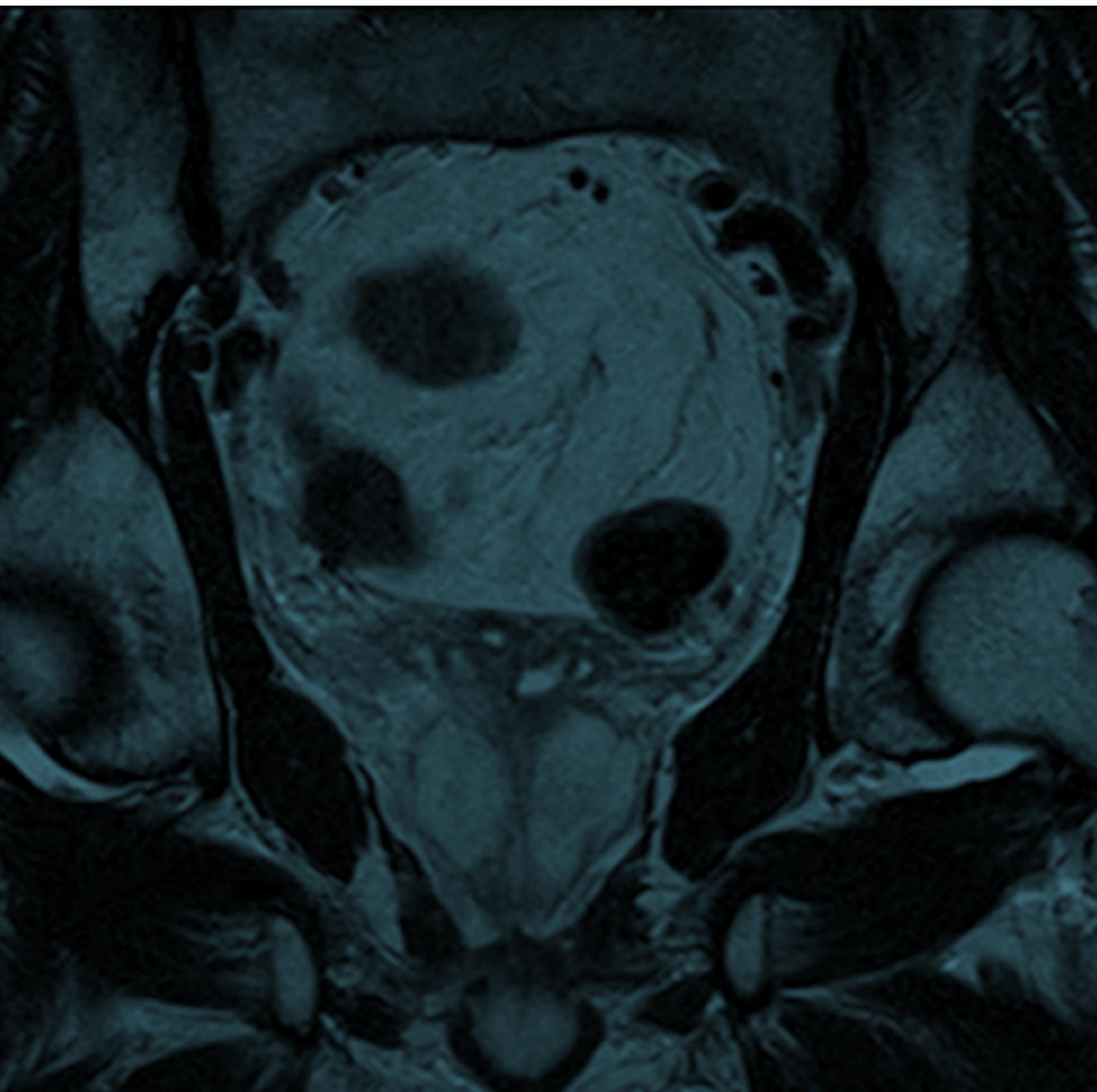


## Annual Report 2020

### Outlier Communications



# National Prostate Cancer Audit

## NPCA Annual Report 2020. Outlier Communications

### London: The Royal College of Surgeons of England, 2021.



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of Surgeons  
of England

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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:



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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](http://www.hqip.org.uk/national-programmes)

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# Outlier Communications

## Introduction to the NPCA Outlier Process

Surgical and radiotherapy treatment centres outside the inner or outer funnel limits ('alerts' and 'alarms', respectively) for the adjusted treatment-related outcomes listed below were considered as potential outliers and were contacted, where necessary, according to the [NPCA Outlier Policy](#).

***Performance indicator 8: The proportion of patients who had an emergency readmission within 90 days of radical prostatectomy.***

***Performance indicator 9: The proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy.***

***Performance indicator 10: The 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.***

The NPCA team reviews the individual patient data returned by the treatment centres after they have carried out case reviews, to determine whether any patients need to be excluded from the analysis. This only happens if coding errors or misclassification of a patient's outcomes can be shown. Data not provided to the NPCA and limitations of case mix adjustment are not considered as these have been applied consistently across all providers.

A final determination of outlier status is made and if the 'alarm' outlier status is confirmed, the NPCA informs the CQC of their 'alarm' status. The responsible NHS Hospital Trust or Health Board is asked for a formal response to the findings, outlining the steps they will take for quality improvement.

If a treatment centre is confirmed to be an 'alert' outlier two years in a row, in keeping with the ['Detection and Management of Outliers for National Clinical Audit' guidance](#), the NPCA informs the CQC of their 'alert' status.

Several instances of coding inaccuracies within treatment centres have led to the misclassification of patients in the first analysis. Following NPCA review and discussion of data with the individual centre these misclassifications have been accepted as a reason for excluding these patients from the indicator analyses. The treatment centres with this type of erroneous classification had their data re-analysed and were each found not to be an 'alarm' outlier following correction. This was the case, this year, for treatment centres in the following Hospital Trusts or Boards:

*Emergency Readmissions –*

- Aneurin Bevan University Health Board
- Oxford University Hospitals NHS Foundation Trust
- University Hospitals of North Midlands NHS Trust

*GU Complications –*

- Worcestershire Acute Hospitals NHS Trust

These data quality issues are important to address as they are likely to be widespread, not just in those treatment centres that initially fell outside the limits this year. We urge all Hospital Trusts and Health Boards to examine their coding practices to ensure that admissions are coded appropriately and that follow-up episodes are accurately captured so that true improvement of the quality of care for men with prostate cancer can be pursued.

Noel Clarke *Urological Clinical Lead*  
*representing the British Association of Urological Surgeons*

Heather Payne *Oncological Clinical Lead*  
*representing the British Uro-oncology Group*

## Responses from Trusts with a confirmed 'case to answer' during the NPCA Outlier Policy<sup>1</sup>

Following identification as a true outlier each Trust was contacted by means of a letter to the MDT lead and Medical Director. The following trusts were contacted in relation to the following specific performance indicators:

### Surgical centres

***Performance indicator 8:*** *Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery.*

Bradford Teaching Hospitals NHS Foundation Trust

***Performance indicator 9:*** *Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy.*

East Lancashire Hospitals NHS Trust  
Gloucestershire Hospitals NHS Foundation Trust

### Radiotherapy centres

***Performance indicator 10:*** *Proportion of patients experiencing at least one severe gastrointestinal (GI) complication within 2 years of radical external beam radiotherapy (presented at the level of the radiotherapy centre).*

Norfolk & Norwich University Hospitals NHS Foundation Trust

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<sup>1</sup> <https://www.npca.org.uk/resources/npca-outlier-policy-2020/>

Following notification of outlier status each trust was given the opportunity to review their individual data and check this against the NPCA data gathered from their hospital. The trust was then invited to respond by letter to the NPCA executive. The responses from individual outlier trusts in relation to their highlighted status are as follows:

### Response from Bradford Teaching Hospitals NHS Foundation Trust

**Performance indicator 8:** *Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery.*

#### Response 1

Thank you for your letter dated the 28th of September 2020 regarding our potential outlier position in terms of 90 day re-admission rates for men undergoing radical prostatectomy between 1 April 2018 and 31 March 2019. As advised I contacted M/s Karen Graham, National Cancer Registration and Analysis Data Improvement Lead who kindly provided us the NHS numbers for our patients who were re-admitted to BTHFT. We have since had the opportunity to assess our patient records for this period, in particular, we have looked at the causes of re-admission in the 54 patients noted by the NPCA.

BTHFT (Bradford Teaching Hospitals NHS Foundation Trust) started the Robotic prostatectomy programme in late 2012 and we have since performed over 1200 cases. Our trust has been actively engaging with NPCA and have not previously been noted to be an outlier. In the period between 1 April 2018 and 31 March 2019 we had performed 223 Radical prostatectomies higher than the denominator of 196 noted by the NPCA. All of these were robotically assisted (RALP). During this period the majority of cases were performed by 3 surgeons Mr R Chahal, Mr R Singh and Mr C Molokwu. The first two of these surgeons have experience with over 500 radical prostatectomies each and Mr Molokwu with 100 case experience. Mr S Addla, a previous colleague, was the 4th surgeon who performed 5 cases in a locum capacity to cover a gap in service.

54 patients were noted to have been admitted in 90 days post prostatectomy. I have grouped the reasons for re-admissions to understand any patterns and suggested actions undertaken and plans going forward.

**Presumed UTI:** (12) The largest group of patients who re-attended were patients who had UTI (or possible UTI). They had presented after variable intervals after RALP. Six patients presented with urosepsis and required admission for intravenous antibiotics, of these, 2 were after trial without catheter (TWOC) and one after a cystogram. Four patients complained of testicular pain with no evidence of epididymitis and were empirically started on antibiotics without admission, another patient had peri-catheter ooze. A further patient had retention one day after his TWOC which was relieved by an in and out catheter and once again treated with antibiotics empirically.

Plan:

-We have changed our antibiotic prophylaxis from gentamycin (2mg/kg) and metronidazole to gentamycin and co-amoxiclav following discussion with the Microbiologist. This was implemented a year ago

-We have reinforced the need for and improved the strict pre-operative culturing of urine and now review those cultures prior to admission.

**Pelvic Haematoma:** (6) Six patients were admitted with abdominopelvic pain and CTs demonstrated pelvic haematomas. All these were managed with percutaneous drainage. In review of the operating notes it was noted that all these had descriptions of difficult surgery with high BMIs. I noted that none of these patients had "Rocco" stitches.

Action: "Rocco" stitches are now routinely performed by all 3 surgeons for all cases for over a year now. We expect the haematoma risks to decrease and an audit of this is planned and we would be happy to share the results.

## Response from Bradford Teaching Hospitals NHS Foundation Trust

**Performance indicator 8:** *Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery.*

**Lymphocele** (5) Five patients were admitted with abdominopelvic pain and or fever and CTs demonstrated collections in relation to the areas of lymph node dissection. All these were managed with percutaneous drainage with or without antibiotics.

Action: Following discussions noted at the ERUS meeting last year on lymph node dissection we have modified our template for prostate cancer lymph node dissections to exclude the dissection lateral to the external Iliac. The symptomatic lymphocele rates will also be audited and again we would be happy to share the results when available.

**Urinoma:** (1) One patient developed significant pain and sepsis and was noted to have a urinoma which was drained. Catheter was kept in situ for several weeks until a cystogram showed no leak

Plan: No action as routine testing for water-tightness is assessed intra-operatively in all cases and we do not believe this is a recurring issue.

**Abdominal and pelvic discomfort** (7) Six patients were reviewed for complaints of excessive pain. Clinical evaluation and CT scans failed to identify any adequate explanation. Patients were managed with anti-inflammatories and on subsequent follow up no issues have been noted.

In a seventh patient CT suggested a small suspected leak of urine although no pelvic collection was noted. The patient was re-catheterised with a cystogram showing no further leak at 1 week.

### **Bowel complications** (4)

-Patient 1: A patient who had previous gastro-jejunostomy required significant adhesiolysis to gain access at the time of RALP. He presented a week after discharge with high intestinal obstruction. He had a CT and surgical review. At laparotomy he was found to have dense adhesions at the site of the previous gastroenterostomy which were causing a kink in the efferent loop of the gastroenterostomy. The release of these adhesions relieved the obstruction. No bowel resection was necessary.

-Patient 2: During the prostatectomy he was noted to have adhesions of the sigmoid, possibly from a previous appendicectomy. These adhesions were released and the surgery was otherwise uneventful. 6 days post operatively the patient presented with signs of peritonitis. The CT scan and subsequent laparotomy by the surgical team confirmed a diverticular abscess and perforation. The surgeon noted that this was unrelated to the recent RALP and was consistent with diverticular perforation which was distant from the area of adhesiolysis.

- Patient 3: The Urologist noted significant adhesions of the sigmoid to the bladder which were likely due to severe diverticulitis. No fistulous connection was demonstrated with the bladder but the sigmoid was repaired in 2 layers where a small hole had been noted while taking it off the bladder. The patient was discharged but subsequently re-admitted 5 days post-operatively with abdominal pain and distension. He had a laparotomy which did not reveal any peritoneal contamination and the sigmoid stitches were noted to be intact. Due to significant inflammatory changes around the sigmoid on the CT scan the surgeon performed a loop colostomy.

Patient 4: He was admitted with diarrhoea post RALP and was found to have C difficile. He was treated with oral Vancomycin as per our Trust protocols.

**Ureteric complication** (1) The patient was undergoing a RALP with a posterior approach to the seminal vesicles. A "Hemolock" was applied which the urologist had thought would be the tip of the seminal vesical. Post op it was apparent on CT scan that the left lower ureter had a "Hemolock" across it. The patient had a nephrostomy placed and 6 weeks later had a left ureteric re-implantation performed.

Action: Team reflection on this complication: particular care to be taken in posterior dissections to not dissect laterally beyond the seminal vesicle and apply clips on the surface of the tip rather than laterally

N.B: for the last 2.5 years all 3 surgeons perform an initial posterior dissection to release the seminal vesicles prior to dropping the bladder. No other case of ureteric injury has been noted

**Suspected Thrombosis/Thromboembolism** (2) One patient presented with shortness of breath after RALP. A CTPA ruled out Pulmonary embolism. A second patient complained of calf pain and had a Doppler which ruled out a DVT

**Catheter problems** (2) Two patients were assessed in the Surgical Assessment Unit (SAU) for blocked catheters. In the first the blockage had already relieved at time of review. In the second patient the blockage was relieved with a simple washout of a small clot in the catheter.

Please note that the only area for urgent clinical review of patients at our Trust is the Surgical Assessment Unit; this sometimes leads to patients coming for acute review being counted as "admitted".

## Response from Bradford Teaching Hospitals NHS Foundation Trust

**Performance indicator 8:** *Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery.*

**Drain review (5) and lost drain (1)** Following lymph node dissection an increased drain output is often noted. The ward staff routinely send drain fluid for chemical analysis on the first post-operative day and if this is consistent with lymph the instructions are to remove the drains. On weekends there were occasions where this process did not work. Patients were discharged with drains and brought in a few days later for removal – this was consistent with historic practice that persisted on occasion. These 5 have all been recorded as re-admissions when they returned for drain removal.

In one patient the staff whilst removing the drain inadvertently cut the drain itself which retracted into the abdomen. Patient required a laparoscopic removal of the cut end of drain

Action: Staff education

**Wound complications (2)** One patient was worried about a slight ooze noted from a port site, this had settled without any action. A second patient had wound infection and was treated with antibiotics. We do not feel this is a significant problem our case series.

**Scrotal oedema and pain (2)** One patient was reviewed for scrotal oedema and was reassured. A second patient complained of scrotal pain but no abnormality was noted and he was also reassured.

Action: We have improved education of our patients about the possibility of scrotal oedema after discharge and what signs or symptoms might warrant review.

**Symphysis (1)** Patient complained of significant pain and tenderness in the area of the symphysis. CT showed significant inflammation around symphysis with no collection. He was managed with anti-inflammatory drugs.

No Action

**Cystogram (1)** No re-admission record. There were several other patients with cystograms but none had been recorded as a re-admission.

**No readmission recorded for patients (2)** Of 2 patient details provided by NPCA we have not found any record of re-admission.

### **Summary:**

Of the 54 readmissions noted by NPCA we did not find any evidence of readmission in 3 patients. Of the remaining 51, 5 were patients who attended our ward for review of the drain outputs. We do not believe these should be regarded as re-admissions for complications. We have reinforced the current protocols for fluid analysis and drain removal prior to discharge.

A further 12 patients were assessed in the SAU by the team for minor complaints related to catheters, wound issues, scrotal issues and suspected UTIs. These patients were reviewed and reassured and a small number given oral antibiotics. All these 12 patients were sent home the same day after review without requiring admission.

A further 6 patients required an overnight stay often awaiting a senior review or imaging to confirm absence of any serious complications.

### **Discussion:**

We are grateful that this issue has been raised and the review has given us an opportunity to scrutinise our practise.

We examined the records for all patients who were seemingly re-admitted within 90 days of their surgery. It was apparent that there were patterns for the reasons for re-admission. As noted above the largest group were patients who attended for urinary tract infections. Our protocol requires that patients have MSUs performed routinely at pre-assessment and the results are checked by the operating surgeon. Unfortunately this was not strictly implemented at the time, with reliance on patient symptoms and a urine dipstick in the morning of surgery.

Now the team are aware that pre-operative MSUs should be performed in every case. Our peri-operative antibiotic prophylaxis has also since been modified following discussion with the microbiologist to replace gentamycin and metronidazole with gentamycin and co-amoxiclav as a single dose. The ward staff are asked to give gentamycin at TWOC. In most patients a clear cystogram results in TWOC on the same day but occasionally due to the late timing of the cystogram these may be on different days. We have informed the TWOC team that antibiotic cover should be routinely prescribed to prevent any sepsis.

## Response from Bradford Teaching Hospitals NHS Foundation Trust

### ***Performance indicator 8: Proportion of patients who had an emergency readmission within 90 days of radical prostate cancer surgery.***

The serious bowel complications were due to pre-existing conditions and it is not entirely clear if these were a direct consequence of the radical prostatectomy itself. Severe diverticulitis in one case and an incidental diverticular perforation resulted in laparotomy and colostomy in both these cases. The colorectal surgeon specifically noted that these were not related to any direct injury inflicted during the prostatectomy. A third patient developed high intestinal obstruction due to efferent loop obstruction of a gastro-jejunostomy due to adhesions and a kinking. Although not directly due to a surgical injury in all 3 cases the time-line suggests that these were possibly precipitated by the recent surgery. None of these patients had symptoms or signs on pre-operative imaging to suggest these issues were manifest at the time or were likely to occur.

The next group of complications relates to pelvic haematomas post prostatectomy. The surgery is performed at Intra-abdominal pressures of 10-12mm. All 3 surgeons routinely lower the intra-abdominal pressure to 6mm towards the end of the surgery to ensure no oozing. Operative notes for all these cases suggested difficult dissections, high BMIs and no "Rocco" stitches were placed. All 3 surgeons now routinely perform "Rocco" stitches and this practise will hopefully decrease the risk of this complication.

Five patients developed symptomatic lymphocoeles necessitating drainage. Our templates for lymph-node dissection were similar for bladder and prostate cancer in this period. There is some suggestion that dissection lateral to the iliac vessels may not be beneficial in prostate cancer dissections and results in a higher incidence of lymphocoeles. We have now altered our templates and will be auditing our practise to assess a decrease.

One patient had a Hemolock placed across the lower end on the left ureter whilst performing a posterior approach for the release of seminal vesicles. The surgeon clearly applied the Hemolock more laterally than intended assuming it was being placed at the tip of the vesicle. Particular care is taken to avoid a similar complication by staying close to the surface of the tip of the vesicle.

In our practise we encourage patients to have a low threshold for seeking advice and attending for a review by the urology team. This is to avoid review by less experienced staff in primary care or district nursing teams which are often considered the first port of call by patients. This has resulted in rapid experienced reviews and often simple reassurances which can allay anxiety for patients - particularly concerns about wounds or catheters.

The prompt review does sometimes result in the event being registered as an admission but we do not regard these as complications. If we exclude these 20 cases where either no admission was recorded (3), drain reviews were performed (5) or review and reassurance provided without overnight admission (12) our 90 day re-admission rates are 34 of 223 (15.2%) cases that we have recorded for this period. This is very similar to the average of 14% 90-days re-admission rates recorded nationally and this is despite having an 8% higher rate of locally advanced prostate cancers (56% v 48% nationally) in our patient population.

In conclusion we appreciate the NPCA providing us an opportunity to clarify the reasons for a higher 90d re-admission rate reported. We have identified several issues for which remedial actions have been initiated to mitigate these risks. We also feel that if account is taken of the day reviews for patients the risks are in keeping with the national average.

We are happy to provide any further clarifications and will continue to engage constructively with the NPCA.

### **Response 2**

Thank you for your letter highlighting our potential outlier status for re-admissions after radical prostatectomy. We welcome the review and the opportunity to re-examine our outcomes after robotic prostatectomy.

We acknowledge and accept the results of the audit. We feel many of the reported re-admissions are a result of recording errors, with patients presenting (often as a planned attendance) for clinical review. We are working with our data teams to address this

Our Urology department has also made some changes to reduce the incidence of some complications that have led to some 'real' re-admissions, including a change in our peri-operative antibiotic prophylaxis and the use of reinforcing sutures ('Rocco' stitch). We are continuing to monitor the outcomes to confirm this is reducing post-operative infections and haematomas.

***Performance indicator 9: Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy.***

Thank you for informing us that ELHT is an outlier in the NPCA with respect to patients experiencing at least one severe genitourinary tract complication within 2 years of radical prostatectomy.

This was clearly very disappointing for us to discover as a Trust and consequently we have looked in detail into our data. We were aware of some complications as a result of our ongoing internal audit process. Changes to practice have already been made in terms of use and positioning of clips and bladder neck anastomosis.

Having reviewed our internal audit data with that of the NPCA there were 83 cases recorded locally, compared to, 64 with the NPCA. We assume this is down to a coding / data issue with HES and we are in the process of looking into this internally. Incorporating these extra cases into the total number of procedures will make a difference when calculating complication rates.

On reviewing all the cases that were recorded as having a complication we felt that some of these should be excluded from the analysis. We have commented the reason for exclusion against each case number.

Patient A<sup>2</sup> – From our information this patient was admitted with constipation and bladder spasm but did not have any significant intervention.

Patient B – From our information this patient was diagnosed with an overactive bladder and was treated with Botox.

Patient C – This patient had difficulty with catheter removal. This fell out shortly after attempted removal with no intervention required.

Patient D – This patient had complex pre-existing urological problems associated with previous stricture and urethroplasty, he therefore should not be included as a post op complication.

Patient E – This patient had an episode of epididymo orchitis following surgery and does not fit the criteria of a major complication.

When we look at the additional patient data and take into account the above suggested exclusions we feel our complication rate is much lower at 14 percent. We did not have access to HES data to double check for admission but did view our hospital admissions and cross checked with our neighbouring hospitals that we provide the radical prostatectomy service for. Local agreement is that any complications occurring post-surgery are referred back to ELHT to manage so we would expect to have picked up most of the significant complications.

We accept that our bladder neck stenosis rate is slightly higher than we would like and as mentioned above have already picked this up with our internal audit process and have changed our practice. An audit of 2018 patient has started which has demonstrated 171 patients treated with a complication rate of 9%, suggesting that there has been a successful change in practice. We are in the process of going through this data and validating it further.

<sup>2</sup> Patient ID numbers have been replaced

## Response from Gloucestershire Hospitals NHS Foundation Trust

**Performance indicator 9:** *Proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy.*

I am writing in response to your letter written on 1st December 2020. You highlighted that our Trust was an outlier for the following performance indicator:-

**The proportion of patients experiencing at least one genitourinary (GU) complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy (men undergoing RP between 1st January 2017 and 31st December 2017).**

The raw data suggests 36 out of 112 patients that were affected. The Trust was an outlier in the same performance indicator in last year's report (1st January 2016 to 31st December 2016). As a department, we identified that during this time period we experienced an increased rate of development of urethral stricture post-operatively. This increase resulted in the complication rate highlighted. This was highlighted to you last year.

The strictures occurred across all 4 surgeons performing the operation. We reviewed the entire process of surgery to try and identify any causative factors. Discussion with other departments highlighted similar problems in the units. Following our review we have changed the skin prep used at surgery, we have also shortened the time a catheter may be put on gentle traction during surgery.

The actions described were put in place in 2018/19 and therefore would not have been in place to support the patients captured in this reports timeframe. I am pleased to inform you that the clinical team have completed an audit on patients treated from January 2018 to April 2019 and the review included all patients who had a follow up to December 2020. The scope of the audit includes 172 procedures, of this cohort only 2 patients (1.16%) experienced genitourinary complications requiring a procedure/surgical intervention. One patient was diagnosed with urine leak requiring drain insertion post op whilst an inpatient, whilst the other patient was diagnosed with bladder neck stricture requiring readmitting and dilatation.

## Response from Norfolk & Norwich University Hospitals NHS Foundation Trust

**Performance indicator 10:** *Proportion of patients experiencing at least one severe gastrointestinal (GI) complication within 2 years of radical external beam radiotherapy.*

Thank you for informing us that we remain a significant outlier for radiation proctitis for the 2017 patient cohort. We would like to thank you for recognising our engagement in improving our outcomes and willingness to share our experience to date. We expect this relationship to continue until we see significant improvements in our outcomes.

We have reviewed the patient dataset and agree that we remain a significant outlier triggering your alarm limits with a radiation proctitis rate of 25%.

We would like to summarise all of the changes that we have made over the last two years since the last report and our presentation to the NPCA. The following is a timeline of all of those changes.

|           |   |
|-----------|---|
| Feb 2018  | Moved from Bony matching to Soft tissue matching  |
| May 2018  | Reduced prostate margin from 1cm (0.5cm) sv margin 1cm  |
| Aug 2018  | Weekly Prostate Peer review meeting initiated   |
| Oct 2018  | First identified as outlier Radiation Proctitis 2015 Cohort   |
| Dec 2018  | Seminal vesicle dose dropped to 52.5Gy (60Gy prostates) and 60Gy (74Gy Prostates)   |
| June 2019 | Imaging study for IGRT showed with bony matching dose to rectum higher than planned   |
| Oct 2019  | Alarm Outlier for Radiation Proctitis 2016 Cohort   |
| Dec 2019  | Presentation of our proctitis rates at NPCA study day Guys Hospital Outside review Prostate protocols   |
| Jan 2020  | Dropped seminal vesicle dose to 48Gy for 60Gy prostates. GTV delineated Undertook Proknow national prostate planning benchmark study national prostate planning benchmark study |
| July 2020 | Adopted CHHIP planning for P and SV patients  |

It is a significant frustration that as it takes two years for radiation proctitis to develop it takes a long time to know whether the changes we have made have been successful. We have prospectively looked at our outcome data for 2018 and for 2019. We will remain a significant outlier for 2018 but are confident that from 2019 we will start to see significant improvements in our radiation proctitis rate as all of the changes we have made to our processes kick in. The numbers for 2019 look significantly lower so far but it is still early.

The most significant changes performed over the last year were to ask a radiation oncology centre with a much lower radiation proctitis rate to review our process after the 2019 round. We adopted all of the suggested planning changes. The changes suggested were as outlined above ie dropping SV dose to 48Gy in 20 fractions, outlining a tumour volume and optimising our plans to achieve the best rectal dose level we can achieve rather than stopping when mandatory constraints were met.

We have also, since the last report, taken part in the Proknow benchmarking study. We found that although our earlier changes put us on a par dosimetrically with other centres, the adoption of the CHHIP planning technique improved our rectal dosimetry significantly. We now plan all of our Prostate and seminal vesicle patients using the CHHIP protocol.