The utilisation of enzalutamide has continued to increase during 2021 with 1,793 patients receiving enzalutamide during that year (Figure 18c), although the growth of use had tailed off by the last quarter of 2021 (1,065 patients in 2020 and 7 patients in 2019).

Figure 18. The number of men with prostate cancer receiving a) docetaxel or enzalutamide, b) docetaxel or c) enzalutamide in 2020 and 2021 per quarter for each region in England



44 NICE, 2020. NHS England interim treatment changes during the Covid-19 pandemic. NICE guideline [NG161], 2020. [NICE Guideline \[NG161\], 2020. NHS England interim treatment changes during the COVID-19 pandemic](#)

Overall recommendations on the basis of English and Welsh data

CR1. Review the diagnostic and treatment activity for your region during 2020 and 2021 illustrating how your service responded during this time and to support decision making in response to current changes in demand.

CR2. Monitor adherence to the recommended diagnostic pathway for suspected prostate cancer.

CR3. Continue to increase the use of hypofractionated radiotherapy.

CR4. Offer enzalutamide (or apalutamide) with androgen deprivation therapy (or abiraterone for patients intolerant of enzalutamide) to people with newly diagnosed metastatic disease instead of docetaxel, where appropriate.

5. Discussion

The performance indicators in this NPCA annual report cover data collected for a period during the beginning of the COVID-19 pandemic, a challenging time both clinically and logistically. Despite this the information specialists at NCRAS in England were able to provide the NPCA with a rapidly produced, proxy cancer registration dataset (RCRD) and those at the Wales Cancer Network were able to provide the same dataset as in previous years. Thanks to this considerable effort by the RCRD and Wales Cancer Network, the NPCA is able to provide a picture of how services were impacted by the COVID-19 pandemic during 2020 and the first quarter of 2021 in Wales and 2021 in England.

The average proportion of men diagnosed with metastatic disease in England and Wales is 17%, an increase from last year's result of 13%, although, this is not an increase in absolute numbers of stage 4 diagnoses, it's a bigger drop in diagnoses at other stages. While there may be some impact of the higher proportion of missing data, this corresponds with our findings that during 2020, services were impacted, including fewer prostate cancer diagnoses and treatments. This may have resulted in men being diagnosed with disease presenting at a later stage and potentially with a higher disease-risk profile. It may also reflect that fewer men with milder symptoms have presented to their GP or been detected in other ways, a trend being actively addressed in campaigns like the joint NHSE and Prostate Cancer UK's "Find the 14,000 men".⁴⁵ We have since seen an increase in referral and treatment numbers.⁴⁶

The indicators relating to readmission following surgery, GI or GU complications after treatment show that the number of men presenting is stable or improving since last year's report although, for these last two, the data reflect the experience of men treated well before the pandemic period. It does show that during that period the treatments given did not increase complications to any measurable extent. Another interesting finding is the number of prostatectomies performed with synchronous pelvic lymphadenectomy in Wales. Nearly half of all prostatectomies in Wales were performed with lymphadenectomy (compared to 19% in England). This will have a significant impact on patients treated in Wales and warrants further investigation by clinical teams.

The results for potential under- and over-treatment in Wales also show a positive picture, although the reasons behind the changes may be complex and related to the changing profile of men diagnosed and services available. This phenomenon needs to be examined more closely by health-care commissioners and clinical groups in Wales.

Examination of the data covering 2020 in Wales shows that services were impacted by the pandemic to a similar extent to that seen in England in 2020 (which we reported in last year's Impact of COVID-19 report).⁴⁷ Data from England in 2021 demonstrates that there has been recovery across the country

in all diagnoses and treatment services, with some regions performing at 2019 levels or better. The pandemic appears to have brought about changes in some aspects of prostate cancer care, including a positive increased utilisation of hypofractionated radiotherapy and a shift in the use of systemic treatments. There has been a 140% increase in utilisation of docetaxel or enzalutamide in 2021, compared with 2019, demonstrating the increase use of adjunct treatments for prostate cancer.

The lack of certain key data items again this year has also meant that some of our usual indicators could not be estimated reliably and therefore, these important measures are missing once again from this report. Given the importance of the RCRD and the value of more frequent reporting, it is important that providers do what they can to ensure that key data items, for example TNM variables, are as complete as possible. The data collected by clinical teams are obviously a vital part of clinical practice and increasing the completeness and validity of them is key, as they are extremely valuable, both for stratification of disease risk, examination of practice and for national benchmarking and inter-unit and inter-region comparison.

Although we did not carry out a formal outlier process (as the source data were not fully validated in England), many of the same providers fell outside the funnel limits as they had previously. These providers can find their individual results on our website (all individual results are published on our website, which includes interactive funnel plots). We encourage all providers to examine their own results to see if their individual results fall outside the expected range and if they do, to look for ways to improve their performance. This also applies to high-volume / high-performing units: critical and honest self-appraisal is a well-established method for improving outcomes for patients in general.

The NPCA team will continue to provide robust reporting to help inform the prostate cancer care community. Wales has been leading the way in continuing to provide clinician-approved data and England is pushing forward with rapid registration data. We will endeavour to report more rapidly in future as these new, more dynamic datasets become the norm. We also continue to encourage each provider to engage firstly with their own data, and then with other providers for benchmark comparison. This important concept forms the foundation for our Quality Improvement events, where we share best practice in order to address challenges in the delivery of national excellence in prostate cancer care.

⁴⁵ PCUK [Find the 14,000 men campaign](#).

⁴⁶ <https://www.england.nhs.uk/2022/11/nhs-prostate-cancer-treatments-surge-in-england/>

⁴⁷ Impact of COVID-19, Annual Report 2021. Accessible at https://www.npca.org.uk/content/uploads/2022/01/NPCA-Annual-Report-2021_Final_13.01.22-1.pdf

6. Future Plans for the NPCA

Working with the RCRD has opened new possibilities for more timely reporting and with the availability of data from Wales in 2020, we have been able to examine the influence of the COVID-19 pandemic on the diagnosis and treatment of men with prostate cancer, including treatment delay, the potential receipt of sub-optimal treatment and how diagnosis and treatment varies by region. With further follow-up the NPCA will determine the impact of changes in diagnostic and treatment pathways during the COVID-19 pandemic on the outcomes of men with prostate cancer. These are important results and providers are encouraged to review the results of the Annual Report to identify areas of improvement for their own hospitals. In England, provider participation in the [RT Operational Delivery Networks](#), which support the delivery of radiotherapy (including Brachytherapy and Molecular Radiotherapy) for adults (≥ 18 years of age) is encouraged. There are eleven Radiotherapy Operational Delivery Networks covering the geography of England. Each Network is tasked with providing radiotherapy system leadership and the delivery of NHS England's vision and ambitions for the modernisation of radiotherapy services.

The success of the NPCA relies heavily on the quality of the data received from Trusts and Health Boards across England and Wales. Our data collection partners (NCRAS and WCN) will continue to work directly with individual care providers to help improve data quality. We encourage Trusts to review their data quality and completeness, and to ensure COSD data items are uploaded to the cancer registry for every newly diagnosed patient with prostate cancer. This will ensure the reliability of all the results we present and the reporting of outliers. In future, the NPCA will aim to recommence our outlier policy to notify outlying providers, publishing the Trust responses in each Annual Report. This will enable the individual patient data to be checked and changes implemented to improve patient outcomes.

We will continue to publish data in England as part of the Care Quality Commission's National Clinical Audit Benchmarking (NCAB) initiative. This enables wider dissemination of our findings to clinicians, stakeholders, patients and the public.

Our regular organisational survey went out to providers to provide up-to-date information about service availability across the country in 2021. These results were updated in autumn 2022 and the website now reflects any changes. Our recent Short Report on 'Characteristics of men diagnosed with metastatic disease' presages an increased focus on this cohort of patients over the coming years at the NPCA. These are men often with the most lethal form of the disease.

The PPI forum is continuing to thrive and is an integral part of the work we do at the NPCA, working with patients on future methodological improvements, investigating audit data, encouraging co-development and involving patients in co-authorship of NPCA publications. This engagement has led to fruitful collaborations, beneficial both to clinicians and patients, maintaining a clear patient focus, which is central to the ethos of the NPCA and HQIP.

We are looking forward to our next QI event in spring 2023 which will examine the 'Determinants of variation in the diagnosis and treatment of men with metastatic prostate cancer'. This event will be a celebration of 10 years of the NPCA with a focus on what we have learnt so far and what the future priorities of the audit are. We look forward to welcoming you all in 2023!

Acronym list

ADT	Androgen Deprivation Therapy
BAUS	British Association of Urological Surgeons
BUG	British Uro-Oncology Group
CaNISC	Cancer Network Information System Cymru
COSD	Cancer Outcomes and Services Dataset
CEU	Clinical Effectiveness Unit
CNS	Clinical Nurse Specialist
COP	Clinical Outcomes Programme
CRG	Clinical Reference Group
EBRT	External Beam Radiation Therapy
GI	Gastrointestinal
GP	General Practitioner
GU	Genitourinary
HQIP	Healthcare Quality Improvement Partnership
HES	Hospital Episode Statistics
IMRT	Intensity Modulated Radiation Therapy
ICD	International Classification of Disease
MRI	Magnetic Resonance Imaging
MDT	Multi-Disciplinary Team
NCRAS	National Cancer Registration and Analysis Service
NCAPOP	National Clinical Audit and Patient Outcomes Programme
NCAB	National Clinical Audit Benchmarking
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NPCA	National Prostate Cancer Audit
RTDS	National Radiotherapy Data Set
ONS	Office for National Statistics
OPCS	Office of Population Censuses and Surveys
PEDW	Patient Episode Database for Wales
PPI	Patient and Public Involvement
PSA	Prostate Specific Antigen
PHE	Public Health England
PROMs	Patient Reported Outcome Measures
RP	Radical Prostatectomy
RCS	Royal College of Surgeons
SMDT	Specialist Multidisciplinary Team
IMD	The Index of Multiple Deprivation
TNM	Tumour, Nodes, Metastases
WCN	Wales Cancer Network
WCISU	Welsh Cancer Intelligence and Surveillance Unit

Glossary

Active Surveillance

The initial monitoring of prostate cancer with low-risk clinical characteristics.

Androgen Deprivation Therapy (ADT)

Androgen deprivation therapy is a hormone therapy used to control prostate cancer and delay or manage any symptoms arising from it. Testosterone makes prostate cancer cells grow faster and this therapy works by either stopping the body from making the hormone testosterone, or by stopping testosterone reaching the prostate cancer cells. By doing this the cancer will usually shrink, wherever it is in the body. Androgen deprivation therapy can be used when prostate cancer cells have already spread to distant sites, but it can also be used with other treatments, such as radiotherapy, to make them more effective.

ASA score

The American Society of Anaesthesiologists (ASA) classification is a scoring system based on the perioperative health and co-morbidities of a surgical patient. A high ASA score denotes a higher risk of perioperative complications in the short and long term. For the NPCA, an ASA score is assigned to all patients regardless of treatment.

Brachytherapy

A treatment for prostate cancer using either the implantation of permanent radioactive seeds into the prostate (termed low dose rate brachytherapy) or the temporary insertion of a source of radiation into the prostate (termed high dose rate brachytherapy). Brachytherapy can deliver a high radiation dose to the prostate gland whilst reducing radiation to the surrounding healthy tissue. This treatment can be used in isolation or in combination with external beam radiotherapy in higher risk disease.

British Association of Urological Nurses (BAUN)

The British Association of Urological Nurses is a registered charity which aims to promote and maintain the highest standards in the practice and development of urological nursing and urological patient care. Registered charity no: 1140616.

British Association of Urological Surgeons (BAUS)

Professional association for urological surgeons. Registered charity no: 1127044.

British Uro-oncology Group (BUG)

Professional association for clinical and medical oncologists specialising in the field of urology. Registered charity no: 1116828.

Cancer Network Information System Cymru (CaNISC)

An online computer system that provides information for health professionals on cancer patients across Wales.

Cancer Outcomes and Services Dataset (COSD)

The national standard for reporting on cancer in the NHS in England. Trusts submit a data file to the National Cancer Registration and Analysis Service (NCRAS) every month.

Care Quality Commission (CQC)

Independent regulator of health and adult social care in England. The CQC makes sure that health and social care services provide people with safe, effective, compassionate and high-quality care.

Case-mix

Refers to different characteristics of patients seen in different hospitals (for example age, sex, disease stage, social deprivation and general health). Knowledge of differing case-mix enables a more accurate method of comparing quality of care (case-mix adjustment).

Case-mix adjustment

A statistical method of comparing quality of care between organisations that considers other important and measurable characteristics which might affect outcome (also see risk-adjustment).

Charlson Co-morbidity Score

A scoring system used commonly to quantify the co-existence of other medical conditions (medical co-morbidities: see below). Many patients may have other medical conditions in addition to their prostate cancer. The score is calculated based on the absence and presence of specific medical problems in the Hospital Episode Statistics (HES) database.

Clinical Effectiveness Unit (CEU)

An academic collaboration between the RCS and the London School of Hygiene and Tropical Medicine (LSHTM). The CEU carries out national surgical audits, develops audit methodologies and produces evidence on clinical and cost effectiveness.

Clinical Nurse Specialist (CNS)

An experienced senior nurse who has undergone specialist training and plays an essential role in improving communication and coordinating treatment in cancer patients. Specialist nurses act as the first point of contact for the patient, coordinating and facilitating the patient's treatment.

Clinical Outcomes Publication (COP)

An NHS initiative to promote data transparency and support wider engagement with national clinical audit data via publication of a directory of audits on myNHS.

Co-morbidity

Medical condition(s) or disease process(es) that are additional to the disease under investigation (in this case, prostate cancer).

External Beam Radiotherapy (EBRT)

The use of high energy X-ray beams directed at the prostate to kill cancer cells. It is used as a standard method to treat localised or locally advanced prostate cancer.

Gleason Score

The Gleason score is a measure assigned by a pathologist to determine how aggressive an individual's prostate cancer is when the prostate cancer tissue is examined using a microscope. It is made up of two separate scores between 3 and 5 which are then added together to make a final score graded between 6 and ten. Along with PSA and TNM, the Gleason score can be used to predict how a prostate cancer might behave in the future. This process is used for risk stratification, i.e., to help to predict how a specific cancer might progress and/or respond to treatment.

Health Board

A local health organisation that is responsible for delivering all healthcare services within a regional area in Wales. Currently, there are seven Health Boards in Wales and six of these provide prostate cancer services.

Healthcare Quality Improvement Partnership (HQIP)

The Healthcare Quality Improvement Partnership (HQIP) aims 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 is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices.

Hospital Episode Statistics (HES)

A database that contains data on all patients treated within NHS trusts in England. This includes details of admissions, diagnoses and treatments.

Hypofractionated radiotherapy

Patients undergoing radiotherapy receive one treatment (known as a fraction) with each hospital visit. Hypofractionated radiotherapy is where the total dose of radiation is divided into larger doses (per treatment session) over a shorter period. In prostate cancer treatment, standard fractionated radiotherapy involves 37 treatment sessions over seven or eight weeks (i.e. 2Gy per fraction) compared with hypofractionated radiotherapy which involves 20 treatment sessions over four weeks (higher doses per fraction than in standard fractionated radiotherapy). Having fewer treatment sessions over four weeks has been found to work just as well for men with localised prostate cancer as having more sessions over a longer time. The risk of side effects is also similar and as it involves fewer hospital visits, men may find a shorter course of radiotherapy more convenient.

Intensity-modulated Radiotherapy (IMRT)

Conformal radiotherapy shapes the radiation beam to closely fit the area of the cancer to avoid healthy tissue. A type of conformal radiotherapy with highly shaped and focussed beams of X Rays enabling higher doses of radiotherapy to be given to the prostate gland with reduced dose to the surrounding normal structures (bladder and bowel).

International Classification of Diseases, Tenth Revision (ICD-10)

The World Health Organisation international standard diagnostic classification. It is used to code diagnoses and complications within the Hospital Episode Statistics database of the English NHS.

Localised Disease

When cancer is confined within the anatomical boundaries of the prostate.

High risk clinically localised prostate cancer (eg T2 disease) is confined to the prostate but has a high Gleason sum score. This type of cancer has a higher risk of progressing and it is usually treated radically.

Locally Advanced Disease

When cancer has spread outside the anatomical boundaries of the prostate (T3 or T4) but is still contained within the prostate gland's pelvic location. This may be associated with spread to lymph nodes within the pelvis (N+).

Lymphadenectomy

The surgical removal of one or more groups of lymph nodes (usually in the pelvis) in prostate cancer.

Magnetic Resonance Imaging (MRI)

A type of scan that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body. The term "multi-parametric" (mpMRI) refers to variation in the types of MR image obtained during a scan. This adds to the ability of the clinical team to determine the presence of a cancer and its chance of being a more aggressive type of cancer growth.

Margin Status

Once the prostate has been removed during surgery, the margin status indicates whether the edge of the specimen contains cancer cells or not. A positive margin status does not always indicate that residual prostate cancer cells may have been left behind.

Metastatic Disease

When cancer has spread from its initial site of development in the prostate (the primary site) to distant sites of the body (the metastatic site(s)). These sites are in the bones and lymph nodes in the first instance.

Multidisciplinary Team (MDT)

A team of specialist health care professionals from various backgrounds (e.g., doctors, nurses, administrative staff) who collaborate to assess diagnosis and treatment and organise and deliver care for patients with conditions such as prostate cancer. The specialist MDT enables local cancer units to access specialist prostate cancer services which may not be locally available (see Specialist Multidisciplinary Team).

Multimodal Therapies

The use of multiple treatments used in combination against prostate cancer. These combinations may include radiotherapy, hormone therapy, surgery and/or systemic chemotherapy.

National Cancer Data Repository (NCDR)

The NCDR comprises a merged dataset of English cancer registration data, linked to further national datasets including Hospital Episode Statistics (HES), the radiotherapy dataset (RTDS) and Office of National Statistics data (ONS).

National Cancer Registration and Analytical Service (NCRAS)

A national body which collects, analyses and reports on cancer data for the NHS population in England.

NHS Digital

The provider of professional IT services to the NHS. Their goal is to improve health and social care in England by making better use of technology, data and information.

NHS Hospital Trust

An NHS organisation that provides acute care services in England. A trust can include one or more hospitals.

National Institute for Health and Care Excellence (NICE)

An organisation responsible for providing national guidance on the promotion of good health, and the prevention and treatment of ill health.

Office for National Statistics (ONS)

Government department responsible for collecting and publishing official statistics about the UK's society and economy. This includes cancer registration data.

Patient Episode Database for Wales (PEDW)

A database that contains all inpatient and day case activity undertaken in NHS hospitals in Wales. This includes details of admissions, diagnoses and the treatments.

Performance Status (WHO/ECOG)

The World Health Organisation (WHO)/Eastern Cooperative Oncology Group (ECOG) performance status indicator is a measure of how disease(s) impacts a patient's ability to manage daily. It was initially developed in the research setting to standardise the reporting of chemotherapy toxicity and the response of cancer patients in clinical trials. However, it is now in the public domain and is routinely used in other research and clinical settings.

Prostate Specific Antigen (PSA)

A protein produced by the cells of the prostate gland. A high PSA may indicate prostate cancer or prostate cancer recurrence, but it also may indicate benign conditions such as an enlarged prostate or infection.

Radical Prostatectomy

The surgical removal of all the prostate gland and the associated seminal vesicles. The latter are structures integrally associated with the prostate. Their function is to produce and store fluid which sustains the viability of sperm when it leaves the prostate.

Radical treatment

Potentially curative treatment aimed at curing prostate cancer (removing cancer tissue or filling all cancer cells in their primary location). These treatments include radical prostatectomy and radiotherapy.

Radiotherapy

The use of radiation to destroy cancer cells. There are different types of radiotherapy, including external beam radiotherapy (radiotherapy delivered from a radiation source outside the body) and brachytherapy (radiotherapy delivered directly by implanting a radiation source within the tumour itself).

Radiotherapy Data Set (RTDS)

A database that contains standardised data from all NHS Trust providers of radiotherapy services in England.

Radiotherapy Peer Review

The term 'peer review' as applied to radiotherapy contouring implies that all contours are reviewed by more than one consultant oncologist (or other peer professional with appropriate competencies) with the relevant site-specific expertise. Prospective peer review should be performed in situations where a clinically important difference in judgement between oncologists might occur.

Risk Stratification

Classification of prostate cancer according to individual risk profile. This is done by considering how aggressive the cancer (tumour grade) is and how far it has spread (tumour stage) (see Gleason score).

Risk-adjustment

A statistical method that considers important and measurable characteristics (also see case-mix adjustment).

Robotic-assisted Laparoscopic Prostatectomy

A “key-hole” operation is one which uses laparoscopy (the insertion of a telescope and small instruments into the abdomen) as opposed to a conventional “open” operation involving a larger incision. A laparoscopic operation is commonly associated with the use of a robotic device which is controlled from a separate console by a surgeon, who carries out removal of the prostate. The robotic device allows for more controlled and precise movements during the operation. Advantages over traditional open surgery include less blood loss, less post-operative pain, a shorter hospital stay, smaller scars.

Royal College of Surgeons of England (RCS)

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 of surgery.

RT Operational Delivery Networks

These networks support the delivery of radiotherapy (including Brachytherapy and Molecular Radiotherapy) for adults (≥ 18 years of age) in England. There are eleven Radiotherapy Operational Delivery Networks covering the geography of England. Each Network is tasked with providing radiotherapy system leadership and the delivery of NHS England’s vision and ambitions for the modernisation of radiotherapy services.

Specialist Multidisciplinary Team (SMDT)

A team of specialists who coordinates the specialist treatment of men with prostate cancer. The SMDT enables local cancer units to access specialist prostate cancer services which may not be locally available. Specialist services include prostatectomy and radiotherapy (see Multidisciplinary Team).

Staging/stage

The anatomical extent of a cancer. This determines whether a cancer is confined within its primary site (localised disease) or whether it has spread to other areas of the body (metastatic spread). It is usually denoted by the TNM staging process where “T” represents the local stage, “N” the presence of lymph node involvement and “M” represents the presence of metastatic disease.

T₁ means the cancer is too small to be seen on a scan,⁴⁸ T₂ means the cancer is completely inside the prostate gland, T₃ means the cancer has broken through the capsule (covering) of the prostate gland and T₄ means the cancer has spread into other body organs nearby, such as the back passage, bladder, or the pelvic wall. No means that the nearby lymph nodes do not contain cancer cells and N₁ means there are cancer cells in lymph nodes near the prostate. Mo means the cancer has not spread to other parts of the body and M₁ means the cancer has spread to other parts of the body outside the pelvis.

Systemic Anti-Cancer Therapy (SACT)

The SACT database collects data on the use of systemic anti-cancer therapy from all NHS England providers. This database has been used to identify the men receiving docetaxel chemotherapy for their prostate cancer.

Trans-perineal biopsy

Biopsy of the prostate using a fine needle through the perineum (the area of skin between the back of the scrotum and the front of the anus) guided using an ultrasound probe placed in the rectum (back passage). This is performed under general or local anaesthetic. The needle placement can access some areas of the prostate more easily than trans-rectal ultrasound biopsies, particularly those in the forward portion of the prostate gland.

Trans-rectal Ultrasound (TRUS) Biopsy

The use of thin needles to take tissue samples from the prostate after numbing the area with local anaesthetic. The biopsy is done through the rectum (back passage). The placement of these needles is enabled by use of an ultrasound scanner in the rectum to guide the biopsy.

Treatment-related Toxicity

Complications following radical treatment. Genitourinary and gastrointestinal complications can be expected following radiotherapy or prostatectomy.

‘Usual’ / standard dataset

This is the dataset that has been historically provided by our data partners and reported in previous Annual Reports (e.g., in the 2020 annual report, which can be found at <https://www.npca.org.uk>).

Wales Cancer Network (WCN)

A new organisation that has evolved from the merger of the two Cancer Networks in Wales and the Cancer National Specialist Advisory Group (NSAG) and is designed to collect cancer-specific information in Wales.

Welsh Cancer Intelligence and Surveillance Unit (WCISU)

WCISU is the National Cancer Registry for Wales. Its primary role is to record, store and report on all incidences of cancer for the resident population of Wales.

⁴⁸ <https://www.cancerresearchuk.org/about-cancer/prostate-cancer/stages/tnm-staging>