

NED National Endoscopy
Database

APRIQOT

Automated Performance Reports to Improve Quality Outcomes Trial

Information for endoscopists and clinical leads

Part of the JAG programme at the RCP

JAG Joint Advisory Group
on GI Endoscopy



**Royal College
of Physicians**

Contents

Background	4
Individual reports – information for endoscopists.....	5
Section 1: Key performance indicators (KPIs)	5
Section 2: Adjusted mean number of polyps (aMNP).....	6
How did we calculate the mean number of polyps (MNP)?	7
Section 3: Tips and support.....	7
Unit reports – information for unit leads	8
Section 1: Adjusted mean number of polyps (aMNP).....	8
Section 2: KPIs	8
Section 3: Action plans	8
Timelines	9
Frequently asked questions	10
References	13

Background

Colorectal cancer is the second-highest cause of cancer-related deaths worldwide.¹ Approximately 26% of all polyps are currently missed at colonoscopy.² Missed polyps can lead to colorectal cancer, and the post-colonoscopy colorectal cancer (PCCRC) rate in the UK between 2005 and 2013 was 7.4%. Rates were lower for colonoscopies performed under the Bowel Cancer Screening Programme.³ There are measures that can be taken by all endoscopists to maximise polyp detection and minimise PCCRC.

The Joint Advisory Group for GI Endoscopy (JAG) is working to improve individual endoscopist engagement with their key performance indicator (KPI) data, which are available to view on the National Endoscopy Database (NED) website. Feedback on data at a departmental level has been shown to improve KPIs, so between November 2020 – July 2021, a randomised trial of automated feedback based on data from NED was carried out in the UK (NED-APRIQOT).^{4,5} Centres were randomised to either receive or not receive monthly reports. These included reports to endoscopists, and a monthly unit report sent to the endoscopy lead. The reports highlighted each endoscopist's anonymous KPIs compared with the national average and their local peers. The reports were well received, and those in the intervention arm demonstrated higher unadjusted mean number of polyps and polyp detection rates, which did not persist after the intervention was withdrawn.⁵

Based on these findings, JAG plans to roll out similar periodic reports to all endoscopists and units. The purpose of this document is to provide information and a briefing to endoscopists and unit leads who will soon be receiving these reports. In the following sections we will explain what to expect and how to obtain the maximum benefit from this service. Initially, a number of regions will be selected to pilot the programme in order to assess the feasibility of providing these reports to all units in the long-term. Your feedback throughout the process will be essential.

Individual reports – information for endoscopists

Individual reports will be delivered by email every quarter. These will provide a numerical breakdown of KPIs, and be split into sections. A snapshot will be provided by email, with a link to click through to NED to view the whole report and your data for that period. Endoscopists in the pilot roll-out will have a new role added to their NED profile called 'APRIQOT'. Endoscopists should select this role when logging into NED in order to view their full reports under 'APRIQOT' > 'Your reports'. More data, including previous quarters, can be found under 'APRIQOT' > 'Your performance data'. Report data come from all procedures done in that period, both in people's usual place of work, and from any extra-contractual or private work undertaken. Reports are for independent endoscopists only (ie not trainees), and data come from all procedures, including those where an independent endoscopist is a trainer.

Section 1: Key performance indicators (KPIs)

A withdrawal time of 10 minutes, multiple passes in the right colon, sedation and Buscopan use have all been shown to enhance polyp detection during colonoscopy.⁶⁻⁹ Section 1 will show an individual's key performance indicators alongside the targets set by the BSG:⁶

- **Proximal polypectomy rate (aim >20%):**
 - o (Number of procedures where at least one polyp was removed in either the caecum, ascending colon, hepatic flexure or transverse colon / total number of procedures) x 100.
- **Withdrawal time (aim >10 minutes):**
 - o The median withdrawal time across all colonoscopies in the time period
- **Buscopan prescription (aim >50%):**
 - o (Number of procedures where Buscopan is recorded as being given / total number of procedures) x 100
- **Rectal retroflexion (aim >90%):**
 - o (Number of procedures where rectal retroversion is recorded / total number of procedures) x 100
- **Sedation use:**
 - o (Number of procedures where any of midazolam, fentanyl or pethidine is recorded as being given / total number of procedures) x 100
- **Moderate/severe discomfort rate (aim <10%):**
 - o (Number of procedures where patient comfort is rated as either moderate or severe / total number of procedures) x 100

Individualised improvement tips will be displayed relating to any KPIs that fall below the BSG standard. Links will be provided for each metric, which will allow users to see a more detailed breakdown of how these are calculated and why they are important.

Section 2: Adjusted mean number of polyps (aMNP)

Data from NED have been used to develop a new polyp detection metric: case-mix adjusted mean number of polyps (aMNP), the total number of polyps detected divided by the number of colonoscopies performed, with a cap of five polyps per colonoscopy. This is felt to more accurately depict polyp detection as it does not exclude serrated polyps, does not require histological data, and prevents a 'one and done' detection approach. More information on how this is calculated can be found below.

This section will report an endoscopists aMNP for the given period. This will be given as a whole number, as well as visually on a scale based on national data. This scale will show endoscopists whether they sit within the expected range for their case mix. An example is given below.

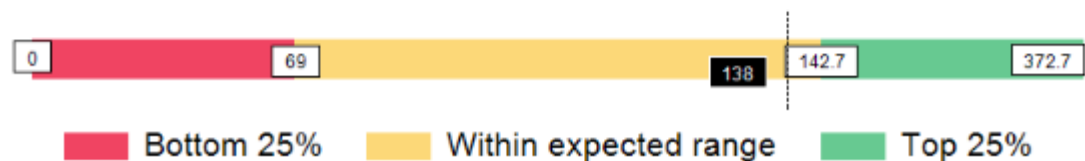


Mean number of polyps (MNP)

This quarter, Q1 2025, after adjusting for age, sex and indication, you detected 138 (adjusted) polyps per 100 procedures.



You detected 100 polyps in 76 procedures this quarter. [Here's](#) how this is calculated.



The report will also display a graph of aMNP per quarter, and a link that will allow users to compare their aMNP on an anonymous graph of all of the endoscopists in their unit.

How did we calculate the mean number of polyps (MNP)?

The mean number of polyps (MNP) is calculated as: Total number of polyps detected ÷ number of independently completed colonoscopies x 100. A MNP of 80 per 100 procedures is approximate to an adenoma detection rate of 35%.¹⁰

We have adjusted the MNP for case mix by the formula: $\text{MNP (adjusted)} = \text{National MNP} \times (\text{Observed MNP} \div \text{Predicted MNP})$.

Predicted MNP is based on each patient's age, biological sex and indication for the test. Our statistics team performed a multivariate analysis on 100,000 colonoscopy procedures, looking at these variables and the mean number of polyps detected. If more than one indication is documented, only one is used, in the hierarchy:

1. Screening/FOB
2. IBD
3. Previous polyp
4. Previous abnormal investigation
5. Lower GI symptoms
6. Other

Section 3: Tips and support

Section 3 will contain a quarterly tip. There will also be contact information for your local endoscopy lead, advice on ensuring accurate data entry into NED, and links to information about how case mix-adjustment and other KPIs are calculated.

Unit reports – information for unit leads

The unit reports will follow the same format as the individual reports. Individual report data come from all procedures done in that period, both in an individual's usual place of work, and from any extra-contractual or private work undertaken. Organisational-level data (bowel preparation scores and Buscopan use) will come only from procedures done in that unit. Service and training leads in the pilot roll-out will have a new role added to their NED profile called 'APRIQOT lead'. Leads should select this role when logging into NED in order to view their unit's full reports under 'APRIQOT' > 'Your unit's reports'. More data, including previous quarters, can be found under 'APRIQOT' > 'Your unit's performance data'.

Section 1: Adjusted mean number of polyps (aMNP)

This section will report a unit's aMNP for the given period. This is calculated from all colonoscopies performed at their unit in the quarter. This will be given as a whole number, as well as visually on a scale based on national data. This scale will show units whether they sit within the expected range for their case mix.

This section will also include a report on average bowel preparation scores and Buscopan prescription.

- Excellent/Good/Fair bowel preparation (aim >95%) – this will be the proportion of procedures where the endoscopist has recorded the bowel preparation as either Excellent, Good or Fair over the given time period.
- Buscopan prescription (aim >50%) – this is the proportion of procedures where Buscopan was used.

As per the individual report – tips will be provided if either of these metrics are below the recommended standard, as well as links for a more detailed breakdown of how these are calculated.

Section 2: KPIs

Section 2 will provide a breakdown of each endoscopist's aMNP, as well as any of the KPIs from the individual reports which fall below the BSG standards. Personal action plans will show how each endoscopist could improve their relevant KPIs. Data on individual KPIs are drawn from all procedures performed in the time period, including those done at other centres or in the private sector.

Section 3: Action plans

Clicking the link in the report will allow you to download the KPI data for the endoscopists in your unit as an Excel spreadsheet. It will also allow you to access an extended report which contains individualised action plans for each endoscopist.

Timelines

We plan to commence this pilot in 2025, exact dates to be confirmed. Regional endoscopy networks will be approached ahead of this to disseminate information to unit leads. We will be providing drop-in sessions for unit leads ahead of the roll-out.

As part of our work to foster engagement with NED, we plan to cultivate 'NED champions' in each unit. These would be long-term members of staff who can act as a focal point for endoscopists to contact about NED. Similar to IT 'superusers' they would help endoscopists understand what data are available to them and how to access them, as well as assist local leads in cultivating data for their unit's Endoscopy Users Group meetings. We anticipate that motivated and experienced clinical endoscopists will be well-suited to this role as they provide a focal point in units and provide a large volume of high-quality endoscopy. As part of the roll-out we will be asking local leads to nominate individuals who might be suited to this role.

At the start of the pilot, we will be surveying endoscopists and unit leads about their understanding of and current engagement with NED.

The pilot will run for 12 months, with endoscopists and units receiving reports every quarter. Following this there will be a period of analysis where we will seek feedback on the pilot from users, and reflect on any logistical challenges. The outcomes and impacts of the pilot will be published in due course.

Frequently asked questions

We hope that this document has been helpful. This section includes answers to some frequently asked questions. If you have any further questions or require clarification of any points, please contact Dr Keith Pohl – JAG clinical fellow: k.pohl@nhs.net.

1. What is NED?

NED (the National Endoscopy Database) is a JAG-funded informatics project that aims to automatically extract data from individual Endoscopy Reporting Systems (ERS) into a central database. This resource allows the monitoring of key performance indicators (KPIs) at both individual and site level. Its purpose is to provide comprehensive and reliable data to support quality assurance, service management and research.

To find out more, please visit the [National Endoscopy Database \(NED\) website](#).

2. How do I log in to NED? Can I use my JETS login?

To log in to NED, please visit the [NED website](#). If you already have a JETS account, you will be able to use your JETS login details to access NED. All endoscopists without a NED/JETS account will be contacted by their clinical lead and advised of how-to sign up.

○ *Registration*

If you have not used NED or JETS before, please [register for a new account](#).

○ *I have a JETS account – I am trying to access NED for the first time.*

You can use the same log-in details to access NED as for your JETS account.

In order for your data to map successfully to NED, please ensure that the GMC number or NMC PIN you registered with on JETS matches the number that is entered locally onto your unit's Endoscopy Reporting System (ERS).

○ *I've forgotten my password*

If you are unsure of your password, please follow the instructions on [how to reset your JETS password](#).

3. How can I access my KPI data on NED?

Any endoscopist with a JETS/NED account working at a unit that is uploading to NED can view their data on the [NED website](#). All procedures at registered units are uploaded to NED regardless of whether an endoscopist has an account. All endoscopists are able to register using their professional body code (eg GMC number) to start viewing their data. Service and training leads are able to see individual data for all of the endoscopists working in their unit, as well as an organisational KPI overview. Links to NED are also contained in the performance reports for ease of access.

4. Some of the procedures I've done aren't appearing on JETS/NED or my performance reports?

NED has gone through several iterations since its inception, each allowing more detailed and granular data to be uploaded. Some endoscopy reporting systems will unanimously upload to the latest iteration of NED (NEDi2.1), whereas others may still be uploading to older versions. Depending on the reporting system used, the NED iteration can vary between sites. You can check the status of your reporting system supplier on the [NED website](#). If you would like to know which version of NED your unit is uploading to, speak with your service lead or ask JAG via our [webform](#).

Only procedures uploaded to NEDi2 or NEDi2.1 contain enough information to populate these performance reports. If you are on NEDi2 or NEDi2.1 and think that procedural data is missing, please get in touch via the [webform](#).

5. My unit is in the catchment area for this roll-out pilot, but I'm not receiving a performance report?

Some units are still uploading to an older version of NED, which prevents the creation of performance reports. Only units on NEDi2 or NEDi2.1 are eligible.

This does not prevent endoscopists at those sites to view what data are available on the NED website using their NED/JETS log-in details.

Service leads wishing to upload to the newest iteration of NED should discuss with their reporting system supplier.

6. I don't want to take part in this, is it compulsory and can I opt-out?

Endoscopists wishing to opt-out of NED can do so using the [Support](#) link on the NED website. For individuals who have decided to opt out, their data will still be uploaded to NED in the usual way, but it will be anonymised (ie their professional body code such as GMC number will not be uploaded).

If you only want to opt out of the automated performance reports, this can be achieved by clicking the 'opt-out' button on the APRIQOT pages.

7. Will I be stopped from performing endoscopy if my KPIs are sub-optimal?

The purpose of these reports is not to shine focus on individuals, and JAG does not review, target or highlight underperforming individuals. The purpose of these reports is to facilitate individual's access and understanding of their own data, as it has been shown that regular review of your data leads to improved performance. This is also essential for the purposes of appraisal.

It is important that individuals feel that they work in a collaborative learning environment where they are not afraid to speak up about concerns regarding the service or their own performance. It is already recommended that service and training leads periodically review their individual endoscopist metrics so that they can provide support and training to those who need it. We hope that these reports facilitate this, and reiterate that no individual analysis will occur beyond the unit-level.

8. Is my data anonymous and secure?

All data in NED are held securely and anonymously by the Royal College of Physicians. More information can be found in our [Privacy notice](#).

9. How long will the pilot run for?

This pilot is set to run for 12-months, followed by a 3-month period of analysis. As long as no significant issues are encountered, we envisage the reports continuing beyond the 12-month period and into the future, after which the programme will be rolled out to the whole of the UK.

10. I am worried that I am underperforming compared to my colleagues, what should I do?

We are hopeful that open an honest discussion and reflection on performance will be enhanced by these reports. This is a quality which is essential in the running of high-performing endoscopy units. If you are concerned about your performance, we would advise first discussing this with your

endoscopy service and training leads. It may be that your performance is adequate, but your KPIs are a reflection of your case mix (eg low procedure numbers as a result of predominantly performing another modality of endoscopy). Alternatively, if your concerns about performance are valid, your service/training lead(s) may be able to facilitate some in-house upskilling. If you feel your concerns are not adequately addressed then we would encourage you to make contact with your local endoscopy training academy, who will be able to offer support and upskilling.

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Further information regarding this report may be obtained from the JAG office at the Royal College of Physicians.

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