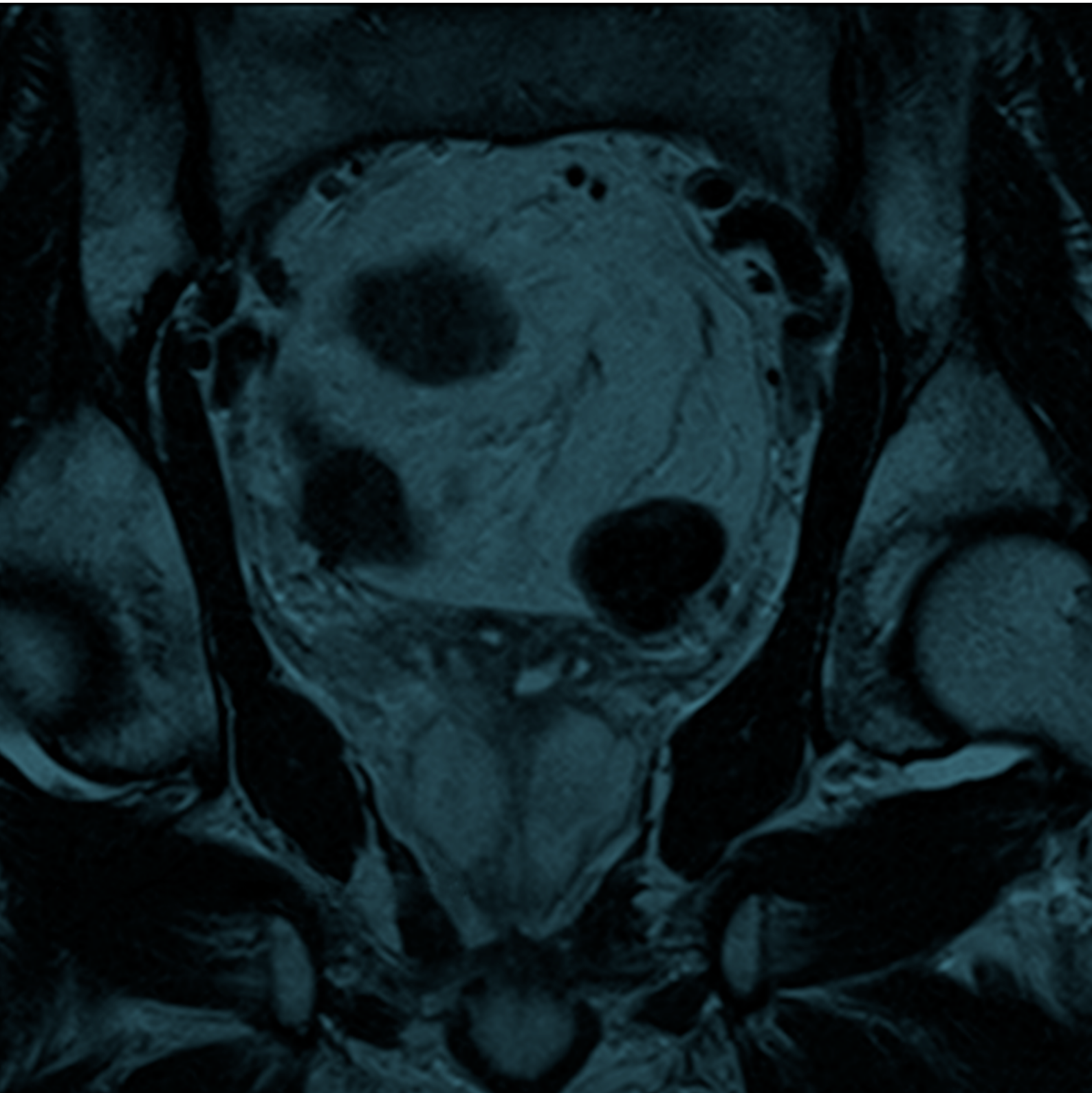
NPCA
National Prostate Cancer Audit

Executive Summary

Annual Report 2017

Results of the NPCA Prospective Audit in England and Wales for men diagnosed from 1 April 2015 - 31 March 2016



National Prostate Cancer Audit

Fourth Year Annual Report – Results of the NPCA Prospective Audit in England and Wales for men diagnosed 1 April 2015 – March 2016

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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, 2015.

In partnership with:

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.

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:

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, and in particular to increase the impact that clinical audit has on healthcare quality in England and Wales. HQIP holds the contract to manage and develop the National Clinical Audit Programme, comprising more than 30 clinical audits that cover 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 audits, also funded by the Health Department of the Scottish Government, DHSSPS Northern Ireland and the Channel Islands.

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The NPCA Project Team would like to thank all men in England and Wales who are currently completing the NPCA Patient Survey and for sharing their views on the quality of care and the impact of radical treatment on their daily lives.

The Project Team would like to thank all urological and uro-oncological colleagues, 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. For the first time, the NPCA compares NHS Providers in England identifying any potential outlying performance related to both short-term and medium-term treatment outcomes following radical treatment.

A report summarising the key results in a patient friendly format will be published in Spring 2018.

We are grateful to the NPCA data collection partners including the National Cancer Registration and Analysis Service (NCRAS), Public Health England (PHE) [*] and the Wales Cancer Network, Public Health Wales for supporting NPCA data submissions from Trusts and Health Board and for supplying data for this report.

We would like to thank BAUS and BUG for their continued professional guidance and for raising awareness amongst urological and uro-oncological colleagues.

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[*] Data for the NPCA in England is based on patient-level information collected by the NHS, as part of the care and support of cancer patients. The data is collated, maintained and quality assured by the National Cancer Registration and Analysis Service, which is part of Public Health England.

Executive Summary

Background

Prostate cancer is the most frequently diagnosed solid cancer (over 40,000 new cases each year) and the second most common cause of cancer-related death in men in the UK.[1] The National Prostate Cancer Audit (NPCA) was commissioned by the Healthcare Quality Improvement Partnership (HQIP)[2] and funded by NHS England and the Welsh Government with the aim of assessing the process of care and its outcomes in all men diagnosed with prostate cancer in England and Wales. This is the fourth Annual Report (2017) of the NPCA.

The NPCA is a collaboration between the Clinical Effectiveness Unit (CEU) at the Royal College of Surgeons of England, the British Association of Urological Surgeons (BAUS) and the British Uro-Oncology Group (BUG). In partnership with the National Cancer Registration and Analysis Service (NCRAS), Public Health England, and the Wales Cancer Network, Public Health Wales, the Audit has collected a large body of data from multiple sources including Trust/Health Board data submissions and national datasets. The NPCA presents analyses of these data, in this and previous reports, to provide information regarding the type and extent of prostate cancer and the quality of prostate cancer services and treatment in England and Wales. In this 2017 report, for the first time, the NPCA presents a provider-level comparison of treatment outcomes in England.

NPCA prospective audit data collection

This fourth Annual Report presents results of the prospective audit for men diagnosed with prostate cancer between 1st April 2015 and 31st March 2016 in England and Wales.

Firstly, we report on the participation of NHS providers, and the completeness and quality of the key NPCA data items. Secondly, we present national-level demographic information on patients diagnosed with prostate cancer over the same date range, key aspects of the diagnostic and staging process they underwent and the treatments they received.

Thirdly, using previously developed performance indicators we describe the variation in disease presentation across NHS providers in England and Wales (NPCA Annual Report 2015) and treatment allocation for England only.

Finally, for England only, we present performance indicators related to short-term treatment outcomes for men undergoing radical prostatectomy (NPCA Annual Report 2015), and two new validated performance indicators related to medium-term genitourinary toxicity following radical prostatectomy and medium-term gastrointestinal toxicity following radical external beam radiotherapy (EBRT)[3,4].

This will be the first NPCA report to compare NHS providers in England identifying any potential outlying performance related to both "short-term" and "medium-term" treatment outcomes following adjustment for case-mix factors. These performance indicators will enable future comparison of provider performance overtime. Currently, we are not able to present a similar comparison of NHS providers in Wales due to delays in the availability of Patient Episode Database for Wales (PEDW) data during this reporting period. As a result, performance indicators relate to England only unless otherwise stated.

The report is primarily written for clinicians, providers of prostate cancer services, commissioners and health care regulators. A version presenting the results to patients and the wider public is being produced separately and will be available on the NPCA's website (www.npca.org.uk) in Spring 2018.

Prospective Audit: Key Findings

NHS Provider participation and data quality

- All NHS Trusts and Health Boards in England and Wales participated and submitted data to the NPCA in this audit period.
- Data-completeness of staging items has continued to improve and as a result we were able to determine disease status and allocate a provider in 90% of men in England and 98% of men in Wales. However, whilst important pre-treatment data-items such as performance status and American Society of Anaesthesiologists (ASA) score were 100% in Wales, they remain poorly completed (34% and 45%, respectively) in England.
- Although we have successfully determined key treatment-related information from alternative linked data-sources such as Hospital Episode Statistics and the National Radiotherapy Dataset, poor completeness of treatment-specific data items only available in the NPCA dataset (e.g. planned type of image-guidance for EBRT, nerve-sparing status of surgery and androgen deprivation therapy information) remains a concern in England. In Wales, data-completeness of these data-items is also much higher.

[1] Cancer Research UK, Prostate Cancer Statistics 2014

[2] 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

[3] 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 international. 2017;doi:10.1111/bju.13770 (Epub ahead of print)

[4] 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;doiI: 10.1016/j.ijrobp.2017.07.040 (Epub ahead of print)

Prostate Cancer Diagnostics

- Although transrectal ultrasound (TRUS) biopsy remains the most commonly used method for diagnosis, there is an increase in the use of the transperineal biopsy technique.
- More men are receiving multiparametric MRI (mpMRI) in England and Wales, and the use of pre-biopsy MRI continues to increase.

Performance Indicators

- The proportion of patients diagnosed with metastatic disease at presentation is 16% in England and 13% in Wales. In England and Wales, these proportions remain stable compared to 2014-15 data with some variation between providers that will need further work to understand potential causes of late-presentation.
- The level of potential "over-treatment"[5] (proportion of men with low-risk localised disease undergoing radical therapy) was 8% in England. This is an improvement compared to 2014-15 data when 12% were potentially over-treated.
- The level of potential "under-treatment"[6] of locally advanced disease is measured based on the proportion of men with locally advanced disease undergoing radical therapy. In England, 73% of men in this cohort received radical treatment which is also an improvement compared to 61% in 2014-15 data.
- The proportion of men in England with an emergency re-admission within 90 days of radical prostatectomy was published for the first time using a risk-adjustment model. The national average was 4% which is an improvement from 5% in 2014-15 data.
- We also evaluated medium-term complications after radical treatment using a risk-adjustment approach. In England, we found about 1 in 10 men experienced a severe genitourinary complication (related to the urinary tract rather than sexual dysfunction) within 2 years of radical prostatectomy. Following radical EBRT, about 1 in 10 men experienced a severe gastrointestinal complication within the same time-frame. Although variation existed in the occurrence of complications between centres, there were no centres with outlying performance after adjustment for differences in age or comorbidities.

Key Messages

1. All NHS providers of prostate cancer care in England and Wales are now participating in the NPCA. At present, data completeness in England does not reach the high level achieved in Wales.

2. The proportion of men presenting with metastatic disease at diagnosis between 1st April 2015 and 31st March 2016 remains stable in England and Wales. However, there is some variation and work is required to understand potential causes of late presentation.

3. Changes in diagnostic and staging practice over time are apparent. The use of multiparametric MRI prior to biopsy in England is increasing and there is evidence of increasing uptake of 'newer' biopsy techniques such as the transperineal approach in England and Wales.

4. The "potential over-treatment" of men with low-risk disease in England has further declined after reaching a plateau in 2015 and 2016 indicating that more men may have the option of active surveillance in keeping with recent guidance.

5. The trend towards a reduction in the "potential under-treatment" of men with locally advanced disease continues suggesting that fewer men are being denied the opportunity of potentially curative treatment.

6. Within two years of undergoing radical treatments, one in ten men experience at least one severe genitourinary complication after undergoing radical prostatectomy, or a severe gastrointestinal complication following external beam radiotherapy.

7. For the first time, the NPCA uses a risk-adjusted approach to compare the performance of NHS treatment centres in England and identify outlying performance.

[5] NICE, 2015. Prostate Cancer. NICE Quality Standard 91. Quality Statement 1: 'men with low-risk prostate cancer for whom radical treatment is suitable are also offered the option of active surveillance'

[6] NICE, 2015. Prostate Cancer. NICE Quality Standard 91. Quality Statement 3: 'men with intermediate- or high-risk localised prostate cancer who are offered non-surgical radical treatment are offered radical radiotherapy and androgen deprivation therapy in combination.'

Implications for the care of men with prostate cancer

- **Continued improvement in the data-completeness of key data items is still required.** This includes both important risk-adjustment factors (performance status and ASA) in addition to bespoke NPCA treatment-related data items ("planned type of image-guidance for EBRT", "planned duration of neoadjuvant/adjuvant androgen deprivation therapy" and "radical prostatectomy margin status") that are currently unavailable from other nationally collected data sources.

- **The high level of data completeness for Welsh NPCA data** was very encouraging and is likely to be due to the mandated input of a health care professional in the clinical-sign off. Similar strategies engaging health care professionals may help to improve data completeness in England.

- **The increase in men receiving multiparametric MRI prior to biopsy is an important finding.** The use of pre-biopsy MRI has also been shown to be gaining momentum in England however a challenge could be the limited capacity issues within healthcare settings in the NHS.

- **TRUS remains the most commonly used biopsy technique** though the slight increased use of the transperineal approach reflects the improved and more precise methods of diagnosis and facilitation for surveillance.

- **The trend seen towards a reduction in men with low-risk disease being "potentially over-treated" is encouraging** and suggests findings from studies such as PIVOT[7] and Protect[8] are being disseminated into national practice. There will always be patients who will opt for treatment however safe-guards should be in place to ensure all men are appropriately counselled on active surveillance.

- **The trend seen towards a reduction in the potential "under-treatment" of locally advanced prostate cancer is encouraging and is in line with current guidelines.** There is strong evidence that EBRT to the prostate, combined with hormone therapy before and after, improves survival. The evidence for the use of surgery in this setting is less strong but some men are likely to benefit. A concern of the NPCA has been that some healthy older men may be at risk of under-treatment. Further work is required to understand what factors contribute to some men in this cohort receiving treatment and others not.

- **Validated performance indicators capturing treatment-related toxicity** allow the quality of radical prostatectomy and EBRT delivered nationally to be measured and compared between providers, enabling areas where quality improvement is required to be identified.

- **Patients must be appropriately counselled regarding potential treatment-related toxicity** and have access to support services beyond the immediate post-treatment period.

[7] Wilt TJ, Brawer MK et al. Radical prostatectomy versus observation for localized prostate cancer. N Engl J Med 2012:367:203-213

[8] Hamdy FC, Donovan JL et al. 10-Year outcomes after monitoring, surgery, or radiotherapy for localized prostate cancer. N Engl J Med 2016;375:1415-1424

Recommendations

For prostate cancer teams (local and specialist MDTs) within NHS Trust/Health Boards

- Review local data completeness and ensure that data quality issues are identified and urgently addressed across the patient pathway.
- Review performance indicators for your Trust/ Health Board and implement changes to local practices where required in keeping with the NPCA 'Implications for clinical practice' and clinical guidelines/quality standards.[9,10]

For commissioners and health care regulators

- Review the performance indicators for your region to identify areas where improvements can be made.
- Work with your local NHS providers to develop strategies to reduce variation in the care provided to patients.

Future Plans for the NPCA

- The NPCA will continue engagement with Trusts to achieve improved overall and key data-item completeness.
- The Audit will continue to perform risk-adjusted short-term and medium-term outcome metrics in England to compare provider performance overtime. In Wales, the Audit will use linked PEDW data to perform similar measures in the next Annual Report.
- The Audit will publish provider-level treatment outcome performance indicators as part of the Clinical Outcomes Programme (COP) in Q1 2018.
- The NPCA will work with the Care Quality Commission (CQC) and Healthcare Inspectorate Wales (HIW), the independent regulators of health and adult social care in England and Wales respectively, to explore the utilisation of NPCA data and key measures to inform their inspection processes.
- Further to the recent re-start of the NPCA patient survey, the Audit will continue to gather information directly from patients about the benefits and side-effects of treatment.
- The findings from the NPCA will continue to be presented at key professional conferences and stakeholder meetings.

[9] NICE, 2014: https://www.nice.org.uk/guidance/cg175

[10] NICE, 2015: https://www.nice.org.uk/guidance/qs91

NPCA Annual Report 2017 Summary

PARTICIPATION & DATA COLLECTION

All NHS Providers of prostate cancer care in England and Wales are participating in the audit

At present, data completeness in England does not reach the high level achieved in Wales

The report covers men diagnosed between 1st April 2015 – 31st March 2016

41,739 men were diagnosed with prostate cancer in England and Wales

55% of men were 70 years or older

PROSTATE CANCER DIAGNOSTICS

- **Multiparametric MRI is increasingly being used prior to prostate biopsy**
- **Transrectal ultrasound remains the most common biopsy technique, although newer transperineal techniques are being recorded**

DISEASE PRESENTATION

England **16%** **13%** Wales

The proportion of men presenting with metastatic disease at diagnosis is stable

TREATMENT ALLOCATION IN ENGLAND

8% of men with low-risk, localised disease underwent radical treatment and are potentially 'over-treated'

This compares favourably with **12%** of men in 2014/15

Fewer men with high-risk localised/locally advanced disease were potentially 'under-treated' in 2015/16

73% of these men received radical treatment, which is an improvement compared with

61% of men in 2014/15

However, regional variation in potential 'over-treatment' and/or 'under-treatment' is apparent

TREATMENT OUTCOMES IN ENGLAND

4% proportion of men readmitted to hospital as an emergency within 90 days following radical prostatectomy

Within 2 years of treatment **1 in 10** men experience

a severe genitourinary complication following radical prostatectomy

or

a severe gastrointestinal complication after radical external beam radiation

For the first time, the NPCA publishes a risk-adjusted comparison of these validated short-term and medium-term performance indicators by NHS provider in England

RECOMMENDATIONS

Prostate cancer teams (local and specialist MDTs) within NHS Trusts/Health Boards

- Ensure that data quality issues are identified and urgently addressed across the patient pathway
- Review provider-level performance indicators and implement changes to local practices where required in keeping with clinical guidelines and NPCA 'Implications for the care of men with prostate cancer'

Commissioners and Health care regulators

- Review regional results to identify areas where improvements can be made
- Work with local NHS providers to develop strategies to reduce variation in the care provided to patients

NPCA
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References NICE, 2014. Prostate Cancer. Clinical Guideline 175. https://www.nice.org.uk/guidance/cg175 ; NICE, 2015. Prostate Cancer. NICE Quality Standard 91. https://www.nice.org.uk/guidance/qs91