NATCAN Outlier Policy

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Document Author(s)	Clare Peckitt, Marina Parry, Sarah Cook, David Cromwell, Karen Darley, Angela Kuryba, Emily Mayne, Augusto Nembrini da Rocha, Julie Nossiter, Kate Walker
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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

Contents

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 will be 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 on 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

SOP:	Standard Operating Procedure, document outlining steps to complete a task.
NATCAN:	National Cancer Audit Collaborative 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 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, sex, disease severity, patient functional status and co-morbidity.

Procedure

This section summarises the steps that the audit team 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 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

- Potential negative outlier providers are most commonly detected 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 (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.
- An **'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 consecutive years. The condition that an estimate should be within the defined range twice in a row before it is considered an 'alert' outlier was added to reduce the chance that a provider is erroneously identified as a potential outlier.

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 'alarm' outlier provider

Step	Action required	Owner	Within working days from prior step
1	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***	Audit team	10 (maximum from submitting draft 0 of State of the Nation [SotN] report)
2	Provider lead clinician informed about potential 'alarm' status and asked to identify possible data errors or justifiable explanation(s). 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.	Provider Lead Clinician	25

Step	Action required	Owner	Within working days from prior step
4	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***	Audit clinical lead	20

Step	Action required	Owner	Within working days from prior step
5	Contact provider lead clinician, preferably by phone, prior to sending written notification of confirmed 'alarm' to provider CEO and copied to provider lead clinician, medical director. 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. • Relevant audit outlier policy should be provided to provider colleagues. • Notify the following of confirmed 'alarm' status: o CQC (clinicalaudits@cqc.org.uk), using the outlier template, and include the audit outlier policy, o NHSE (england.clinical-audit@nhs.net) and NHS England Cancer Programme, Lucy Danks (l.danks@nhs.net) o HQIP associate director and project manager (www.hqip.org.uk/about-us/ourteam/), o HQIP NCAPOP Director of Operations, Jill Stoddart (jill.stoddart@hqip.org.uk). For Wales: • Notify the following of confirmed 'alarm' status: o wgclinicalaudit@gov.wales o 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	• 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 'alert' outlier

Following the identification of a potential '**alert'** outlier the provider will be notified (as per step 2 in the alarm outlier process above) and a formal response will be required from the provider (as per step 3).

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 an 'alarm' 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' 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

HQIP-NCAPOP-Outlier-Guidance_21022024.pdf
NCAPOP-Cause-for-Concern-Guidance-Final-E-and-W-Feb-2019.pdf

Appendix 1: Audit Specific Outlier Policy Details

Audit	National Prostate Cancer Audit (NPCA)
Version	1.0
Document Author(s)	Marina Parry
Document Reviewer(s)	NPCA Project Team
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Revision History

Version	Date	Author	Description of Changes	Approved By
1.0	20.06.2025	Marina Parry	Initial draft created.	NPCA Project Team

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

Table A1: Details of the National Prostate Cancer Audit outlier process

Audit Name	**National Prostate Cancer Audit (NPCA)**
Patient cohort	National Prostate Cancer Audit (NPCA) State of the Nation Report 2025 Patients who received radical treatment between 1 September 2021 and 31 August 2022 in England and Wales and patients with metastatic disease who received SACT between 1 January and 31 December 2022 in England and 1 April and 31 December 2023 in Wales
Outliers publication	With State of the Nation report 09.10.2025
Outlier process	Alarms, Alerts and positive outliers
Process to determine if repeat alerts should be rated as alarm outlier.	NA
Minor deviations from SOP	NA

Table A2: 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 men under 75 years old with newly diagnosed hormone-sensitive metastatic disease receiving systemic treatment intensification	Proportion of people with metastatic prostate cancer under 75 years old who receive initial systemic anti-cancer therapy within 12 months of diagnosis	Yes - age, co-morbidity (Charlson score), frailty and performance status	Patients with missing values for risk adjustment variables were allocated to a missing category for the respective variables	Measure of care received
Proportion of men 75 years and older with newly diagnosed hormone-sensitive metastatic disease receiving systemic treatment intensification	Proportion of people with metastatic prostate cancer 75 years and older who receive initial systemic anti-cancer therapy within 12 months of diagnosis	Yes - age, co-morbidity (Charlson score), frailty and performance status	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 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