Optimal Data Flow from National Clinical Audits and Clinical Outcome Review Programmes

"Maximising the use and accessibility of National Clinical Audit and Clinical Outcome Review Programme data to optimise the CQC regulatory process and support quality improvement measures at Trust level"

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Purpose of this document: what it covers

The purpose of this document is to describe how National Clinical Audits (NCAs), the Care Quality Commission (CQC) and the Healthcare Quality Improvement Partnership (HQIP) can work together to refine and extend the systematic use of NCA data to support both quality improvement and quality assurance. NCA data represents a valuable national resource and is central to improving healthcare quality. All stakeholders, whether they are involved in commissioning, performing, analysing or regulating healthcare activity, are duty-bound to seek ways in which the utility of the data can be maximised without increasing burden.

The document will describe the current status of data flow, the specifics of creating a new data flow to the CQC and HQIP, the purported benefit from the additional data flow, underlying statutory principles and information governance arrangements of relevance.

This document should be read alongside the overarching document entitled “Prioritisation of metrics from National Clinical Audits and Clinical Outcome Review Programmes” (www.hqip.org.uk/resources/use-of-clinical-audit-data-cqc-processes/).

Audience: who this document is intended for

This document is intended primarily for audit providers under contract to HQIP to perform national clinical audit as part of the NCAPOP. This is because it will clearly delineate the mechanism, time-frames and logistics associated with the additional proposed data flow to CQC and HQIP. By demonstrating increased utility, it is hoped that the scope of the project could be expanded in the future to NCAs outside the NCAPOP and, as such, provider organisations not under contract to HQIP may also find the material relevant.

It is likely that the information contained within will also be of interest to audit participants, regulators, patient groups and healthcare commissioners given the intended use of the data.

Background: why this document is needed

In the Spring of 2015, HQIP and CQC embarked on a collaborative project to optimise the use of NCA data to support the CQC’s new regulatory methodology and to maximise the utility of this data for Trust quality improvement initiatives. Central to the project is access to and display of Trust-level audit results in a cross-cutting display, which provides an overview of key metrics.

Preliminary work has identified barriers to current utility including data burden, unclear mapping to national standards and lack of contemporaneousness (www.hqip.org.uk/resources/engaging-clinicians-in-qi-through-clinical-audit-report).The first phase of this project therefore focussed on rationalisation and distillation of current NCA data into 'key' metrics of prime relevance to both hospital-level quality improvement and regulator quality assurance. Principles to guide this process for audit providers have been published in the document "Prioritisation of metrics from National Clinical Audits and Clinical Outcome Review Programmes" (www.hqip.org.uk/resources/use-of-clinical-audit-data-cqc-processes/).

This document has been written to accompany the second phase of the project. The second phase seeks to define the logistics of the proposed data flow and the intended use of the data such that the expectations of audit providers, Trusts, regulators, healthcare commissioners and service users can be appropriately balanced within current resources.

The third phase of the project will centre on the commencement of data flow to the CQC with collaborative feedback from audit providers and the development of a resource to further HQIP's mandate to drive Trust-level quality improvement.

Planning: where this document has come from

Oversight for the collaboration between HQIP and CQC (and thus for the creation of this document) has been provided by members of a Steering Group (SG) comprised of representatives from HQIP, the CQC, the National Advisory Group on Clinical Audit and Enquiries (NAGCAE), NCA clinical and methodological leadership, Trust Audit Departments and Service User Networks.

As SG membership has changed since the publication of the preceding HQIP document 'Prioritisation of metrics from National Clinical Audits and Clinical Outcome Review Programmes', the most current details of individual Steering Group membership are listed in Appendix 1.

This guidance has been formulated in a manner analogous to the aforementioned HQIP document and is intended to complement both it and other HQIP guidance on delivery of high quality national clinical audit (www.hqip.org.uk/resources/reporting-for-impact-guidance). This document has been written by HQIP and CQC staff and the final draft has been derived after multiple cycles of internal consultation and cross-collaboration between the two institutions.

Structure of the document

This document is composed of the following parts:

A) Current flow of data from NCA providers

B) Optimal flow of data from NCA providers

C) Proposed benefits of optimal data flow for quality improvement

D) Proposed benefits of optimal data flow for quality assurance

E) Underlying statutory mechanisms and information governance

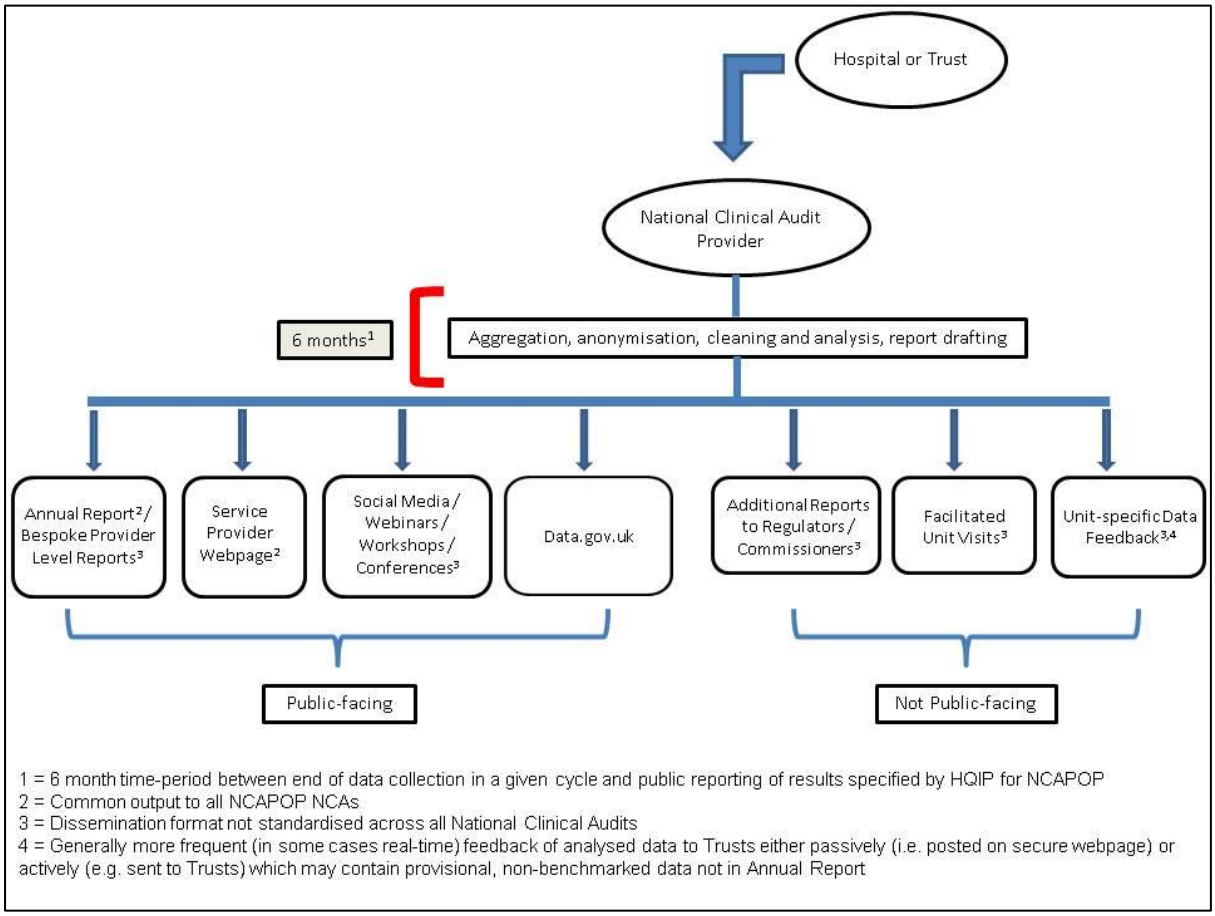
F) Next steps / project progression

A) Current flow of data from NCA providers

For ease of description, the following discussion uses the specific example of NCAs within the NCAPOP. However, it is acknowledged that several high-quality audits are delivered outside the NCAPOP and that the Clinical Outcome Review Programmes encompass a different methodology and reporting schedule. As such, it is hoped that the generic principles concerning the proposed data flow can be applied to both non-NCAPOP NCAs and, where possible, Clinical Outcome Review Programmes.

At present, after collection and analysis of data from audit participants, NCA providers disseminate data and findings in a number of different ways (Figure 1).

Figure 1: Current flow of data from NCA providers



HQIP's current specification schedule requires providers to disseminate findings widely to appropriate audiences within six months of the end of data collection for a given cycle (see www.hqip.org.uk/resources/reporting-for-impact-guidance and www.hqip.org.uk/resources/srp-for-ncapop/).

In general, "public reporting" is interpreted by the majority of NCA providers as the publication of an annual report, which is produced within the six-month time-frame, although it is clear that there are multiple modalities available for enhancing public, media and stakeholder engagement.

Dissemination format is not constant among NCAs such that some may only produce an annual report while others also feed data into multiple avenues - and at more frequent intervals – and also provide site-specific reports in addition to an annual report (www.hqip.org.uk/resources/audit-of-audits-national-report-2014/). In general, site-specific reports are public-facing, however in certain instances – primarily in the context of regulatory oversight and /or where provisional, non-benchmarked data is concerned –and depending on their intended receivership and purpose, site-specific data may not be immediately publicly available.

Of note, it is acknowledged that provision of machine-readable data files containing aggregated hospital or Trust level data for uploading to data.gov.uk (https://data.gov.uk/) already forms part of the NCAPOP Standard Reporting Procedure (www.hqip.org.uk/resources/srp-for-ncapop/).

However, it is suspected that NCA data is not being used optimally, despite this data repository, for similar reasons (data volume and format) to those described for the equivalent US Government resource data.gov (www.data.gov/; fcw.com/articles/2010/05/07/open-gov-datagov-shortcomings.aspx).

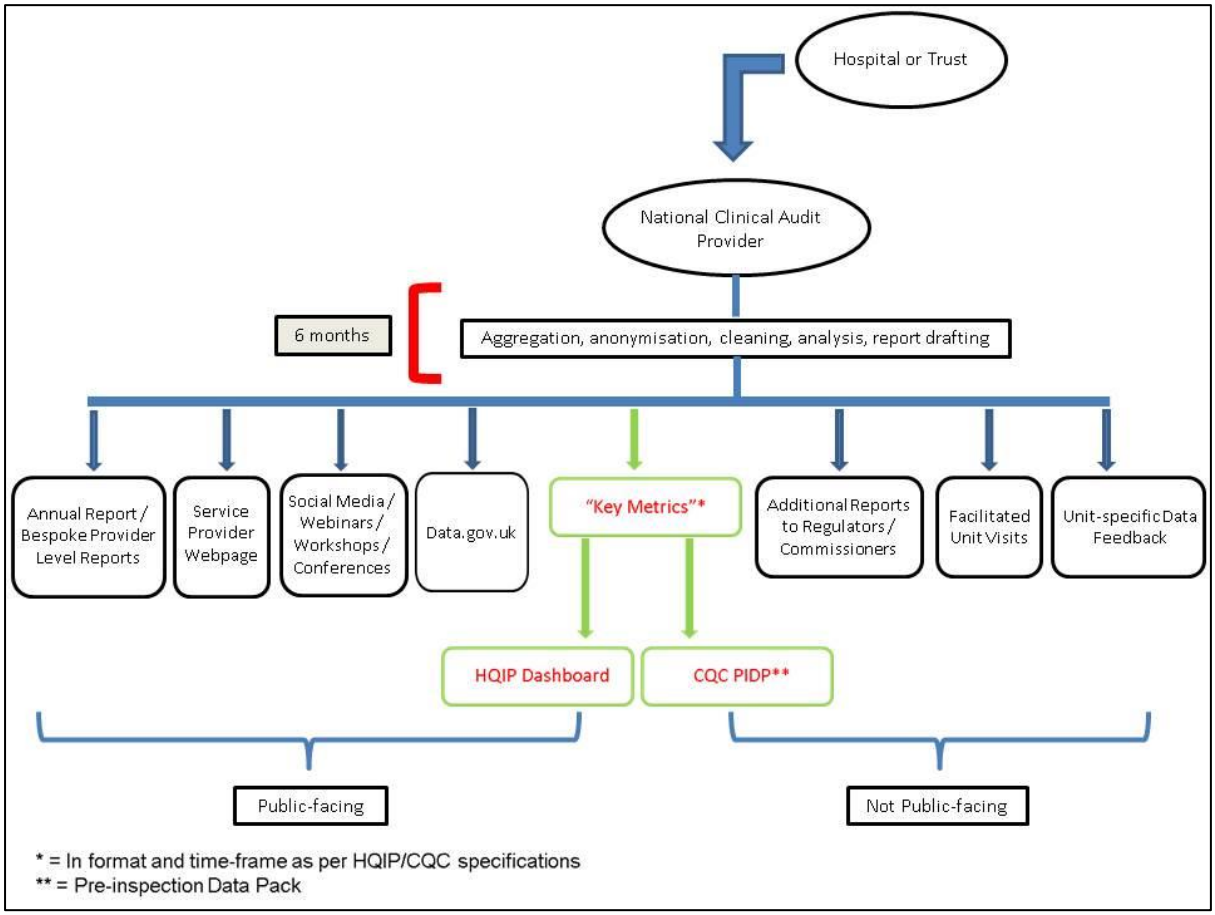
In addition to data burden, methodological differences between NCAs such as the need for access to other datasets for case ascertainment, as well as asynchronous reporting schedules, mean that audit participants (Trusts and hospitals), commissioners, patients and regulators can struggle to use all available Trust-level NCA data effectively at any given time point (www.hqip.org.uk/resources/engaging-clinicians-in-qi-through-clinical-audit-report).

At present, there is no unifying resource which succinctly collates and displays key NCA data, searchable at Trust or hospital level in a user-friendly and accessible way.

B) Optimal flow of data from NCA providers

Facilitation of quality improvement and quality assurance by HQIP and CQC will require an additional data flow as depicted in Figure 2. In order for the data flow to improve upon the shortcomings and difficulties in the use of NCA data outlined above, it is vital that the format and contemporaneousness of the process are clearly delineated and maintained.

Figure 2: Optimal data flow



Each audit provider would supply a named point of contact and will be provided with named contacts at CQC and HQIP. This will provide the avenue to allow clarification of data format and presentational issues, as well as iterative review of the key metrics themselves from cycle to cycle. Communication to HQIP and CQC would be through dedicated email addresses ('hqipdashboard@hqip.org.uk' and 'clinicalaudits@cqc.org.uk' respectively).

Reporting frequency will differ among the NCAs given their asynchronous cycles but it is anticipated that data flow would - at a minimum - mirror the publication of the annual report. For NCAs, which report more frequently, there could in the future be opportunity - through mutual liaison - to accommodate data in line with individual audit schedules.

General principles relevant to the use of NCA data to support CQC's quality assurance methodology include:

- Provision of data at hospital level wherever possible
- Provision of Trust-level data where hospital level is not available but with clear statement that hospital level is unavailable / not suitable
- Where available, appropriately benchmarked and risk-adjusted data to inform the inspection process
- Temporally comparative information such as the previous cycle's result and national guideline where available
- Additional supporting information to assist data interpretation by CQC inspectors where such a need is identified and mutually agreed by both audit providers and CQC
- 'Real-time' data flows or otherwise provisional, non-benchmarked data are not required (as the data entered into a PIDP would be out-of-date by the time the inspection commences and / or unsuitable for informing the judgement process)
- Presentation of key metrics in PIDPs in same format as audit provider's website and/or annual report (where possible)
- Re-supply of data in subsequent years should be consistent in format to previous years wherever possible to assist the process of automation using CQC middleware (and therefore increase efficiency)

Ultimately, key metric data and summary context would also be displayed in a HQIP Quality Improvement dashboard, the purpose of which would be to provide a public-facing, online resource which provides a user-friendly, summarised list of key NCA data co-located and searchable at Trust or hospital level.

It will be evident that the "key metrics" will simply represent a subset of the parent data accompanied by summarised contextual information from the annual report. HQIP and CQC would work with audit providers in a priming phase to develop bespoke machine-readable file templates that can be populated with the data and then sent to HQIP and CQC for use, respectively, in a public-facing digital dashboard and in the CQC's pre-inspection data packs. Moving forwards beyond the priming phase, once "key metric" templates have been agreed and tested, it is hoped that the data can be sent out in subsequent cycles at the same time that data is uploaded to the data.gov.uk repository.

See next page for a table detailing the stages and principles underlying idealised data flow.

The following stages therefore apply to the process for any given audit provider and would underpin the flow of data -

Table 1: Stages and principles underlying idealised data flow

Stage	Detail
1.	Mutual agreement between CQC, HQIP and audit provider regarding the key metrics that will be used for the CQC Pre-inspection Data Packs (PIDPs) and HQIP NCA Quality Improvement dashboard (see "Prioritisation of metrics from National Clinical Audits and Clinical Outcome Review Programmes"). Metric Selection Documents containing rationale for key metrics included each year to be displayed on each NCA's webpage on HQIP website and to be reviewed regularly in a collaborative process between audit provider, HQIP and CQC.
2.	Priming phase consisting of development and testing of bespoke machine-readable templates containing key metric data and supporting contextual information by HQIP and CQC in collaboration with audit providers. Examples of data fields likely to be included are as follows – 1. *Outcome metric* – A. Current result B. Previous cycle's result C. National average or equivalent aggregate D. Key summary methodology data relevant to metric: i. Crude or risk-adjusted ii. Outlier definition (where applicable) iii. Data completion for metric iv. Case ascertainment v. Sampling period vi. Sampling methodology vii. Intended date for next sample report viii. Link to audit provider's annual report / data webpage ix. Free text space to allow for any specific comment related to changes in methodology / cautions with interpretation 2. *Process metric* – A. Current result B. Previous cycle's result C. National average or equivalent aggregate D. Specific national guideline with link to source for full guideline E. Key summary methodology data relevant to metric [as for outcome metrics]

	3. *Structure metric* – A. Current result B. Previous cycle's result C. National average or equivalent aggregate (where applicable) D. Specific national guideline / service specification (where applicable) E. Key summary methodology data relevant to metric: i. Sampling period ii. Sampling methodology iii. Intended date for next sample report iv. Link to audit provider's annual report / data webpage v. Free text space to allow for any specific comment related to cautions with interpretation 4. *PROM/PREM metric* – A. Current result including response rate B. Previous cycle's result including response rate C. National average or aggregate (where applicable) D. Key summary methodology data relevant to metric: i. Intended date for next sample report ii. Link to audit provider's annual report / data webpage iii. Free text space to allow for any specific comment related to robustness of data / cautions with interpretation
3.	Commencement of data flow using most recent data available. This phase commences after the priming phase is complete and therefore the timetable for commencement will be individualised for each audit participating. Bespoke machine-readable files to be populated with Trust/hospital-level data by audit provider and sent to HQIP (hqipdashboard@hqip.org.uk) and CQC (clinicalaudits@cqc.org.uk) on same date as parent dataset uploaded to data.gov.uk (consistent with HQIP NCAPOP SRP) once data flow is in a steady-state. To comply with CQC's quality assurance policy, all data supplied by external providers should be accompanied with supporting statements as outlined in Appendix 2.
4.	Processing of audit-provider data using CQC middleware to produce draft outputs that will be used to populate PIDPs. Processing only be an issue of standardising (automating) PIDP population to allow re-display of key metrics as described in Stage 2. It would not involve any analytical or interpretative oversight by audit providers. Liaison between CQC/HQIP and audit providers in four weeks after receipt of data to ensure cross-party acceptance of sample draft output displays prior to finalisation.
5.	Finalised, approved data to be routinely updated into CQC PIDPs and on HQIP NCA Quality Improvement dashboard.
6.	Iterative liaison between HQIP, CQC and audit provider each year to review key metrics and data flow.

In summary therefore, provision of machine-readable data files containing the above information in the correct summarised format would require additional processing by the audit provider beyond the current posting of data to publicly available repositories such as data.gov.uk. HQIP and CQC are aware that this will introduce an additional burden for audit providers but it is hoped that this will be reduced given that only selection and summarisation are required rather than additional data collection or analysis. HQIP and CQC will endeavour to work closely with audit providers throughout the stages of the process listed above, to ensure that resource demands for the providers are minimised.

C) Proposed benefits of optimal data flow for quality improvement

It is envisaged that a fully-functioning NCA key metric dashboard will facilitate quality improvement by improving accessibility through summarisation, contemporaneous reporting and co-localisation of data from across the spectrum of NCAs at Trust or hospital level. Previous research and on-going feedback from Trust clinical audit departments consistently highlights that data burden (volume), cumbersome presentation and delays in reporting or being allowed access to data are the major obstacles to effective quality improvement (www.hqip.org.uk/resources/engaging-clinicians-in-qi-through-clinical-audit-report).

By providing summarised data with explicit links to complete datasets and annual reports, the dashboard intends to balance user-friendliness and appropriate granularity in order to avoid over-simplification of complex care pathways. There is scope to expand the utility of such a resource by providing linkage to Trust's own quality improvement webpages (where such local resources exist,) which could describe specific QI initiatives being undertaken. As such, it is hoped that the final product will be of interest to multiple stakeholders including Trusts, service users and commissioners.

D) Proposed benefits of optimal data flow for quality assurance

Engagement with the process will forge closer links between the CQC, HQIP and audit providers. An expectation for audit providers to share data directly with the CQC as soon as it is available will ensure that CQC is able to utilise the most current data most effectively. In comparison to the current situation where CQC either retrieves and selects data for PIDPs itself from publicly available sources or simply does not use the data available, the likelihood of important data not being used for quality assurance would be reduced. There would be improvements in data-handling processes as the data supplied would be directly from audit providers in an appropriate format to facilitate automatic population of PIDPs rather than the current resource-intensive process of CQC manually transcribing results from publicly available sources. Direct communication channels will allow audit providers to inform HQIP and CQC of changes to, and concerns regarding, particular metrics and (where a need was identified and mutually agreed) to provide additional information to aid interpretation thus ensuring that the CQC uses NCA data as consistently as possible. Conversely, the process would allow HQIP and CQC to seek clarification regarding any areas of uncertainty concerning the new data flow.

E) Underlying statutory mechanisms and information governance

The proposed additional data flow relates to aggregated data at hospital or Trust level and represents a subset of a larger data set which is intended for the public domain. Therefore the data has been assessed as fully anonymised. No personal information (i.e. patient identifiable information) would be disseminated and indeed no additional data analysis would be required. Therefore, notwithstanding the CQC's wide powers to collect and use information (Appendix 3), it follows that no additional IG permissions will be required.

F) Next steps / project progression

HQIP will seek to engage with all stakeholders including audit providers, Trusts, regional clinical audit networks, service users and commissioners to further and more precisely define the essential characteristics of the proposed Quality Improvement dashboard. Results of this engagement will be used to draft a specification paper. However, the broad principles of such a resource might be as follows:

- Web-based and commissioned by HQIP (located on the HQIP website)
- Directly populated by key metric and summary contextual data
- Linkage to audit provider original reports / parent data sets
- Trust / hospital level collation across NCAs
- Linkage to Trust / hospital QI resources / webpages alongside their NCA results
- Public-facing

While the concept of the dashboard is further developed, collation of the ratified key metrics from current NCA data sets will form the basis of an initial static data repository at HQIP. It is envisaged that data flows to CQC for population of PIDPs would be able to commence in late 2015 and would progress throughout 2016 on an audit-by-audit basis.

Definitions/Glossary

CQC – Care Quality Commission

HQIP – Healthcare Quality Improvement Partnership

IG – Information Governance

PREM – Patient-related Experience Measure

PROM – Patient-related Outcome Measure

PIDP – Pre-inspection Data Pack

NAGCAE - National Advisory Group on Clinical Audit and Enquiries

NCA – National Clinical Audit

NCAPOP – National Clinical Audit and Patient Outcomes Programme

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Appendix 1 – Steering Group Membership

Ms Jane Ingham - Chief Executive Officer HQIP

Professor Danny Keenan - Medical Director HQIP

Ms Jenny Mooney - Director of Operations NCAPOP

Dr Yvonne Silove - Associate Director for Quality and Development HQIP

Mr Sidhartha Sinha - Clinical Fellow HQIP

Ms Anna Kisielewska - Programme Support Officer HQIP

Professor Sir Mike Richards - Chief Inspector of Hospitals CQC

Professor Edward Baker - Deputy Chief Inspector of Hospitals CQC

Mr David Harvey - Head of Provider Analytics CQC

Dr Sanjay Krishnamoorthy - Clinical Fellow CQC

Dr Marc Jeanneret - Clinical Fellow CQC

Mr Jon Shelton – Provider Analytics Manager CQC

Dr Ian Woolhouse - Clinical Lead National Lung Cancer Audit

Dr David Cromwell - Lead Methodologist NVR, NELA and OGCNA

Dr Geraldine Waters - NAGCAE representative

Ms Kat Young - NQICAN representative

Ms Anne Jones - Trust Audit Professional Kingston Hospital

Ms Josceline Miles - Trust Audit Professional King's College Hospital NHS Foundation Trust

Ms Claire Palmer - Trust Audit Professional King's College Hospital NHS Foundation Trust

Professor Mike Dent - Service User Network representative

Dr Sarah Markham - Service User Network representative

Dr Sonia Renwick – Associate Medical Director Royal Free Hospital NHS Foundation Trust

Dr David Harrison – Senior Statistician ICNARC

Richard Arnold – Clinical Programmes Lead; Medical Directorate; NHS England

Appendix 2 - CQC Quality Assurance Statement

As part of CQC's quality assurance policy, whenever data are used that have been supplied by another organisation, CQC will seek confirmation that the data provided has been through a QA process by the providing organisation ahead of being shared with CQC.

When supplying audit data, please include confirmation of the following statement within the accompanying email:

"I can confirm that this data has been signed off for release having been through our internal QA process and we are confident that the data supplied are accurate to the best of our knowledge".

Appendix 3 – Legislation concerning CQC's entitlement to access healthcare data

The following excerpts from Sections 64 and 78 Health and Social Care Act 2008 (amended 2012) set out the extent of the information that can be requested from bodies stated in the Act and how this can then be used in any of its functions. Section 80 refers to the obligation to publish a code of practice.

Section 64: Power to require documents and information etc.

(1)The Commission may require any person mentioned in subsection (2) to provide it with any information, documents, records (including personal and medical records) or other items which the Commission considers it necessary or expedient to have for the purposes of any of its regulatory functions.

(2)The persons are—

(a) an English NHS body,

(b) a person providing health care commissioned by

(i) the National Health Service Commissioning Board,

(ii) a clinical commissioning group,

(c) an English local authority,

(d) a person providing adult social services commissioned by an English local authority,

(e) a person who carries on or manages a regulated activity,

(f) the Health and Social Care Information Centre.

(3)The power in subsection (1) to require the provision of information, documents or records includes, in relation to information, documents or records kept by means of a computer, power to require the provision of the information, documents or records in legible form.

Section 78: Use of information etc.

Information obtained by, or documents or records produced to, the Commission in connection with any of its functions may be used by the Commission in connection with any of its other functions.

In addition, Section 80 requires the Commission (CQC) to publish a code of practice on confidential personal information following consultation with the then National Information Governance Board. This Code of Practice establishes that CQC would not normally require Section 251 approval if the data related to its regulatory programme.