NATCAN Outlier Policy

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Version	Date	Author/s	Description of Changes	Approved By
1.0	09.05.2025	Clare Peckitt	Initial draft created.	
1.1	06.06.2025	Marina Parry	Amended following NATCAN team review.	
1.2	16.06.2025	Marina Parry	Amended following NATCAN Board review	Julie on behalf of NATCAN Board following meeting on 11th June 2025
1.3	14.10.2025	Marina Parry	Amended to add request from HQIP related to correspondence being sent to clinical audit departments	
1.4	20.02.2026	Marina Parry	Amended to reflect updates to the HQIP outlier policy guidance and updates to appendix.	
1.5	08.06.2026	Julie Nossiter, Marina Parry	Policy updated and clarified (including NATCAN policy for repeat alerts - both non-mortality and mortality indicators). Audit Appendices updated & any variations noted.	

Contents

Purpose 3

Scope 3

Definitions 4

Procedure 5

1. Choosing appropriate Performance Indicator(s) to be used in the outlier process 5
2. Detecting a potential negative outlier provider 5
3. Managing a potential negative ‘alarm’ outlier provider 6

Table 1: Steps to manage a potential ‘alarm’ outlier provider 7

4. Managing a potential negative ‘repeat alert’ outlier 11

Table 2: Steps to manage a potential ‘repeat alert’ outlier provider 11

5. Managing a potential positive outlier 15
6. Actions when data issues are identified during the ‘alarm’ outlier management process 15

References 15

Appendix 1: Audit Specific Outlier Policy Details 16

Revision History 16

Table A1.1: Details of the National Kidney Cancer Audit outlier process 17

Table A1.2: Details of the National Kidney Cancer Audit performance indicators used in outlier process 17

Table A2.1: Details of the National Pancreatic Cancer Audit outlier process 18

Table A2.2: Details of the National Pancreatic Cancer Audit performance indicators used in outlier process 18

Table A3.1: Details of the National Non-Hodgkin Lymphoma Audit outlier process 19

Table A3.2: Details of the NNHLA performance indicators used in outlier process 19

Table A4.1: Details of the National Ovarian Cancer Audit outlier process 20

Table A4.2: Details of the National Ovarian Cancer Audit performance indicators used in outlier process 20

Table A5.1: Details of the National Primary Breast Cancer Audit outlier process 21

Table A5.2: Details of the National Primary Cancer Audit performance indicators used in outlier process 21

Table A6.1: Details of the National Bowel Cancer Audit outlier process 22

Table A6.2: Details of the National Bowel Cancer Audit performance indicators used in outlier process 22
Table A7.1: Details of the National Oesophago-Gastric Cancer Audit outlier process 26
Table A7.2: Details of the National Oesophago-Gastric Cancer Audit performance indicators used in outlier process 26
Table A8.1: Details of the National Prostate Cancer Audit outlier process 27
Table A8.2: Details of the National Prostate Cancer Audit performance indicators used in outlier process 28
Table A9.1: Details of the National Lung Cancer Audit outlier process 29
Table A9.2 Details of the National Lung Cancer Audit performance indicator used in outlier process 29

Purpose

This Outlier Policy for the National Cancer Audit Collaborating Centre (NATCAN) describes the process used by the national cancer audits for managing providers with indicator values that fall outside the expected range of performance (i.e, are flagged as an outlier).

It is designed to provide transparency about how indicators covered by the Outlier Policy will be presented, and describe how the audits will communicate with providers so that they can investigate and respond appropriately if flagged as an outlier (either with negative or positive performance). The main policy is relevant to all NATCAN audits and Appendix 1 is audit specific.

The principles used by NATCAN outlier policy are based on established practices and are consistent with HQIPs '*NCAPOP Outlier Guidance: Identification and management of outliers'* in England and Wales.

The NATCAN Outlier Policy is reviewed annually by the NATCAN Board.

Scope

The audits publish performance indicators of the quality of care received by people in England and Wales as part of the annual State of the Nation Reports. If the performance of a provider is found to fall outside the expected range for selected performance indicators during the analysis for the State of the Nation report, it is flagged as a potential outlier.

In rare circumstances, information might be provided to the audit outside the State of the Nation cycle which could suggest the presence of serious issues with clinical practice or a systems failure and that presents a risk of harm to patients. If this occurs, the audit will implement the escalation

process described in Table 3 in the “Cause for Concern” guidance published by HQIP in February 2019: https://www.hqip.org.uk/wp-content/uploads/2019/02/NCAPOP-Cause-for-Concern-Guidance-Final-E-and-W-Feb-2019.pdf

Definitions

Glossary

NATCAN: National Cancer Audit Collaborating Centre

HQIP: Healthcare Quality Improvement Partnership

Performance indicators

Indicators measure one aspect of how a provider performs, which will often be a process of care or outcome that is an important marker of quality. The indicators used by the audits are selected for being valid and reliable, and for having the ability to support NHS quality assurance / quality improvement activities.

Targets / expect levels of performance

The expected performance on an indicator may be defined in several ways. In some circumstances, it will be based on external sources such as an agreed standard. In other situations, the target will be defined in relation to the typical pattern of care achieved by providers, such as the average performance for England and Wales.

Risk adjustment

On some indicators, the indicator value of a provider will be influenced by the characteristics of the patients treated there. In these circumstances, an audit will take account of these differences in patient case-mix by risk adjusting the indicator values. This will ensure the evaluation of performance across providers is fair. For example, patient and tumour characteristics often taken into account during a risk adjustment process include: age at diagnosis, sex, disease severity, patient functional status and co-morbidity.

Procedure

This section summarises the steps that the audit teams will follow to detect and manage potential outlier providers.

1. Choosing appropriate Performance Indicator(s) to be used in the outlier process

- Appropriate Performance Indicator(s) (PIs) should be chosen for outlier assessment by audit teams and relevant stakeholders
- PI(s) chosen must
  - provide a valid measure of a provider's quality of care
  - be based on events that occur frequently enough to provide sufficient statistical power
- If data quality prevents any meaningful outlier analysis from being undertaken, then the provider could be considered as an alarm outlier to facilitate improvement
- In the rare circumstances in which information provided to the audit could reasonably suggest the presence of very serious issues with clinical practice or system failure that presents a risk of harm to patients, the audit will implement the cause for concern escalation process described in Table 3 in the following guidance published in February 2019: https://www.hqip.org.uk/wp-content/uploads/2019/02/NCAPOP-Cause-for-Concern-Guidance-Final-E-and-W-Feb-2019.pdf

2. Detecting a potential negative outlier provider

- Providers are most commonly identified as potential negative outliers using a control chart such as a funnel plot.
- Cancer audits typically assess the performance of many providers over a period of time using a funnel plot. In these plots, each dot represents an NHS organisation, and a solid horizontal line represents the expected level of performance (such as the average for England and Wales). The vertical axis indicates the indicator value, while the horizontal axis shows provider activity, with dots further to the right showing the providers that care for more patients.
- Random variation will always affect indicator values, and its influence is greater among small samples. This is shown by the funnel-shaped lines, known as control limits. These lines define the region within which we would expect the indicator values to fall if the performance of providers differed from the national average (target) because of random variation.
- The control limits in a funnel plot used by the cancer audits define differences from the national average performance corresponding to where we would expect 95% (within two standard deviations [SDs]) and 99.8% (within three SDs) of providers to lie.

- An **'alarm'** outlier is a provider with a performance indicator value more than three SDs in a negative direction from the national average.
- A **'repeat alert'** outlier is a provider with a performance indicator value more than two SDs (but less than 3 SDs) in a negative direction from the national average for two or more consecutive years (see Appendix for definitions for each audit). The condition that an estimate should be within the defined range more than once was added to reduce the chance that a provider is erroneously identified as a potential outlier.
- A '**one-year mortality alert'** outlier is a provider with a performance indicator value more than two SDs (but less than 3 SDs) in a negative direction from the nation average for one reporting period (one or more years). The audits will not formally notify the Care Quality Commission (CQC) of these providers due to the high risk of false positive signals, the limitations of certain national datasets, and the inability of NHS organisations to correct any local-level discrepancies or incomplete data required for risk adjustment. Instead, the audits will formally notify the CQC of '**repeat one-year mortality alerts'**.

3. Managing a potential negative 'alarm' outlier provider

If a provider is flagged as an alarm outlier, it does not necessarily indicate a problem with the quality of care given to patients. It is a statistical result and, therefore, triggers further analysis and investigation with the provider. The following Table 1 summarises the steps taken in managing a potential **'alarm'** outlier provider, including the actions required, the people responsible, and the time scales.

The national cancer audits do not require providers to submit patient data directly to NATCAN. The audits use national cancer datasets supplied by the National Disease Registration Service (NHS England) and the Welsh Cancer Network. HQIPs '*NCAPOP Outlier Guidance: Identification and management of outliers'* does not consider the situation where clinical audits do not collect data directly from providers. The process of data review by providers described in this policy is therefore specific to the cancer audits.

Table 1: Steps to manage a potential negative 'alarm' outlier provider

<table>
<tr><th>Step</th><th>Action required</th><th>Owner</th><th>Within working days from prior step</th></tr>
<tr><td>1</td><td>Provider with a possible performance indicator at alarm level require scrutiny of the data handling and analyses performed to determine whether:

'Alarm' status confirmed:
• Potential 'alarm' status:
➢ proceed to step 2</td><td>Audit team</td><td>10 (maximum from submitting draft 0 of State of the Nation [SotN] report)</td></tr>
<tr><td>2</td><td>Provider lead clinician and clinical audit departments (or equivalents) informed about potential 'alarm' status and asked to identify possible data errors or justifiable explanation(s). All communications regarding the outlier status of providers remain under embargo until after the SotN publication date.

All relevant data and analyses to be made available to the lead clinician, while sending the minimum required.

NOTE: All patient level data should be sent encrypted and securely to the provider lead clinician and, if returned to the audit team, remain encrypted.</td><td>Audit Clinical leads and Audit Team</td><td>5</td></tr>
<tr><td>3</td><td>Provider lead clinician to provide written response to audit team.
If no response has been received in the proposed timeframe, the audit team will contact the relevant Cancer Alliance Clinical Chair to notify them of the provider outlier status.</td><td>Provider Lead Clinician</td><td>25</td></tr>
</table>

<table>
<tr><th>Step</th><th>Action required</th><th>Owner</th><th>Within working days from prior step</th></tr>
<tr><td>4</td><td>Review of provider lead clinician’s response to determine:

‘Alarm’ status not confirmed:
• It is confirmed that the data about the provider contained inaccuracies. Re-analysis of data based on information from provider no longer indicates ‘alarm’ status
• Results for provider not included in audit reports and data tables / dashboards. The publication should include the rationale, stating that the provider is no longer a potential outlier. The provider should be asked to provide a formal response which will be published by the audit team.
➢ process closed

‘Alarm’ status confirmed:
• Although it is confirmed that the originally supplied data were inaccurate, analysis still indicates ‘alarm’ status, or
• It is confirmed that the originally supplied data were accurate, thus confirming the initial designation of ‘alarm’ status
• The publication should include the results for the provider, stating that the provider is an outlier. The provider should be asked to provider a formal response which will be published by the audit team.
➢ proceed to step 5</td><td>Audit clinical lead</td><td>20</td></tr>
</table>

<table>
<tr><th>Step</th><th>Action required</th><th>Owner</th><th>Within working days from prior step</th></tr>
<tr><td>5</td><td>Contact provider lead clinician, by phone as required, prior to sending written notification of confirmed ‘alarm’ to provider CEO and copied to provider lead clinician, medical director and clinical audit department (or equivalents). All relevant data and statistical analyses, including previous response from the provider lead clinician can be made available to provider medical director and CEO.

For England:
• The outlier confirmation letter should also include the details in Step 7 below, and a request that the Trust engage with their CQC team.
• The outlier confirmation letter should also include the following sentence: “Please ensure this outlier notification letter is circulated to the appropriate people within the trust or health board, for example (and not limited to), Chief Nursing Officer, Director of Nursing, clinical audit dept manager/lead, relevant clinical and medical director and trust chair within 5 working days of receipt of this letter.”
• Relevant audit outlier policy should be provided to provider colleagues.
• Notify the following of confirmed ‘alarm’ status in one email, including this completed attachment:
  ○ CQC (clinicalaudits@cqc.org.uk) and include the audit outlier policy,
  ○ NHSE (england.clinical-audit@nhs.net) and NHS England Cancer Programme, Lucy Danks (l.danks@nhs.net),
  ○ Relevant Cancer Alliance Clinical Chair,
  ○ HQIP associate director and project manager (www.hqip.org.uk/about-us/ourteam/),
  ○ HQIP NCAPOP Director of Operations, Jill Stoddart (jill.stoddart@hqip.org.uk),
  ○ NATCAN Director of Operations, Julie Nossiter (jnossiter@rcseng.ac.uk).

For Wales:
• Notify the following of confirmed ‘alarm’ status:
  ○ wgclinicalaudit@gov.wales
  ○ HQIP associate director and project manager (www.hqip.org.uk/about-us/our-team/)</td><td>Audit Clinical leads and Audit Team</td><td>5</td></tr>
</table>

Step	Action required	Owner	Within working days from prior step
6	• The audit team will proceed to public disclosure of comparative information that identifies providers as alarm level outliers (in State of the Nation Reports). • Providers identified as alarm level outliers will be asked for a formal response which will be published by the audit team as an addendum or footnote. • Publication of audit reports will not be delayed whilst waiting for such investigation to be completed. This can be added, online, when and if it subsequently becomes available. • Conversely, if there has been no response from the provider concerning their alarm outlier status, that will be published by the audit team. NOTE: Providers have the Right to Reply. Three elements to consider including: 1. Confirm data and results are correct 2. Reasons for the results 3. What has been done	Audit team	SotN report publication date or as soon as possible after
7	The CQC advise that during their routine local engagement with the providers, their inspectors will: • Encourage Trusts to identify any learning from their performance and provide the CQC with assurance that the Trust has used the learning to drive quality improvement • Ask the Trust how they are monitoring or plan to monitor their performance • Monitor progress against any action plan if one is provided by the trust If an investigation has been conducted in the Trust into an alarm outlier status, it is required that the CQC and audit provider would be provided with the outcome and actions proposed. Audits may wish to engage with CQC during the process. This will be published by the audit provider alongside the annual results. Further, if there were no response, the audit provider would publish this on record as an absence of response.	England = CQC Trust medical director Audit team	Determined by the CQC

4. Managing a potential negative 'repeat alert' outlier

If a provider is flagged as a 'repeat alert' outlier, it does not necessarily indicate a problem with the quality of care given to patients. It is a statistical result and, therefore, triggers further analysis and investigation with the provider.

Following the identification of a potential 'repeat alert' outlier, the steps to follow are dependent on the type of indicator. In NATCAN, non-mortality indicators follow steps 1-4 (Table 2).
Where the indicator is mortality related, steps 1-7 are completed and as per HQIP policy, the CQC will be informed. Any deviations from the NATCAN policy by individual audits are outlined in the Appendices.

Table 2: Steps to manage a potential negative 'repeat alert' outlier provider

Step	Action required	Owner	Within working days from prior step
1	Provider with a possible performance indicator at 'repeat alert' level require scrutiny of the data handling and analyses performed to determine whether: 'Repeat alert' status confirmed: • Potential 'repeat alert' status: ➢ ***proceed to step 2***	Audit team	10 (maximum from submitting draft 0 of State of the Nation [SotN] report)
2	Provider lead clinician and clinical audit departments (or equivalents) informed about potential 'repeat alert' status and asked to identify possible data errors or justifiable explanation(s). All communications regarding the outlier status of providers remain under embargo until after the SotN publication date. All relevant data and analyses to be made available to the lead clinician, while sending the minimum required. NOTE: All patient level data should be sent encrypted and securely to the provider lead clinician and, if returned to the audit team, remain encrypted.	Audit Clinical leads and Audit Team	5
3	Provider lead clinician to provide written response to audit team. If no response has been received in the proposed timeframe, the audit team will contact the relevant Cancer Alliance Clinical Chair to notify them of the provider outlier status.	Provider Lead Clinician	25

Step	Action required	Owner	Within working days from prior step
4	Review of provider lead clinician's response to determine: 'Repeat alert' status not confirmed: • It is confirmed that the data about the provider contained inaccuracies. Re-analysis of data based on information from provider no longer indicates 'repeat alert' status • Results for provider not included in audit reports and data tables / dashboards. The publication should include the rationale, stating that the provider is no longer a potential outlier. The provider should be asked to provide a formal response which will be published by the audit team. ➢ ***Process closed*** 'Repeat alert' status confirmed: • Although it is confirmed that the originally supplied data were inaccurate, analysis still indicates 'repeat alert' status, or • It is confirmed that the originally supplied data were accurate, thus confirming the initial designation of 'repeat alert' status • The publication should include the results for the provider, stating that the provider is an outlier. The provider should be asked to provider a formal response which will be published by the audit team. ➢ ***Non-mortality – process closed*** ➢ ***Mortality indicators proceed to step 5***	Audit clinical lead	20

Step	Action required	Owner	Within working days from prior step

5	***'Repeat alert' status confirmed for mortality indicators***
	
	Contact provider lead clinician, by phone as required, prior to sending written notification of confirmed 'repeat alert' status to provider CEO and copied to provider lead clinician, medical director and clinical audit department (or equivalents). All relevant data and statistical analyses, including previous response from the provider lead clinician can be made available to provider medical director and CEO.
	
	For England:
	• The outlier confirmation letter should also include the details in Step 7 below, and a request that the Trust engage with their CQC team.
	• The outlier confirmation letter should also include the following sentence: "*Please ensure this outlier notification letter is circulated to the appropriate people within the trust or health board, for example (and not limited to), Chief Nursing Officer, Director of Nursing, clinical audit dept manager/lead, relevant clinical and medical director and trust chair within 5 working days of receipt of this letter.*"
	• Relevant audit outlier policy should be provided to provider colleagues.
	• Notify the following of confirmed 'repeat alert' status in one email, including this completed attachment:
	  ○ CQC (clinicalaudits@cqc.org.uk) and include the audit outlier policy,
	  ○ NHSE (england.clinical-audit@nhs.net) and NHS England Cancer Programme, Lucy Danks (l.danks@nhs.net),
	  ○ Relevant Cancer Alliance Clinical Chair,
	  ○ HQIP associate director and project manager (www.hqip.org.uk/about-us/ourteam/),
	  ○ HQIP NCAPOP Director of Operations, Jill Stoddart (jill.stoddart@hqip.org.uk),
	  ○ NATCAN Director of Operations, Julie Nossiter (jnossiter@rcseng.ac.uk).
	
	For Wales:
	• Notify the following of confirmed 'repeat alert' status:
	  ○ wgclinicalaudit@gov.wales
	  ○ HQIP associate director and project manager (www.hqip.org.uk/about-us/our-team/)
		Audit Clinical leads and Audit Team	5

Step	Action required	Owner	Within working days from prior step
6	***'Repeat alert' status confirmed for mortality indicators*** • The audit team will proceed to public disclosure of comparative information that identifies providers as 'repeat alert' level outliers for a mortality indicator (in State of the Nation Reports). • Providers identified as 'repeat alert' outliers will be asked for a formal response which will be published by the audit team as an addendum or footnote. • Publication of audit reports will not be delayed whilst waiting for such investigation to be completed. This can be added, online, when and if it subsequently becomes available. • Conversely, if there has been no response from the provider concerning their 'repeat alert' outlier status for a mortality indicator, that will be published by the audit team. NOTE: Providers have the Right to Reply. Three elements to consider including: 4. Confirm data and results are correct 5. Reasons for the results 6. What has been done	Audit team	SotN report publication date or as soon as possible after
7	***'Repeat alert' status confirmed for mortality indicators*** The CQC advise that during their routine local engagement with the providers, their inspectors will: • Encourage Trusts to identify any learning from their performance and provide the CQC with assurance that the Trust has used the learning to drive quality improvement • Ask the Trust how they are monitoring or plan to monitor their performance • Monitor progress against any action plan if one is provided by the trust If an investigation has been conducted in the Trust into a 'repeat alert' level outlier for a mortality indicator, it is required that the CQC and audit provider would be provided with the outcome and actions proposed. Audits may wish to engage with CQC during the process. This will be published by the audit provider alongside the annual results. Further, if there were no response, the audit provider would publish this on record as an absence of response.	England = CQC Trust medical director Audit team	Determined by the CQC

5. Managing a potential positive outlier

- A positive outlier is a provider with an estimate of a performance indicator more than three SDs in positive direction from the national average.
- Identification of positive outliers should be used to celebrate clinical excellence.
- Positive outliers should be contacted in writing and informed of their results.
- The clinical team will be encouraged to share learnings regarding their processes of care and provide opportunities for other centres to engage with the local team to see what elements of their pathway are transferrable.
- NHS England Cancer Programme, Lucy Danks (l.danks@nhs.net), to be informed of the positive outlier provider for each chosen performance indicator by the audit teams.

6. Actions when data issues are identified during the 'alarm' outlier management process

A provider flagged as a negative 'alarm' or a 'repeat alert' outlier on an indicator might provide evidence of data errors affecting their indicator value. They may have raised concerns about the number of patients included in the analysis or the data on the process of care / outcomes being measured, and provided evidence by provided aggregate statistics or by returning the patient-level dataset sent to them by the audit with additional data.

If a potential 'alarm' or 'repeat alert' outlier is judged by the audit team to be due to a data quality issue, the audit will not publish their results in the report, data tables / dashboards, or include them in control charts (funnel plots). The audit will publish a rationale for why the result was not published and that the audit is working with the trust to improve data quality. The value will not be included in organisational level statistics, such as the range of indicator values. Summary statistics for the overall cohort such as the national average will not be updated. This will be reviewed in future iterations of the policy.

References

NCAPOP-Outlier-Guidance_2025-Oct-Update-v2.pdf
NCAPOP-Cause-for-Concern-Guidance-Final-E-and-W-Feb-2019.pdf

Appendix 1: Audit Specific Outlier Policy Details

Audit	**All NATCAN audits running an outlier process**
Version	**1.5**
Document Author(s)	**NATCAN Team members**
Document Reviewer(s)	**NATCAN Executive Committee**
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Review Date	As part of audit reporting cycle, annually for each audit.

Revision History

Version	Date	Author	Description of Changes	Approved By
1.2	13.06.2025	NATCAN Team members	Initial draft created.	
1.3	14.10.2025	NATCAN Team members	NLCA PIs added and detail of risk adjustment factors added for NOCA and NAoPri.	
1.4	20.02.2026	NOCA Team members, Marina Parry	Details of NOCA outlier process updated for SotN 2026. Date last updated and version referred to added to each appendix item.	
1.5	22.06.26	NATCAN Team members, Julie Nossiter	Amendment to description of appendix items. Details of outlier process updated for (NKCA, NPCA, NPaCA, NNHLA, NBOCA, NOGCA, NAoPri) updated for SotN 2026.	

This Appendix is to document the audit specific details of the outlier process.

8. National Prostate Cancer Audit (NPCA)

Table A8.1: Details of the National Prostate Cancer Audit outlier process

Audit Name	**National Prostate Cancer Audit (NPCA)**
Date last updated	12.06.2026 (v1.3)
Patient cohort	National Prostate Cancer Audit (NPCA) State of the Nation Report 2026 Patients who received radical treatment between 1 September 2022 and 31 August 2023 in England and Wales and patients with metastatic disease who received SACT between 1 January and 31 December 2023 in England
Outliers publication	With State of the Nation report 08.10.2026
Negative outlier process	Alarms and repeat alerts
Repeat alerts definition	More than two SDs (but less than three SDs) in a negative direction from the national average for two of three consecutive years of reporting
Any deviations from NATCAN Outlier Policy	For the three complications indicators (GU after RP, GI after RT, GU after RT) trusts will not be regarded as outliers if they were also an outlier the previous year. This is because there is a two-year time lag in the treatment period used for the indicators, so any changes made a year ago will not be evident in the current indicator.

Table A8.2: Details of the National Prostate Cancer Audit performance indicators used in outlier process

Indicator	Description	Risk Adjustment (Y/N)	Missingness Concern	Rationale for use
Proportion of patients experiencing at least one GU complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy	Proportion of patients experiencing at least one GU complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy	Yes – age, risk score, co-morbidity (Charlson score) and deprivation (IMD quintile)	Patients with missing values for risk adjustment variables were allocated to a missing category for the respective variables	Measure of care received
Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (GI complication) within 2 years of radical prostate radiotherapy	Proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (GI complication) within 2 years of radical prostate radiotherapy	Yes – age, risk score, co-morbidity (Charlson score) and deprivation (IMD quintile)	Patients with missing values for risk adjustment variables were allocated to a missing category for the respective variables	Measure of care received
Proportion of patients experiencing at least one GU complication requiring a procedural/surgical intervention within 2 years of radical prostate radiotherapy	Proportion of patients experiencing at least one GU complication requiring a procedural/surgical intervention within 2 years of radical prostate radiotherapy	Yes – age, risk score, co-morbidity (Charlson score) and deprivation (IMD quintile)	Patients with missing values for risk adjustment variables were allocated to a missing category for the respective variables	Measure of care received