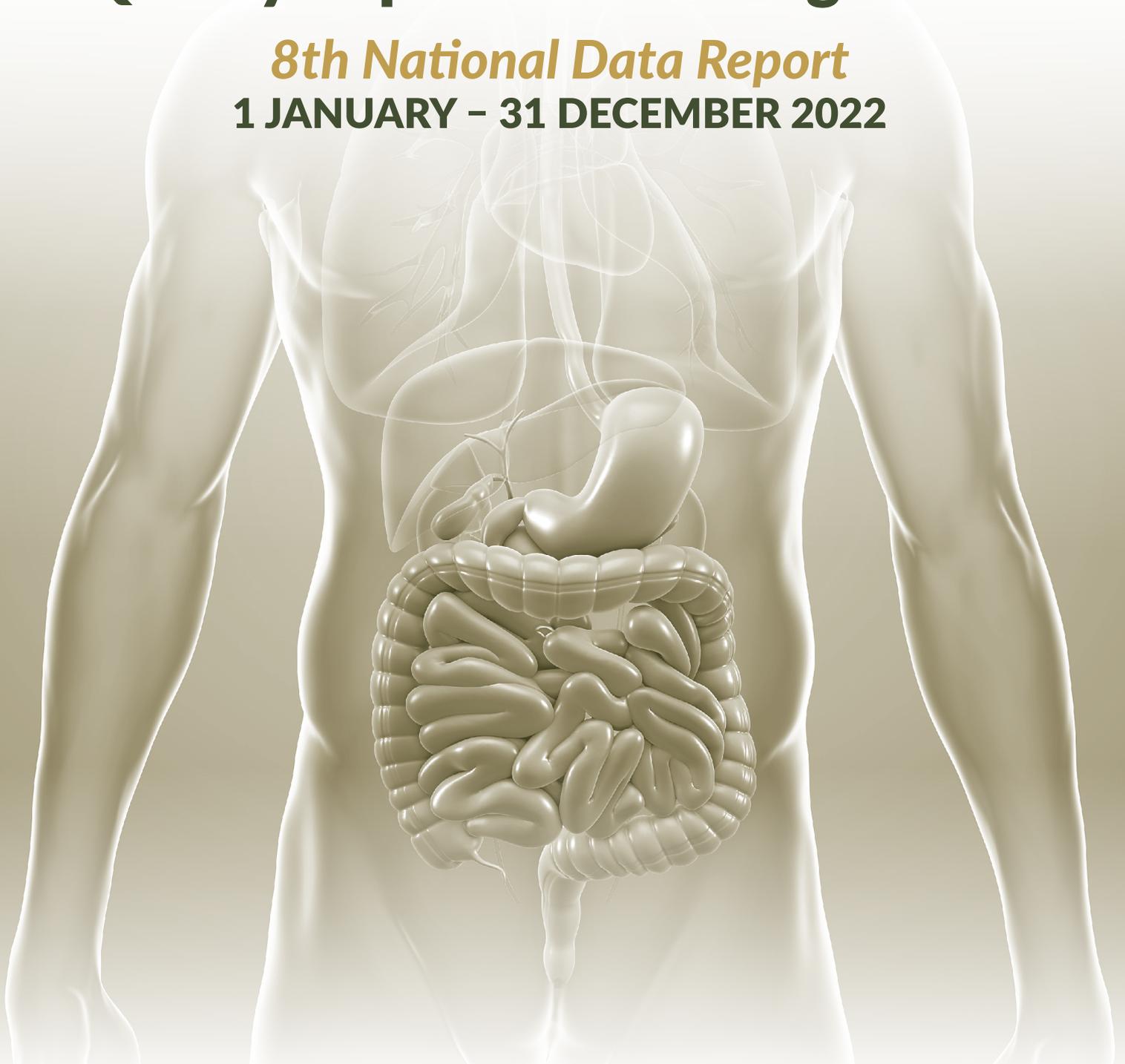


# National GI Endoscopy Quality Improvement Programme

*8th National Data Report*  
1 JANUARY – 31 DECEMBER 2022



CONJOINT BOARD OF ROYAL COLLEGE OF PHYSICIANS OF IRELAND AND ROYAL COLLEGE OF SURGEONS IN IRELAND





# FOREWORD

The National GI Endoscopy Quality Improvement (NEQI) Programme is proud to publish its eighth national data report, analysing all data submitted by participating hospitals to NQAIS-Endoscopy in 2022. This report marks a return to the programme's conventional style of comparative analysis on a hospital, national and endoscopist level for the preceding 12 months following interruptions due to the cyberattack in 2021 and the pandemic restrictions of 2020. As a result of these circumstances, the report will compare the 2022 data to both 2020 and 2019, the last year with a full dataset representative of a normal year's endoscopy service.



The 2022 NQAIS-Endoscopy data show not only a return to pre-pandemic levels for key quality indicators, but a modest increase in scores for four of the quality indicators when compared with 2020 and 2019. The number of procedures captured by NQAIS-Endoscopy has increased by 45% compared to 2020 and 14% compared to 2019. It is important to note that during these years the programme has continued its roll out to hospitals in Ireland with 47 hospitals contributing to this report. If the additional hospitals that joined during this period are omitted, the numbers of procedures performed still increases by 6% in 2023 when compared to the pre-pandemic workload in 2019.

Although some KQI scores have increased in this year's report, others have not progressed at the same rate. These KQIs are analysed in their respective chapters with the NEQI working group putting forward recommendations on potential actions to help promote quality improvement in these areas.

The NEQI working group encourages all participating hospitals to use the information contained in this report to review their own NQAIS-Endoscopy data. Quality improvement initiatives using NQAIS-Endoscopy data should be performed in areas in need of improvement. Any site that would like to carry out a QI initiative but is unclear on how to commence is encouraged to get in contact with the NEQI programme management. The programme management team would be happy to provide relevant resources and contacts to help facilitate QI initiatives.

The working group would like to take this opportunity to express its sincere thanks to the local operational managers (LOM) and the clinical leads (CL) who have led the NEQI Programme in each hospital by continuing to collect and submit data during this period. We also wish to thank the HSE National Quality and Patient Safety Directorate who provide funding for this programme, the National Specialty QI Programme Steering Committee and to the National Specialty Quality Improvement Programme Management Team, RCPI for their continuous support and hard work.

**Dr Jan Leyden**  
**Chair, National GI Endoscopy QI Working Group**

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<b>Prof Fiachra Cooke</b>	Consultant Colorectal Surgeon, University Hospital Waterford
<b>Prof Glen Doherty</b>	Consultant Gastroenterologist, St. Vincent's University Hospital, Dublin
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## PROGRAMME MANAGEMENT TEAM ROYAL COLLEGE OF PHYSICIANS OF IRELAND

<b>Conor Canavan</b>	Programme Manager
<b>Caitriona McGrath</b>	Manager, Specialty Quality Improvement Programmes

## NEQI PROGRAMME GLOSSARY OF TERMS

<b>NEQI Programme</b>	National GI Endoscopy Quality Improvement Programme
<b>NQAIS-Endoscopy</b>	National Quality Assurance and Improvement System for Endoscopy
<b>Endoscopy Reporting System (ERS)</b>	A local electronic reporting system where endoscopy units enter clinical details regarding procedures performed.
<b>Key Quality Data</b>	This refers to the data that are captured for the NEQI Programme to facilitate future audit and quality improvements.
<b>Key Quality Indicator (KQI)</b>	A metric for which there is a sufficient evidence base to recommend a standard e.g. caecal intubation rate.
<b>Key Quality Target</b>	A minimum or achievable value associated with key quality indicators.
<b>Recommendation</b>	A proposed course of action that should be implemented in each endoscopy unit to support quality improvement activities.
<b>Minimum Target</b>	The minimum acceptable value for a KQI.
<b>Achievable Target</b>	An additional aspirational value that should be aimed for if the minimum target is being met.
<b>Procedure</b>	For the purpose of this report, refers to a colonoscopy, oesophagogastrduodenoscopy or a flexible sigmoidoscopy.
<b>Colonoscopy (Col)</b>	A procedure that allows the endoscopist to look directly at the lining of the intestine, large intestine including colon, rectum and anus.
<b>Oesophagogastrduodenoscopy (OGD)</b>	A procedure during which a small flexible endoscope is introduced through the mouth and advanced through the pharynx, oesophagus, stomach and duodenum.
<b>Flexible Sigmoidoscopy (FSig)</b>	A procedure used to evaluate the lower part of the large intestine.
<b>Quality Improvement (QI) Guidelines</b>	Guidelines for the implementation of a quality improvement programme in GI endoscopy as developed by the NEQI Programme.
<b>Clinical Lead (CL)</b>	The clinician who has overall responsibility for the NEQI Programme in their unit.
<b>Local Operational Manager (LOM)</b>	An endoscopy nurse responsible for the data uploading process and maintaining the local hospital NQAIS-Endoscopy account.

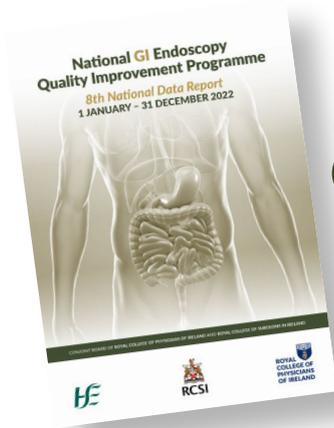
# RECOMMENDATIONS

<b>1</b>	<b>Protected Time</b> <p>The NEQI Programme recommends that a protected time allocation of 1 hour per week for all local clinical leads, 1.5 hours per week for NEQI working group members and 2 hours per week for the working group chair are implemented to carry out the activities associated with these roles.</p> <p>In relation to public and voluntary hospitals, following discussions between the NEQI Programme and HSE Acute Operations, Acute Operations have agreed to be the assigned owner for this recommendation.</p>
<b>2</b>	<b>Triage via FIT</b> <p>The NEQI Programme recommends that appropriate triaging methods, such as Faecal Immunochemical Tests, are implemented for hospitals that are experiencing longer waiting lists for colonoscopies as a result of increased workload.</p>
<b>3</b>	<b>Automated Uploads</b> <p>The NEQI Programme recommends that the process of uploading data to NQAIS-Endoscopy be automated in order to reduce the impact on local operational manager's workload while increasing upload compliance.</p>
<b>4</b>	<b>Sedation</b> <p>The NEQI Programme recommends that hospitals 1) examine the possibility of making 1mg/ml sedation doses available to endoscopists to facilitate more precise titration of midazolam dosing. 2) analyse the potential benefits to the patient of reducing high sedation doses while maintaining a safe, quality endoscopy and comfortable patient experience.</p>
<b>5</b>	<b>Trainee/Consultant Split</b> <p>The NEQI Programme recommends that any future endoscopy reporting system facilitate the differentiation between procedures performed primarily by Trainees and procedures performed primarily by consultant endoscopists.</p> <p>Other splits should also be considered such as inpatient/outpatient procedures and physician/surgeon performed procedures.</p>
<b>6</b>	<b>Bowel Preparation</b> <p>The NEQI Programme recommends that hospitals ensure that the instructions provided to patients ahead of procedures, either via leaflet and/or video, be revised and enhanced to make sure that they are as clear as possible. This will help patients to interpret the preparation requirements easily and accurately, which will result in increased quality of bowel preparation and decrease the likelihood of repeat procedures as a consequence of poor bowel preparations. The written instructions should also be available in languages other than English which reflect the local population.</p>

# KEY FINDINGS

1.	The number of procedures captured in NQAIS-Endoscopy saw an increase of 12.6% (28,340) when compared to 2019. However, it should be noted that the 2022 data contain three more hospitals than the 2019 dataset. If the three additional hospitals in the 2022 dataset that joined after 2019 are excluded, there remains an increase of 6.8% (16,288).
2.	There was an increase of 3.4% of endoscopists meeting the minimum target of greater than or equal to 90% of colonoscopies achieving caecal intubation in 2022 (75.9%) when compared to 2019 (72.5%). Although this increase indicates a continued improvement in the percentage of endoscopists meeting target, a quarter of endoscopists are still not meeting this target.
3.	In 2022, 38% of hospitals (18 out of 47) recorded meeting the minimum target of 90% of colonoscopies with bowel preparation recorded as excellent or adequate. This is a decrease of just 1% when compared to 39% in 2019 (17 of 44 hospitals) and a decrease of 11% compared to findings in 2020 (49%, 22 out of 45 hospitals).
4.	In 2022, 89% of endoscopists (672 out of 755) met the comfort score target of greater than or equal to 90% of colonoscopies with a comfort score or 1, 2, or 3. This is an increase of 3% compared to the percentage of endoscopists who met the target for this key quality indicator in both 2019 and 2020.
5.	In 2022, 79% of colonoscopies performed on patients aged 70 years and older received the target median dose of less than or equal to 3mg of midazolam. This is an increase of 11% when compared to the 68% of colonoscopies receiving the less than or equal to 3mg in 2019 and an increase of 6% compared to 2020.
6.	In 2022, 85% of endoscopists achieved a duodenal second part intubation rate of greater than or equal to 95%. This was 5% more than the percentage of endoscopists who met the target for this KQI in 2020 and 1% more than 2019.
7.	In 2022, 81% of endoscopists met the target for polyp detection rate. This was unchanged from findings reported in 2019 however, it has increased over 10% since national data reporting began in 2016.

# SUMMARY POINTS

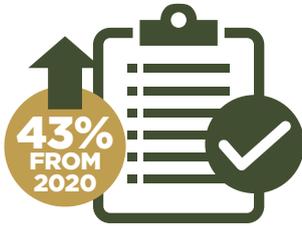


## 8th National Data Report



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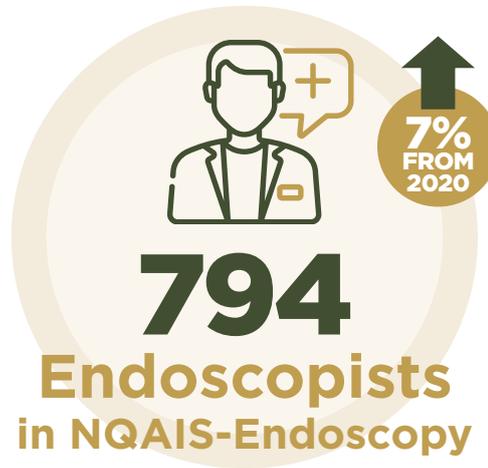
Hospitals  
contributing data  
from 2022



43%  
FROM  
2020

253,409

Procedures recorded in  
NQAIS-Endoscopy



7%  
FROM  
2020

794

Endoscopists  
in NQAIS-Endoscopy



121,748

Colonoscopies



112,427

OGDs

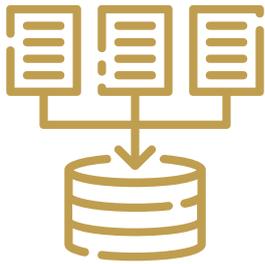


19,234

FSIGs



# PROGRAMME HIGHLIGHTS

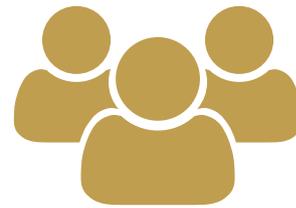


## ERCP Data

Collection of ERCP data from participating hospitals began in 2022.

## Presentation of QI initiatives to 2022 Conference

Louth Hospital's Bowel Preparation Video



## 3 New Working Group Members

Dr Carthage Moran,  
Dr Karen Hartery,  
Mr Colin Pierce

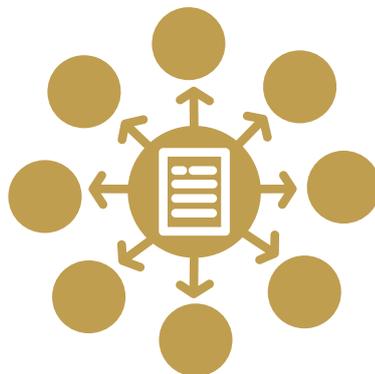


## 3 New Participating Hospitals

Roll out of NEQI Programme to 3 additional private hospitals.

## Data Sharing

Establishment of a 6 monthly data sharing agreement with Acute Operations Endoscopy Programme



## Endoscopy Reporting Systems

Involvement in the development of a new national endoscopy reporting system



## NEQI Annual Conference

# 2022

# 94

PARTICIPANTS

NEW NEQI  
PROGRAMME  
WEBSITE  
LAUNCHED IN 2022

[CLICK HERE](#)

# CHAPTER 1

## INTRODUCTION TO THE NEQI PROGRAMME

# 1

The National GI Endoscopy QI (NEQI) Programme was established In October 2011 by the Conjoint Board of the Royal College of Physicians of Ireland (RCPI) and the Royal College of Surgeons in Ireland (RCSI) in collaboration with the National Cancer Control Programme (NCCP). The programme is now funded by the HSE National Quality and Patient Safety Directorate and is managed by the National Specialty Quality Improvement (NSQI) programme management team, RCPI.

### PURPOSE OF THIS REPORT

This report will facilitate informed decision making on future steps to be taken in support of ongoing quality improvement processes within Irish endoscopic services. The NEQI working group encourages endoscopists to discuss their local performance against the targets, recommendations and national averages with colleagues, local hospital management and quality and patient safety teams. Where findings suggest that there may be an area in need of improvement, they should be discussed locally using local hospital QI data. Where patient safety related concerns exist, they should be managed locally and escalated as appropriate in line with the relevant policies.

### WHAT THIS REPORT CANNOT DO

This report cannot and should not be used to produce league tables or to compare hospitals, as no two hospitals will have the same patient profile. Different hospitals specialise in treating patients with different and sometimes much more complex needs, invalidating comparisons between hospitals.

### OUTLIER MANAGEMENT

Participating hospitals are responsible for the management of outliers and resolving issues at a local level. The NEQI Programme does not engage with individual sites who are below target for key quality indicators in this report. Locally, participants are requested to report and manage the QI data within their unit and to ensure the necessary actions to improve quality are initiated and / or referred to the appropriate person.

<b>QI Clinical Lead</b>	The QI clinical lead is a consultant endoscopist who has overall responsibility for the NEQI Programme in their hospital. They review sign off and disseminate data which has been uploaded to NQAIS-Endoscopy from the local ERS.
<b>Local Operational Manager</b>	The local operational manager (LOM) is most frequently an endoscopy nurse who works in collaboration with the QI clinical lead to ensure that data are uploaded in accordance with the quarterly data upload schedule. They create the extract from the ERS, upload it to NQAIS-Endoscopy, clean the data and create key quality data reports to be signed off by the QI clinical lead.

## ADDITIONAL CONTEXT

The points below should be kept in mind when reading this report:

- This report should not be used to directly compare hospitals performance.
- All targets are on a per endoscopist basis. The analysis contained within this report reflects this wherever possible. For many key quality indicators (KQIs), national performance and statistics based upon all cases performed within hospitals are also presented.
- All endoscopist based KQIs are calculated on an endoscopist 1 (E1) and endoscopist 2 (E2) basis. This means that an endoscopist's statistics will take into account all cases where the endoscopist was listed as an E1 or an E2 in their local endoscopy reporting system (ERS).

Definitions of endoscopist 1 (E1) and endoscopist 2 (E2) can be found on page 29. The analysis in this report does not include statistics where the endoscopist has only been recorded as E2 with no E1 procedures.

### Hospital identifiable information

The 2022 data are presented on several different types of charts and tables. Hospitals have been named directly in bar charts. For scatter plot charts, a hospital identification (ID) system is used to minimise the volume of information presented in these graphs. The IDs used are those listed on page 21.

**The numerical identifiers used in this report do not reflect the IDs used in any previous reports and therefore cannot be used for comparative purposes.**

**TABLE 1: Summary of Key Quality Indicators**

Key Quality Indicator	Key Quality Target	Additional Information
<b>COLONOSCOPY</b>		
Caecal Intubation (CI) Rate	Minimum: ≥ 90% Achievable: ≥ 95%	CI Rate is calculated based on all colonoscopies performed as endoscopist 1 or endoscopist 2
Comfort Score	≥ 90%	90% of colonoscopies should have a comfort score of between 1 and 3 on the Gloucester Scale
Polyp Detection	≥ 20%	N/A
Bowel Preparation	Minimum: ≥ 90% Achievable: ≥ 95%	N/A
<b>OESOPHAGOGASTRODUODENOSCOPIES (UPPER GI)</b>		
Duodenal 2nd Part Intubation (Duo 2)	≥ 95%	N/A
Retroflexion	≥ 95%	N/A
<b>SEDATION</b>		
Midazolam	<b>Patients Aged below 70 years:</b> Median dose is ≤5 mg per endoscopist <b>Patients Aged 70 years and Older:</b> Median dose is ≤3 mg per endoscopist	This KQI applies to both colonoscopies and OGDs.
Fentanyl	<b>Patients Aged below 70 years:</b> Median dose is ≤100µ per endoscopist <b>Patients Aged 70 years and Older:</b> Median dose is ≤50µ per endoscopist	This KQI applies to both colonoscopies and OGDs

The NEQI Programme has set out further key quality indicators (KQIs) which are not covered in this report and can be found in the [GI Endoscopy Quality Improvement Guidelines](#). The KQIs not covered in this report includes those that are not easily measured or those where the data in NQAIS-Endoscopy may not be currently reliable.

## National Data Report Approval

This report has been drafted by the working group of the National GI Endoscopy QI (NEQI) Programme and was then approved by the National Specialty Quality Improvement (NSQI) Programme Steering Committee.

NEQI Working Group approval date: 8th of September 2023

NSQI Steering Committee approval date: 22nd of September 2023

Sent to NCCA Steering Group for review on: 25th of September 2023

# CHAPTER 2

## DATA ANALYSIS

# 2

The following chapter outlines the data quality framework which is in place. The NEQI programme aims to revise and update this framework on a continuous basis, ensuring data quality is routinely assessed and improved.

A data quality strategy is under development.

### DATA ANALYSIS

National QI data relating to the following key quality indicators (KQIs) were analysed in the preparation of this report:

- **COLONOSCOPY**
  - Caecal intubation rate
  - Polyp detection rate
  - Comfort score
  - Bowel preparation
- **UPPER GI ENDOSCOPY**
  - Duodenal second part intubation
  - Retroflexion
- **SEDATION**
  - Colonoscopy
  - Upper GI endoscopy

Targets have been set for colonoscopy, upper GI endoscopy and sedation KQIs. Where targets are absent, due to lack of sufficient evidence with which to base a standard upon, a recommendation is made. These targets and recommendations were developed by the working group, approved by the steering committee of the National Specialty Quality Improvement (NSQI) Programmes and are subject to review.

Data have been analysed to establish trends, where possible, across the various quality areas in all 12 participating private and 35 public hospitals (36 including Monaghan as a separate hospital) which have submitted data for 2022.

For some key quality areas, there are sufficient data to analyse the performance over multiple years on a quarterly basis, where this is possible these data have been provided.

### DATA QUALITY

It is important that those collecting and using the QI data can have confidence in the quality of the data. The data collected must be reliable, accurate, relevant and timely, to facilitate decision making and associated quality improvements to provide safer higher quality care for patients.

HIQA recommends the use of a data quality framework, which will enable the programme to assess the current data quality and necessary improvements using the following four tools 1) data quality strategy 2) data quality assessment 3) reporting on data quality and 4) a data quality improvement cycle.<sup>1</sup>

<sup>1</sup> Health Information and Quality Authority (2018) "Guidance on a data quality framework for health and social care" <https://www.hiqa.ie/sites/default/files/2018-10/Guidance-for-a-data-quality-framework.pdf>

## Data Quality Statement

The programme acknowledges the challenges that exist in relation to the quality of the data collected and submitted.

The NEQI working group encourages sites to engage with this report and the updated [National GI Endoscopy Quality Improvement \(NEQI\) Guidelines](#) to ensure they are familiar with the KQIs, targets and recommendations.

## DATA SOURCE

The data source for this report is Health Intelligence Ireland - NQAIS-Endoscopy.

### **The National Quality Assurance and Improvement System for Endoscopy (NQAIS-Endoscopy)**

NQAIS-Endoscopy functions as a central repository for QI data from participating hospitals' endoscopy reporting systems (ERS). The data relating to the KQIs are extracted from NQAIS-Endoscopy and are used to produce the annual national data report on national metrics in endoscopy. Units can use the report to identify best practice and any variations, to review, improve and sustain the quality of their work in the context of national norms and targets set by the NEQI working group in addition to international best practice.

## DATA AND INFORMATION LIFECYCLE

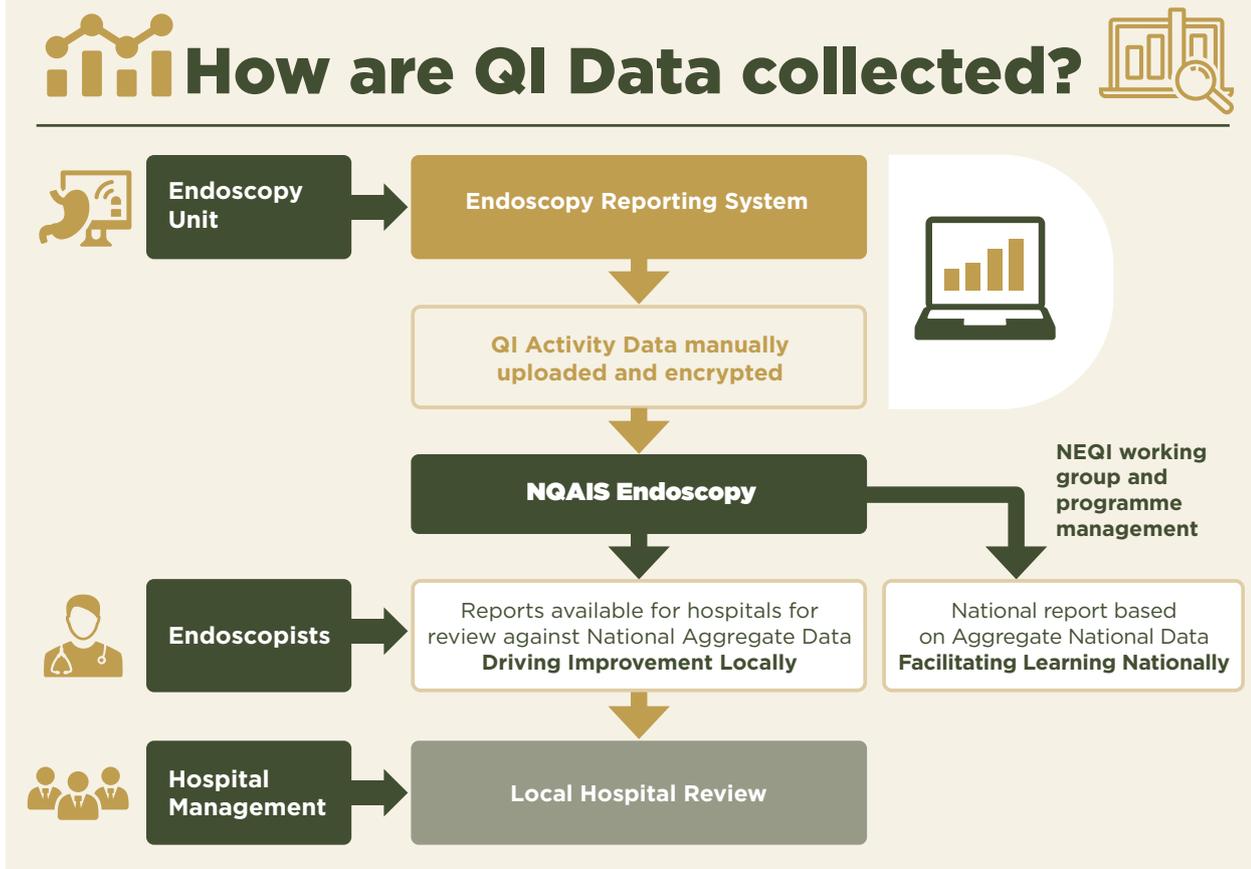
Endoscopists (QI clinical leads) and endoscopy nursing staff (local operational managers) record clinical details for each procedure performed in their endoscopy unit in an ERS. Pseudonymous data are then uploaded from each ERS to the central data repository, NQAIS-Endoscopy, via a CSV extract, for reporting and analysis purposes by participants. The uploads take place on a quarterly basis incorporating the previous four months in each upload.

Once data have been uploaded, a local operational manager checks the data quality and maps any data which may not be recognised by NQAIS to standardised national codes. Once data have been cleaned, a report is created which represents the unit's data in relation to KQIs and national averages. This report is then reviewed and "signed off" by the clinical lead. This "sign off" process transfers the local data into the national repository and commits them to the national dataset.

Once the data reside in the national repository, endoscopists can run reports on the data and compare their statistics to national averages and targets as set out by the NEQI Programme in the GI Endoscopy Quality Improvement Guidelines. Clinical leads, as well as individual endoscopists, are encouraged to run these reports at minimum on a quarterly basis.

The NSQI programme management team extract the 12-month dataset for analysis from NQAIS-Endoscopy in March of the following year, at which time all data must be uploaded for inclusion in the national data report.

FIGURE 2.1: How are QI data collected



## Report Scope

### In Scope:

- Inpatient and outpatient cases are captured in the dataset. NQAIS-Endoscopy is unable to differentiate between these cases at this time owing to limitations in the current systems.
- Although paediatric endoscopy is not currently captured in the NEQI Programme, a small number of paediatric procedures are captured in the dataset along with the adult procedures, however no distinction is made in the report at this time.
- Data are collected from both public and private sites and can be differentiated based on the hospital name provided.

### Out of Scope:

GI endoscopic procedures may be performed in Intensive Care Units (ICU) or in theatre. Although some units have the ability to capture these data in their ERS, they will not be collected in all units.

Endoscopy reporting systems are not currently able to differentiate between certain oesophageal and gastric procedures where reaching the anatomical landmarks required for the programmes KQIs is not the intention. As a result, the national dataset contains data relating to these procedures.

## Date/Timeline

The data contained in this report were collected between 1st January and 31st December 2022.

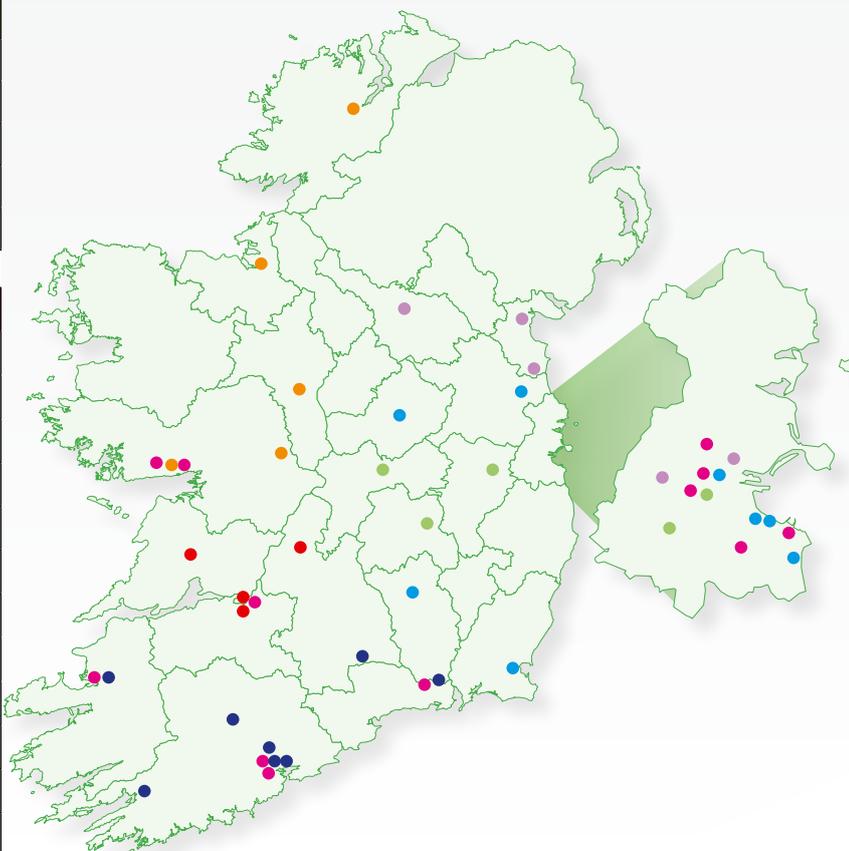
## Participating Hospitals

In 2022, 35 Public Hospital (36 including Monaghan as a separate hospital) and 12 private hospital endoscopy units contributed data to the national dataset analysed in this report (47 hospitals out of a potential 51). Hospital identifiable information is presented in this report.

# HOSPITALS SUBMITTING DATA TO NQAIS-ENDOSCOPY 2022

Dublin-Midlands Hospital Group
Midland Regional Hospital Portlaoise
Midland Regional Hospital Tullamore
Naas General Hospital
St James's Hospital, Dublin
Tallaght University Hospital, Dublin

Private Hospitals
Beacon Hospital, Dublin
Blackrock Health Blackrock Clinic
Bon Secours Hospital Cork
Bon Secours Hospital Dublin
Bon Secours Hospital Galway
Bon Secours Hospital Limerick
Bon Secours Hospital Tralee
Blackrock Health Galway Clinic
Blackrock Health Hermitage Clinic
Mater Private Cork
Mater Private Dublin
UPMC Whitfield Hospital, Waterford



Ireland East Hospital Group
Mater Misericordiae University Hospital
Regional Hospital Mullingar
Our Lady's Hospital Navan
St Columcille's Hospital, Loughlinstown
St Luke's Hospital, Kilkenny
St Michael's Hospital, Dun Laoghaire
St Vincent's University Hospital, Dublin
Wexford General Hospital

South/South West Hospitals Group
Bantry General Hospital
Cork University Hospital
Mallow General Hospital
Mercy University Hospital
South Infirmary Victoria University Hospital, Dublin
South Tipperary General Hospital
University Hospital Kerry
University Hospital Waterford

RCSI Hospitals Group
Beaumont Hospital, Dublin
Cavan General Hospital
Connolly Hospital, Blanchardstown
Louth County Hospital
Our Lady of Lourdes Hospital, Drogheda

Saolta University Healthcare Group
Letterkenny University Hospital
Portiuncula University Hospital
Roscommon University Hospital
Sligo University Hospital
University Hospital Galway

UL Hospitals Group
Ennis Hospital, Clare
Nenagh Hospital, Tipperary
University Hospital Limerick
St John's Hospital, Limerick

## Data Quality Assessment

Here the data are considered under the following five dimensions of quality; accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility and clarity and relevance.<sup>2</sup>

### Accuracy and Reliability

The QI data collected for the NEQI Programme consist of eight KQIs plus workload data, designed to measure quality at both a local and national level in endoscopic units in participating public and private hospitals. The accuracy of the data uploaded to NQAIS-Endoscopy is fundamentally dependant on the correct input of data to each hospital's ERS for these KQIs. Additional data visualisation provides comparisons over the previous four years based on the volume of procedures and procedure type.

Data coverage is outlined on page 19, with 36 public endoscopy units and 12 private hospitals represented, representing significant data coverage.

Duplicate cases are removed from the dataset as part of the data validation process by the programme management.

### Completeness

The programme reports data completeness levels of 99.99%.

A national data quality report is run prior to the national data report which shows all codes that are not recognised by NQAIS-Endoscopy for that year. Where codes are deemed "missing", this is because a code used locally in a hospital has not been mapped to a relevant national code in NQAIS-Endoscopy by a participating hospital. The completeness is calculated by dividing the total number of procedure codes missing from NQAIS-Endoscopy by the total number of procedures in NQAIS-Endoscopy for the year. Codes which are not used in the calculation of KQIs have not been included in this figure: 15/ 253409 (99.99%).

Additionally, 99.9% of cases had a complete endoscopist ID. The number of cases with an invalid endoscopist ID was 277 / 253409 (0.1%).

NQAIS-Endoscopy has high levels of completeness as there are safeguards to remove data that are incomplete at source as needed. The NEQI programme does not know if there are cases the programme is not receiving for the national dataset, as this is a local issue dependent on hospital data recording processes.

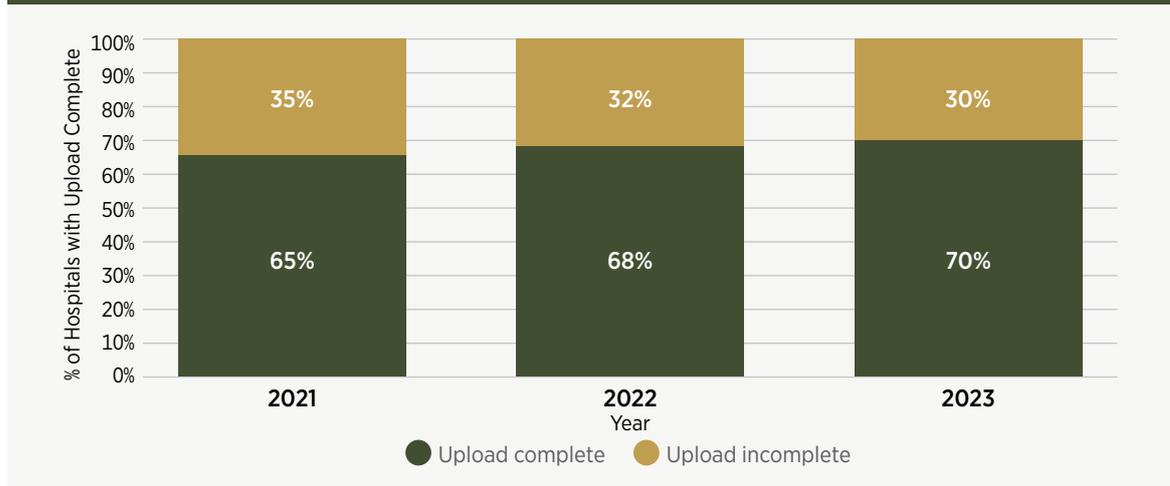
The programme's QI Guideline document provides detailed information on the QI data that should be collected, and associated targets and recommendations.

<sup>2</sup> Health Information and Quality Authority (2018) "Guidance on a data quality framework for health and social care" <https://www.hiqa.ie/sites/default/files/2018-10/Guidance-for-a-data-quality-framework.pdf>

## Timeliness and Punctuality

Data, relating to the same suite of key quality indicators, should be uploaded quarterly to NQAIS-Endoscopy for the retrospective three-month period. Endoscopy units are requested to have completed their final data uploads to NQAIS by the end of March each year for inclusion in the annual national data report. The programme upload schedule can be [viewed here](#). To ensure the upload schedule is adhered to, programme management offer ongoing NQAIS online training to sites, as well as committing to the review of the lapsed participation model.

**FIGURE 2.2: Percentage of hospitals with uploads for previous 12 months complete by the end of Q1 the following year**



The annual national data report is launched within the 12 months after the reporting period. The Programme therefore aims to have the full year data uploads from participating units by the end of March for inclusion in the national data report, giving hospitals three months to complete the upload of Q4 data from the previous year. In 2023, 70% of hospitals had completed full uploads by this time, compared to 68% in 2022 and 65% in 2021. On investigation, programme management found that time pressures were a common theme.

The NEQI working group are updated monthly by the programme manager regarding data upload compliance nationally.

The data presented in this report are accurate at the time the dataset is extracted from NQAIS-Endoscopy. It is possible that some cases relating to the report timeline may be uploaded in the period between data extraction and publication of this report.

The programme acknowledges that uploads are performed manually and can be time consuming, contributing to some expected delays in the uploading of data. However, the impact of these delays on the national dataset is significant. As a consequence requests for data for QA, QI, research and service evaluation cannot be progressed until well into the following year, when the data upload schedules are complied with.

## RECOMMENDATION

The NEQI Programme recommends that the process of uploading data to NQAIS-Endoscopy be automated in order to reduce the impact on local operational manager's workload while increasing upload compliance.

## Coherence and Comparability

All participating endoscopy units are contacted on a quarterly basis by the programme manager and encouraged to access their own data in NQAIS, provided they have the appropriate permissions. Here they can compare their own performance over time to the national aggregate and provide a report for colleagues and hospital management.

Since 2020, hospitals have been identified by name in the national data report. The working group advise against using the report to produce league tables and to exercise caution if attempting to compare hospitals to one another as no two hospitals will have the same patient profile. Different hospitals will specialise in treating patients with different and sometimes more complex care needs, making comparisons between hospitals ineffective. The numerical identifiers used in this report do not reflect the IDs used in any previous reports and therefore cannot be used for comparative purposes.

As previous national data reports have reported on either a July to June basis, or as the case in the 4th national data report, a Q3 & Q4 basis, KQIs shown in this report may vary to those presented in older reports.

A data dictionary is maintained by the programme manager, cataloguing and describing the structure and content of the data to maintain consistency in data collection.

## Accessibility and Clarity

All participating endoscopy units may access their own data in NQAIS-Endoscopy. Training is provided to aid the reliability of this process.

The extraction and uploading of data are performed following agreed pathways depending on the ERS in place. Further training or any refreshing of specific elements can be requested from the programme manager.

The analysis of the data once extracted from NQAIS-Endoscopy is performed consistently by the programme manager and presented in the national data report.

Previous reports are hosted by the RCPI website and can be [viewed here](#).

## Relevancy

The purpose of the data are to aid decision making in the context of the endoscopy department. Detailed data are supplied on eight of the KQIs outlined in the QI guidelines document and broken down on a hospital and endoscopist level in the national data report to aid visualisation of areas of improvement and those requiring increased scrutiny.

There are currently six different local endoscopy recording systems (ERS) used across the country, resulting in challenges to the uniform collection of data. Any ERS used in a participating hospital should have the ability to accurately record the quality improvement data required for the NEQI Programme. The programme supports the introduction of a single ERS across majority of public sites. This will have a positive impact on the accuracy and relevance of data collected by the NEQI programme.

The working group review and assess the KQIs and the targets set on an ongoing basis in terms of relevance and based on feedback from colleagues.

## Reporting on Data Quality

Data quality is monitored by the programme management, with reports currently made to the working group if issues arise.

## Continuous Improvement of Data Quality

The use of superior data analysis tools will permit a more in-depth consideration of data quality into the future, however limitations encountered in the data captured by local systems must be factored in.

Greater discussion between all parties will indicate if the data currently available meets the needs of the endoscopy departments and on the use of reports locally which will enable the programme to generate a more detailed picture on the use of the data.

**The NEQI working group encourages that local QI data reports are communicated to senior hospital management and clinical governance / Quality and Patient Safety Teams.**

## HOSPITAL LEGEND FOR GRAPHS 2022

Hospital Name	ID*
Bantry General Hospital, Cork	1
Beacon Hospital, Dublin	2
Beaumont Hospital, Dublin	3
Blackrock Health Blackrock Clinic, Dublin	4
Bon Secours Hospital Cork	5
Bon Secours Hospital Dublin	6
Bon Secours Hospital Galway	7
Bon Secours Hospital Limerick	8
Bon Secours Hospital Tralee	9
Cavan General Hospital	10
Connolly Hospital, Blanchardstown	11
Cork University Hospital	12
Ennis General Hospital, Clare	13
Blackrock Health Galway Clinic	14
Blackrock Health Hermitage Clinic, Dublin	15
Letterkenny University Hospital	16
Louth County Hospital	17
Mallow General Hospital, Cork	18
Mater Misericordiae University Hospital, Dublin	19
Mater Private Cork	20
Mater Private Dublin	21
Mercy University Hospital, Cork	22
Midlands Regional Hospital Mullingar	23
Midlands Regional Hospital Tullamore	24

Hospital Name	ID*
Midlands Regional Hospital, Portlaoise	25
Naas General Hospital	26
Nenagh General Hospital, Tipperary	27
Our Lady of Lourdes Hospital, Drogheda	28
Our Lady's Hospital, Navan	29
Portiuncula University Hospital, Ballinasloe	30
Roscommon University Hospital	31
Sligo University Hospital	32
South Tipperary General Hospital	33
South Infirmary Victoria University Hospital, Cork	34
St Columcille's Hospital, Loughlinstown	35
St. James's Hospital, Dublin	36
St. John's Hospital, Limerick	37
St. Luke's Hospital, Kilkenny	38
St. Michael's Hospital, Dún Laoghaire	39
St. Vincent's University Hospital, Dublin	40
Tallaght University Hospital, Dublin	41
University Hospital Galway	42
University Hospital Kerry	43
University Hospital Waterford	44
University of Limerick Hospital	45
UPMC Whitfield Hospital	46
Wexford General Hospital	47

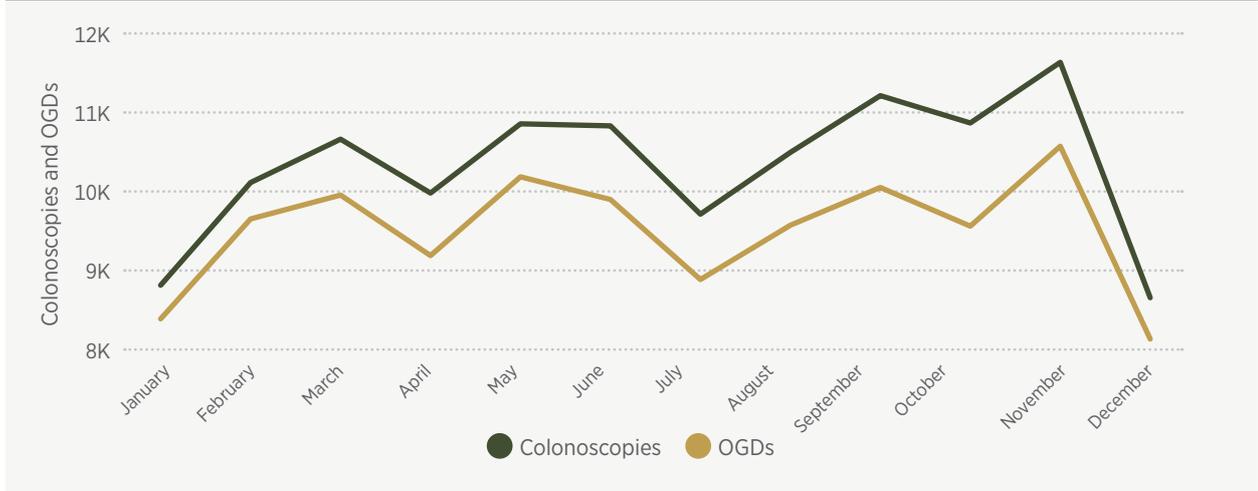
**\*Important Note:** The Hospital IDs assigned in this report refer to this report only. They are not reflective of any of the IDs used in previous reports i.e. hospital 1 in this report is not necessarily the same hospital as hospital 1 in the 6th national data report. The IDs used in this report facilitate easier interpretation by reducing the amount of information presented graphs.

# CHAPTER 3 WORKLOAD



The total number of procedures recorded in NQAIS-Endoscopy from 1 January to 31 December 2022 was 253,409. This is an increase of 12.6% (28,340) when compared to 2019. However, it should be noted that the 2022 data contain three more hospitals than the 2019 dataset. Figure 3.1 illustrates that these procedures were distributed relatively evenly throughout the year, this suggests a return to normal service following the disruption reported in the 7th national data report for 2020.

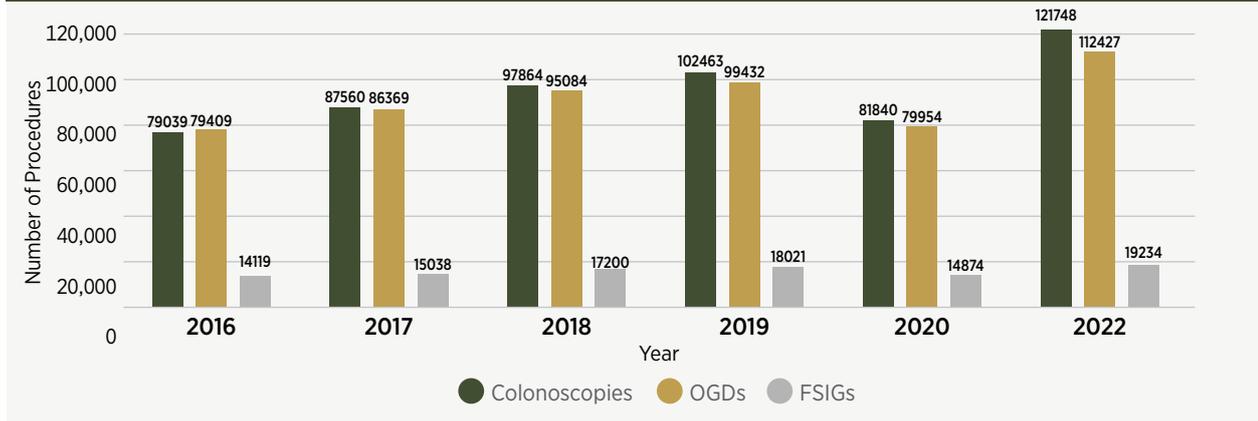
**FIGURE 3.1: National Number of Colonoscopies and OGDs by Month, 2022**



A slight increase in the proportion of colonoscopies performed relative to the number of OGDs in 2022 can be seen in Figure 3.2. The total volume of procedures captured in NQAIS-Endoscopy has increased each year with the exception of 2020. A return to the rate of growth in procedure numbers can be seen in 2022, which is comparative to the pre-pandemic years. Although a portion of the increase each year is directly related to the additional hospitals contributing data to NQAIS-Endoscopy, there is also an increase in the number of procedures.

**If the three additional hospitals in the 2022 dataset which joined the NEQI Programme after 2019 are excluded, there remains an increase of 16,288. This represents an increase of 6.8% between 2019 and 2022.**

**FIGURE 3.2: National Number of each Procedure Type Year on Year, 2016 to 2022**



## Spotlight: Workload Figures for Hospitals Participating in NEQI Programme Since 2016

As the NEQI Programme continues to roll out to all hospitals providing endoscopy services in Ireland, the addition of new hospitals to the dataset can contribute to the growth of workload volumes over the years in participating hospitals. In order to analyse the change in workload figures for participating hospitals, this section will look at the total number of procedures for the 34 hospitals that were contained in the programme's first national data report in 2016 for each year since its publication.

Figure 3.3 shows a year-on-year increase in the number of each procedure being performed in these 34 hospitals before a decrease in procedure number in 2020 due to pandemic related restriction. The number of procedures then continues to increase on previous years in 2022, with the highest levels for each procedure type reported for this year. As a result of the cyberattack, data are not available for 2021.

**FIGURE 3.3: Total Procedures Performed by the 34 Hospitals Contributing to the 2016 National Data Report, Year on Year, 2016 to 2022**

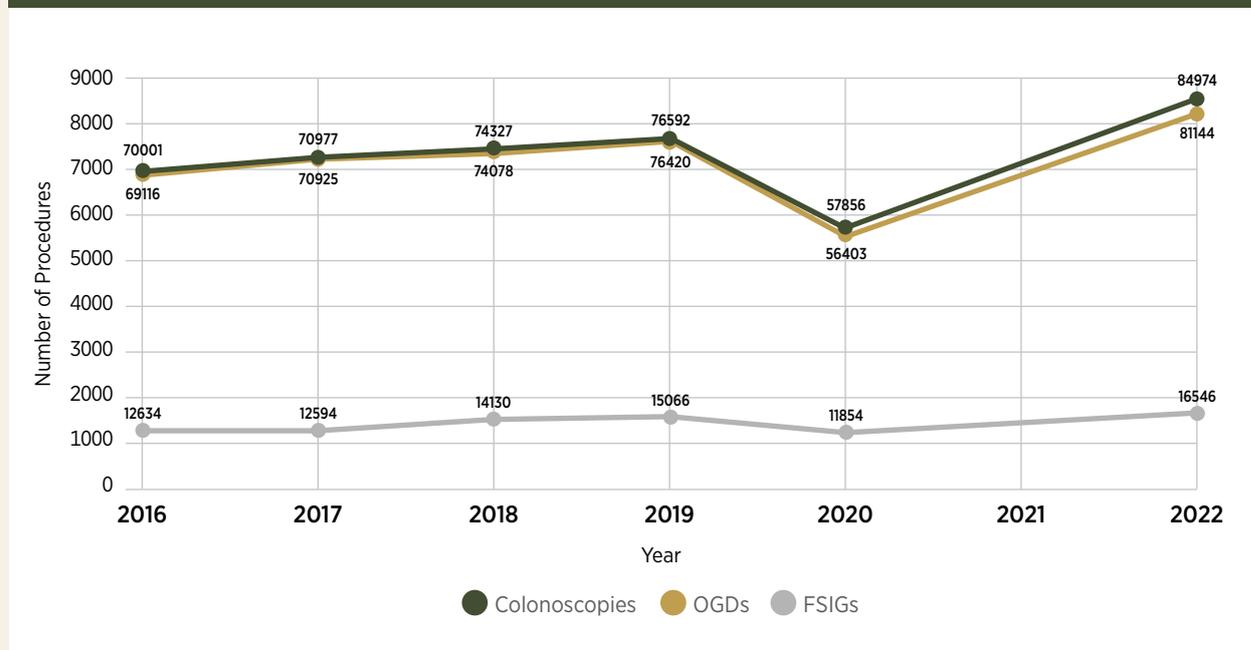


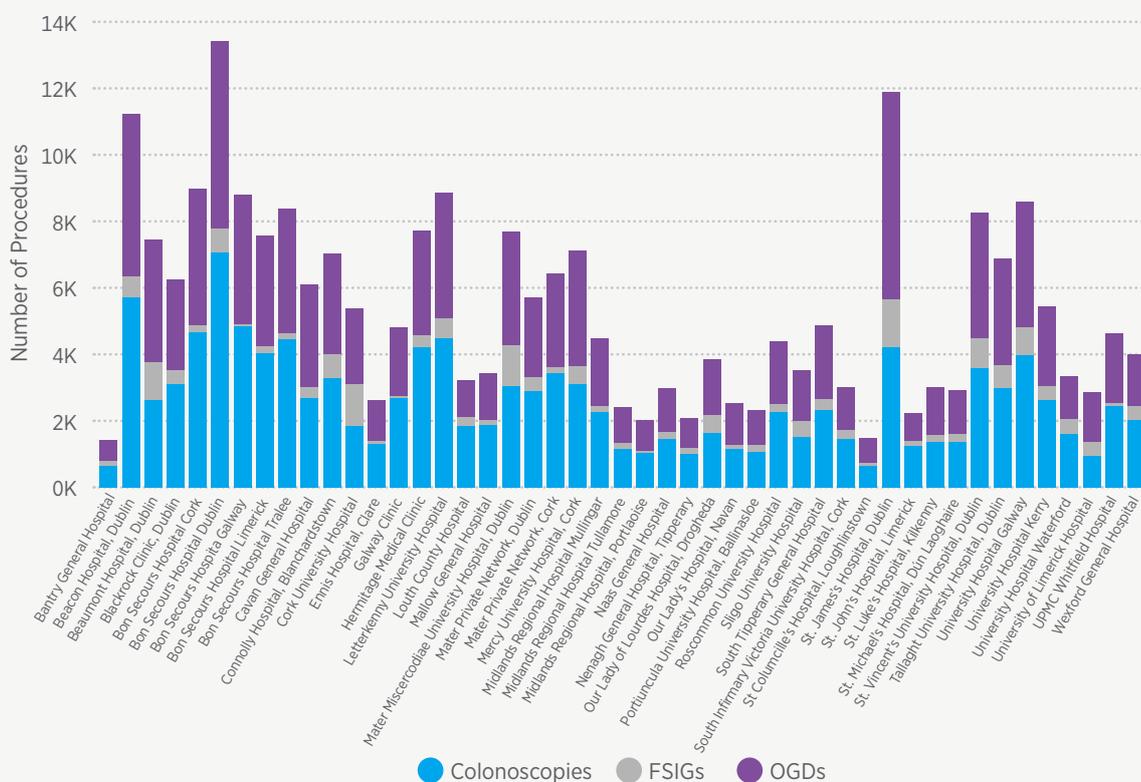
Table 3.1 below shows further information related to the year-on-year change in the numbers of procedures. The overall number of procedures performed in 2022 by the 34 hospitals that contributed to the first national data report has increased by 20% since 2016.

**TABLE 3.1: Number of Procedures each Year for the 34 Hospitals Contributing to the 2016 National Data Report, 2016 to 2022**

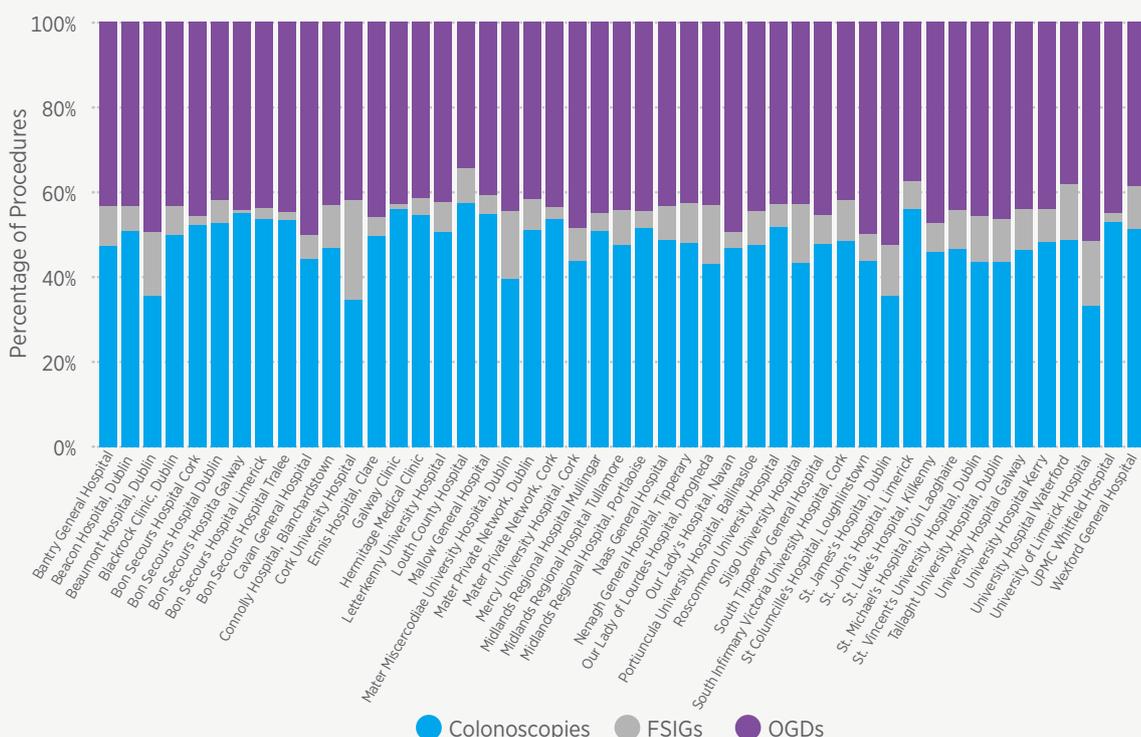
YEAR	COL	OGDs	FSIG	TOTAL	% Change from previous year	% Change from 2016
2016	69116	70001	12634	151751		
2017	70925	70977	12594	154496	↑2%	↑2%
2018	74327	74078	14130	162535	↑5%	↑7%
2019	76420	76592	15066	168078	↑3%	↑11%
2020	56403	57856	11854	126113	↓-25%	↓-17%
2022	84974	81144	16546	182664	↑45%	↑20%

Figures 3.4 and 3.5 show the total number and percentage of each procedure performed in each hospital respectively. As in previous years, these figures vary from unit to unit, with most hospitals performing a similar ratio of colonoscopies to OGDs.

**FIGURE 3.4: Total Number of Colonoscopies, FSIGs, and OGDs per Hospital, 2022**



**FIGURE 3.5: Percentage of Colonoscopies, FSIGs and OGDs per Hospital, 2022**



Evidence suggests that endoscopic proficiency with a reduction in the occurrence of complications, improves with the number of procedures performed. In a population-based study of outpatient colonoscopy carried out in Canada<sup>3</sup> the lowest complication rate was associated with the highest number of procedures (i.e. >200 per endoscopist per year). Notably, completion rates in these cohorts were at 72%. The level of experience rather than volume of procedures performed also appeared to show correlation with the level of caecal intubation rates<sup>4</sup>. Similarly, adenoma detection rate (ADR) did not necessarily appear to correlate with overall endoscopy numbers.<sup>5</sup> Therefore, it is important to note the following:

1. Low numbers of procedures may be associated with poor performance.
2. Low numbers may mean the sample size for KQIs will be low and the confidence intervals around the observed performance will be wide.
3. Adequate numbers of procedures are required to provide accurate estimates of performance particularly if procedures are performed infrequently e.g. the 95% confidence interval for a completion rate of 90% for 150 colonoscopy procedures per year is 85%-95%.
4. Endoscopists who are technically proficient will likely find it easier to maintain competency with lower numbers. However, it may not be possible to maintain adequate performance with low numbers, although there may be exceptions to this whereby lifelong experience may reduce the requirement for high numbers. Similarly, endoscopists who routinely receive referrals for difficult procedures may have lower numbers.
5. Endoscopy numbers in isolation may not be indicative of poor performance but should be interpreted in conjunction with other KQIs.

Tables 3.2 and 3.3 below show the number of endoscopists per category of procedures performed for both colonoscopies and oesophagogastroduodenoscopy between 1 January and 31 December 2022. Comparison of these categories to previous years can be seen in Figure 3.6.

**TABLE 3.2: Number of Endoscopists per Colonoscopies Performed during 2022 Category**

Colonoscopies					
Colonoscopies Performed Category	<10	11-50	51-100	101-150	>150
Number of Endoscopists	100	151	105	99	300

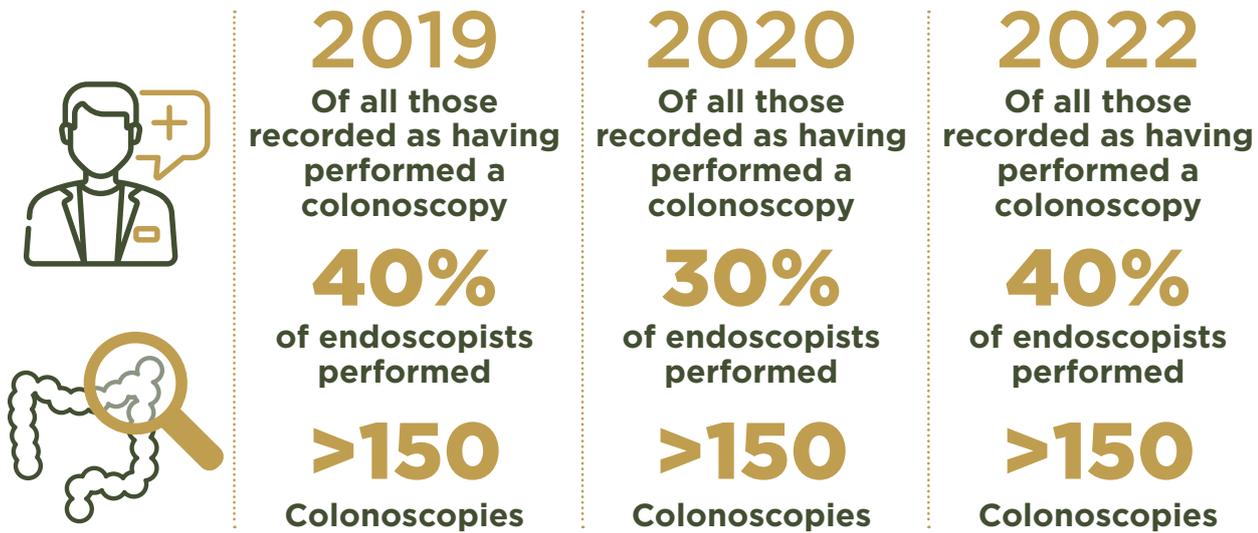
**TABLE 3.3: Number of Endoscopists per OGDs Performed during 2022 Category**

Oesophagoduodenoscopies (OGDs)					
OGDs Performed Category	<10	11-50	51-100	101-150	>150
Number of Endoscopists	92	180	131	66	310

<sup>3</sup> Singh, Penfold, DeCoster, Kaita, Proulx and Taylor, (2009) "Colonoscopy and its complications across a Canadian regional health authority," *Gastrointestinal Endosc* 69, vol. 69, no. 3, pp. 665-671.

<sup>4</sup> GC Harewood, "Relationship of colonoscopy completion rates and endoscopist features, (2005) " *Dig Dis Sci* 50, vol. 50, no. 1, pp. 47-51.

<sup>5</sup> Adler, Wegscheider, Lieberman, Aminalal, Aschenbeck, Drossel, Mayr, Mroß, Scheel, Schröder, Gerber, Stange, Roll, Gauger, Wiedenmann, Altenhofen and Rosch, (2013) "Factors Determining the Quality of Screening Colonoscopy: A Prospective Study on Adenoma Detection Rates," *Gut* 62, vol. 62, no. 2, pp. 236-41.



In 2022, 300 endoscopists performed over 150 colonoscopies (Table 3.2). This represents 40% of the 755 endoscopists who are recorded as having performed a colonoscopy during that year. This figure is consistent with 2019 data, where 40% of endoscopists also fell into this category. This is an increase of 10% on 2020 data where 30% of endoscopists were in this category. This could illustrate a return to typical practice following the pandemic. Figures in table 3.3 suggest that the same patterns can be found in the number of OGDs performed per endoscopist.

**FIGURE 3.6: Number of Colonoscopies per Endoscopist Year on Year, 2016 to 2022**

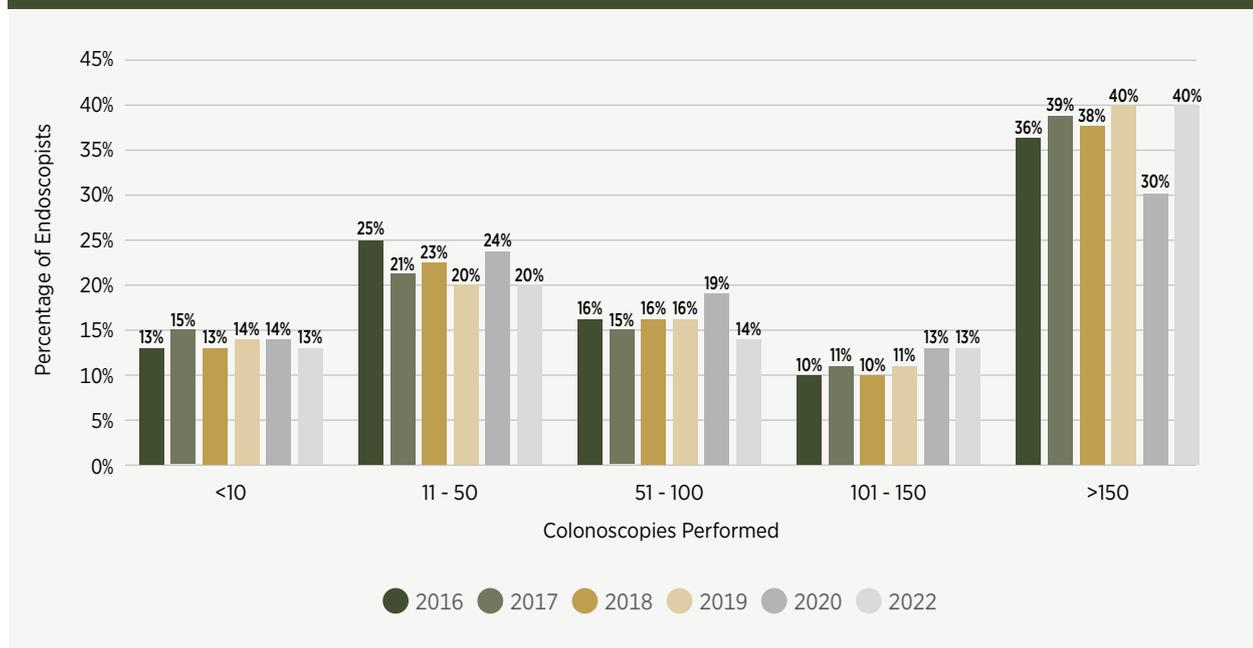


Figure 3.6 illustrates the percentage of endoscopists within the “colonoscopies performed” category for each year between 2016 and 2022. Due to data accuracy concerns following the cyber-attack, the 2021 data have been omitted. This graph illustrates a relatively consistent pattern for each year with a slight increase seen in the percentage of endoscopists performing between 101 and 150 colonoscopies.

As in previous years, the NEQI working group continue to express concern on the low number of procedures performed by many endoscopists. The impact of the COVID-19 pandemic on procedure lists throughout 2020-2022 and the difficulties encountered in recording data during the cyber-attack have resulted in difficulties gaining clear oversight of this issue as it currently stands.

The roll-out of a new ERS should provide the programme with the opportunity to initiate changes that will assist in more accurate and detailed data relating to those procedures carried out by Trainees. This should in turn reveal what procedure volumes are being carried out by consultants in the various categories outlined in tables 3.1 and 3.2.

## KEY FINDING

The number of procedures captured in NQAIS-Endoscopy saw an increase of 12.6% (28,340) when compared to 2019. However, it should be noted that the 2022 data contain three more hospitals than the 2019 dataset. If the three additional hospitals in the 2022 dataset which joined after 2019 are excluded, there remains an increase of 16,288. This represents an increase of 6.8%.

## RECOMMENDATIONS

The NEQI Programme recommends that a protected time allocation of 1 hour per week for all local clinical leads, 1.5 hours per week for NEQI working group members and 2 hours per week for the working group chair are implemented to carry out the activities associated with these roles.

In relation to public hospitals, following discussions between the NEQI Programme and HSE Acute Operations, Acute Operations have agreed to be the assigned owner for this recommendation.

The NEQI Programme recommends that appropriate triaging methods, such as Faecal Immunochemical Tests, are implemented for hospitals that are experiencing longer waiting lists for colonoscopies as a result of increased workload.

# CHAPTER 4

## COLONOSCOPY

# 4

Colonoscopy is the investigation for assessment of the large bowel allowing diagnosis, biopsying, and therapy to be undertaken. Colonoscopy detects and prevents colorectal cancer and is important in the diagnosing and treatment of non-neoplastic conditions. This procedure can lead to rare but serious complications and poor-quality colonoscopy is associated with increased rates of interval cancers.

There are four quality areas associated with colonoscopy: caecal intubation rate, comfort score, polyp detection and bowel preparation. The associated targets are outlined in the table below.

**TABLE 4.1: Summary of Colonoscopy Key Quality Indicators and Associated Targets**

Key Quality Indicator	Key Quality Target	Additional Information
<b>COLONOSCOPY</b>		
Caecal Intubation (CI) Rate	Minimum: $\geq 90\%$ Achievable: $\geq 95\%$	CI Rate is calculated based on all colonoscopies performed as endoscopist 1 or endoscopist 2
Comfort Score	$\geq 90\%$	90% of colonoscopies should have a comfort score of between 1 and 3 on the Gloucester Scale
Polyp Detection	$\geq 20\%$	N/A
Bowel Preparation	Minimum: $\geq 90\%$ Achievable: $\geq 95\%$	N/A

### 4.1 Caecal Intubation Rate

Caecal intubation rate (CIR) is one of the four key quality indicators for colonoscopy. Several factors, including age, sex, low BMI, bowel cleansing, sedation, diverticular disease and general health status can impact CIRs.

#### Key Quality Indicator:

- Number of colonoscopies where the terminal ileum / caecum / anastomosis has been reached, expressed as a % of total colonoscopies performed per endoscopist

#### Key Quality Target:

- *Minimum Target:* 90% of colonoscopy cases should reach the terminal ileum/caecum or anastomosis (adjusted only for obstructing lesions)
- *Achievable Target:* 95% of colonoscopy cases should reach the terminal ileum/caecum or anastomosis (adjusted only for obstructing lesions)

A return to volumes of colonoscopies comparable to pre-pandemic years was seen in 2022, as illustrated in Chapter 3. Where possible, this section will compare 2022 data on key quality indicators (KQIs) to data from both 2020 and 2019, the last full year of available data that has not been significantly impacted by external events. Due to the impact of the pandemic on endoscopy services in 2020, this year cannot provide a dataset representative of normal practice. As the 2021 dataset is incomplete and of lower quality than other years, making an

accurate or meaningful comparison difficult, this was also not deemed suitable for comparative analysis. Comparison to 2019 data, and 2020 data where appropriate, will allow for more accurate and insightful analysis of the KQIs.

The national caecal intubation rate for 2022 was 94.0%, compared to 93.8% in 2019. This figure represents the total percentage of times the caecum was intubated in all colonoscopies submitted to NQAIS-Endoscopy during the year. This figure has remained relatively consistent through the years.

Figure 4.1 (below) shows that in 2022, 96% (45 out of 47) of hospitals met the minimum target of greater than or equal to 90% for the caecal intubation rate, this is compared to 98% (43 out of 44) in 2019. In 2020, 91% of hospitals met the minimum target. In 2022, 27.6% (13 out of 47) of hospitals that submitted data met or exceeded the achievable target of greater than or equal to 95% of colonoscopies that achieved caecal intubation.

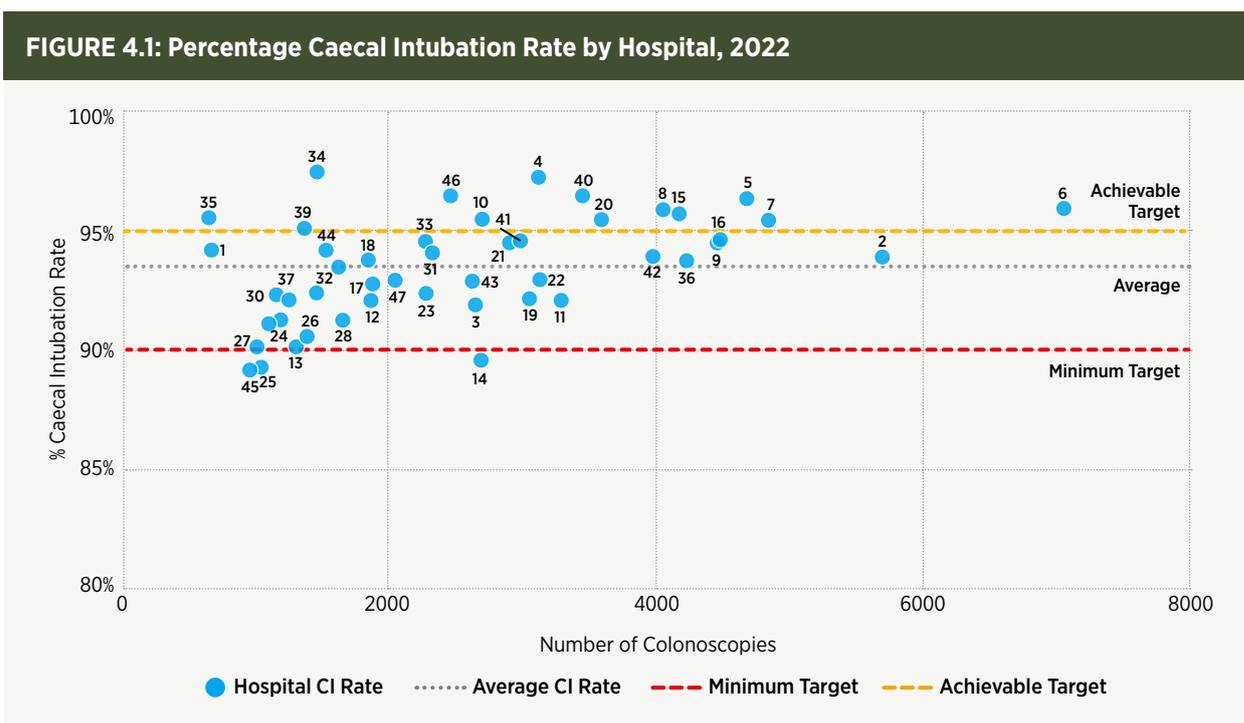


Figure 4.2 demonstrates that in 2022, 76% (n=573, out of a total 755) of endoscopists met the caecal intubation rate minimum target of greater than or equal to 90% of colonoscopies with the caecum intubated, 5% more than in 2019 and 6% more than in 2020. The achievable target of greater than or equal to 95% of colonoscopies with the caecum intubated was met by 38% of endoscopists, an increase of 2% from 2019.

Caecal intubation is calculated based on procedures performed as endoscopist 1 or endoscopist 2.

**Definitions**

**Endoscopist 1 (E1):**  
The clinician who performs the majority of the procedure.

**Endoscopist 2 (E2):**  
A clinician present in the procedure room during the procedure and who also provides some support to the primary endoscopist (verbal or physical).

**FIGURE 4.2: Percentage and Number of Endoscopist CIR by CIR Category, 2022**

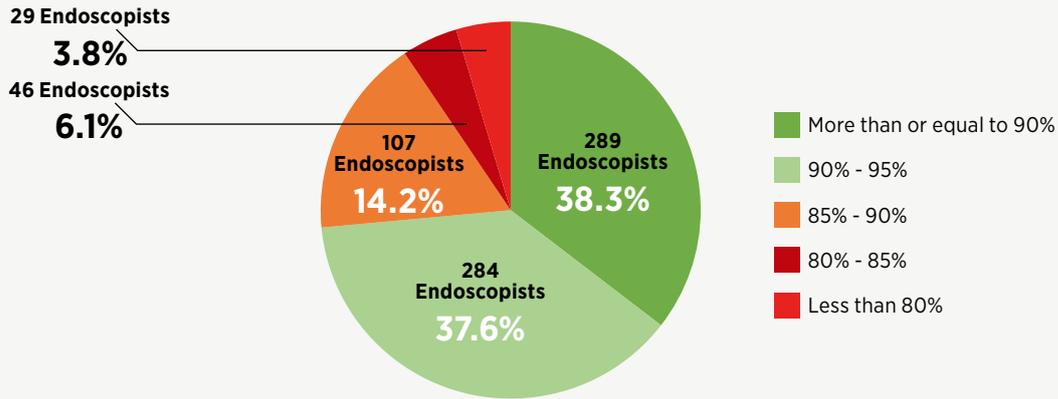


Figure 4.3 below shows the caecal intubation rate of each endoscopist (y-axis) by the volume of colonoscopies they performed in 2022 (x-axis).

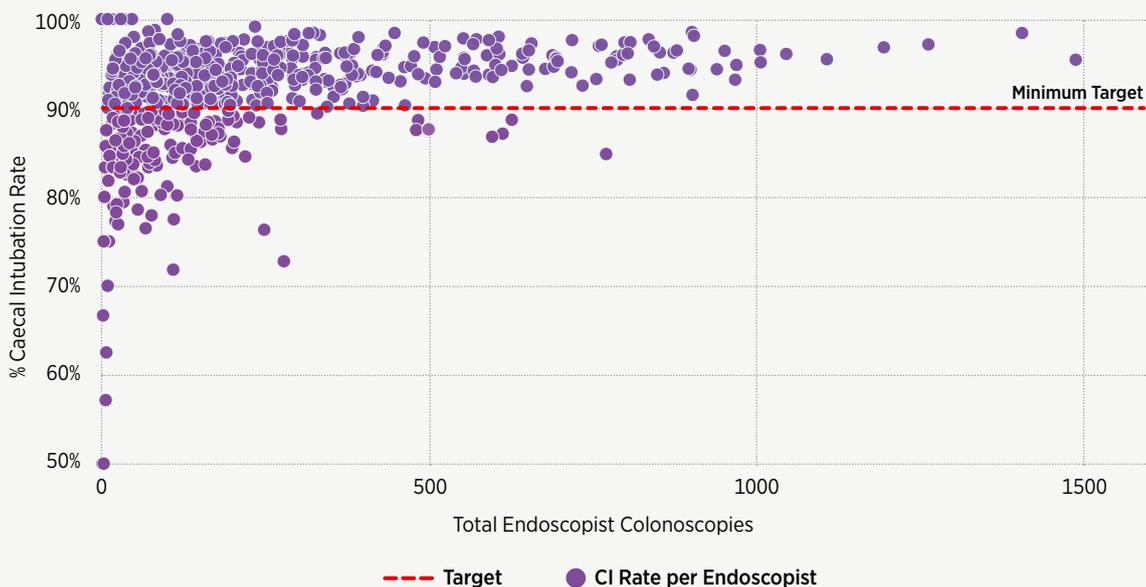
The trend suggests that there is a correlation between the number of procedures performed by an endoscopist and the likelihood of meeting the minimum target for caecal intubation rate.

The data collected in NQAIS-Endoscopy are reflective of the data input to hospitals endoscopy reporting systems (ERS). In recent years, it has been reported that left colonoscopies had been recorded as colonoscopies rather than flexible sigmoidoscopies. This can interfere with how NQAIS-Endoscopy reports caecal intubation rates.

The NEQI working group recommend that every unit have a policy stating that endoscopists and endoscopy nurses in the procedure room should agree that the relevant landmark has been reached before recording caecal intubation in the ERS.

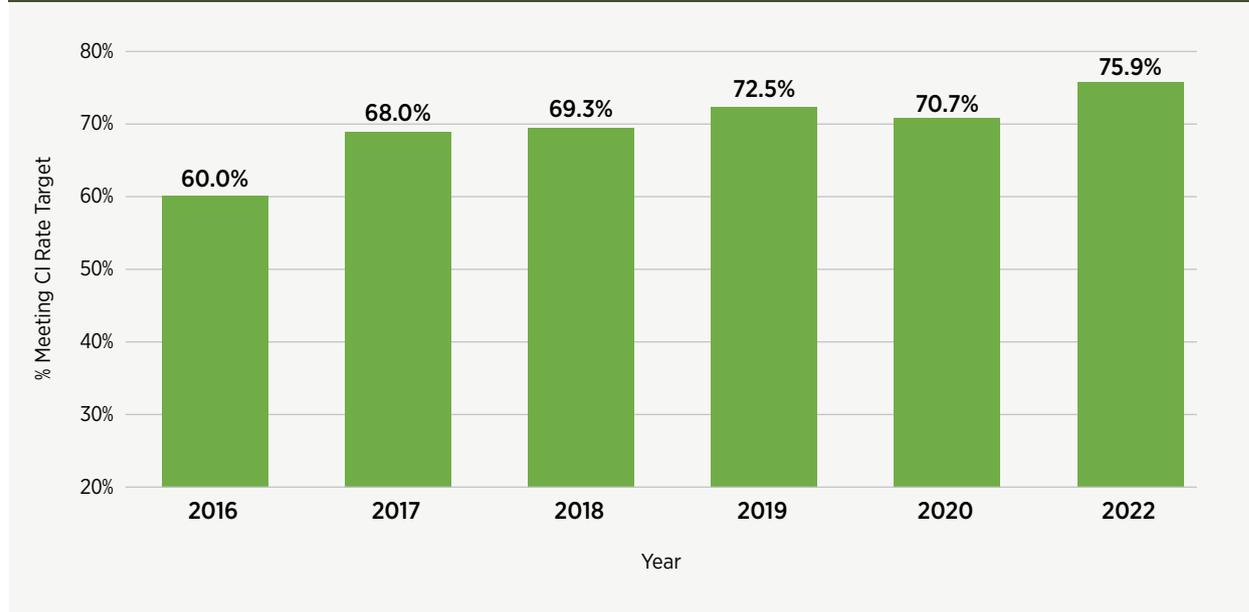
**Hospitals are encouraged to review their coding practices in relation to the type of procedure performed to ensure accurate KQIs are produced for the unit.**

**FIGURE 4.3: Endoscopists by Number of Colonoscopies Performed and Caecal Intubation Rate, 2022**



Year on year there has been an increase in the percentage of endoscopists meeting the minimum caecal intubation rate target from 60% in 2016 to 76% in 2022, as shown in Figure 4.4.

**FIGURE 4.4: Percentage of Endoscopists Meeting CI Rate Target – Year on Year, 2016 to 2022**



In addition to recovery post pandemic the number of endoscopists meeting the targets has increased by 3.4% from 2019. This increase can be seen trending throughout the previous six years.

Although the percentage of endoscopists meeting the CIR target has improved since 2016 (Figure 4.4) the NEQI working group would like to highlight that there remains almost 24% of practicing endoscopists not meeting the CIR target.

**The NEQI working group encourage endoscopists to ensure that adequate numbers of colonoscopies are performed to maintain proficiency and that endoscopists continue to avail of opportunities for professional improvement, such as the suite of courses offered by the National Endoscopy Training Committee.**

## National Endoscopy Training Committee

In 2018, the National Endoscopy Training Committee was established by the HSE Acute Operations Endoscopy Programme. The role of the committee is to make recommendations about GI Endoscopy education and training in Ireland and develop Training courses for physicians, surgeons, nurse endoscopists and endoscopy nurses. As well as developing The Competency Model for Skills Training in Gastrointestinal Endoscopy in Ireland, the National Endoscopy Training Committee also develops and delivers Skills Training for Endoscopic Procedures (STEPS) courses. These are courses suitable for trainees, consultants and nurse endoscopists. The courses currently running:

FOR CONSULTANTS:	FOR SPECIALIST TRAINEES IN GASTROENTEROLOGY AND GENERAL SURGERY:
<ul style="list-style-type: none"> <li>• Colonoscopy Excellence for Consultants</li> <li>• Train the Colonoscopy Trainer</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Endoscopy Skills</li> <li>• Hands on Colonoscopy Skills</li> <li>• Endoscopic Management of Upper GI bleeding (practical skills)</li> <li>• Polypectomy Skills course (for release Q4 2023)</li> </ul>

In April 2023 the Endoscopy in Barrett's Oesophagus online course was released on the RCPI [website](#). This free course is aimed at (but not exclusively for) trainee gastroenterologists, surgeons and nurse endoscopists training in upper GI endoscopy. This online course was developed by the Endoscopy Programme and RCPI with funding received from the National Doctors Training and Planning (NDTP).

The HSE Acute Operations Endoscopy Programme and the Joint Advisory Group (JAG) launched [JETS Workforce](#) in Ireland in May 2023. JETS Workforce is a training pathway for nurses and other healthcare professionals (aside from doctors/surgeons) who work in an endoscopy service. The programme is designed to provide a standardised framework for training for the GI endoscopy workforce. Further information is available [here](#).

Further information about the HSE Acute Operations Endoscopy Programme is at <https://www.hse.ie/eng/about/who/acute-hospitals-division/clinical-programmes/endoscopy-programme/>

### KEY FINDING

There was an increase of 3.4% of endoscopists meeting the minimum target for caecal intubation rate in 2022 (75.9%) when compared to 2019 (72.5%). Although this increase indicates a continued improvement in the percentage of endoscopists meeting target, a quarter of endoscopists are still not meeting this target.

### RECOMMENDATION

The NEQI Programme recommends that any future endoscopy reporting system facilitate the differentiation between procedures performed primarily by Trainees and procedures performed primarily by consultant endoscopists.

Other splits should also be considered such as inpatient/outpatient procedures and physician/surgeon performed procedures.

## 4.2 Polyp Detection Rate

Internationally accepted guidelines on colonoscopy performance indicators recommend monitoring direct or proxy markers for detection of suspicious lesions including polyps and adenomas.

Due to the ongoing inability to link endoscopy and histology reporting systems, the NEQI Programme measures polyp detection rates rather than measuring direct adenoma detection rates. This advanced reporting will not be possible until hospital systems for endoscopy and histology are integrated.

International standards suggest that polyps can be expected in at least 20% of cases.

### Key Quality Indicator:

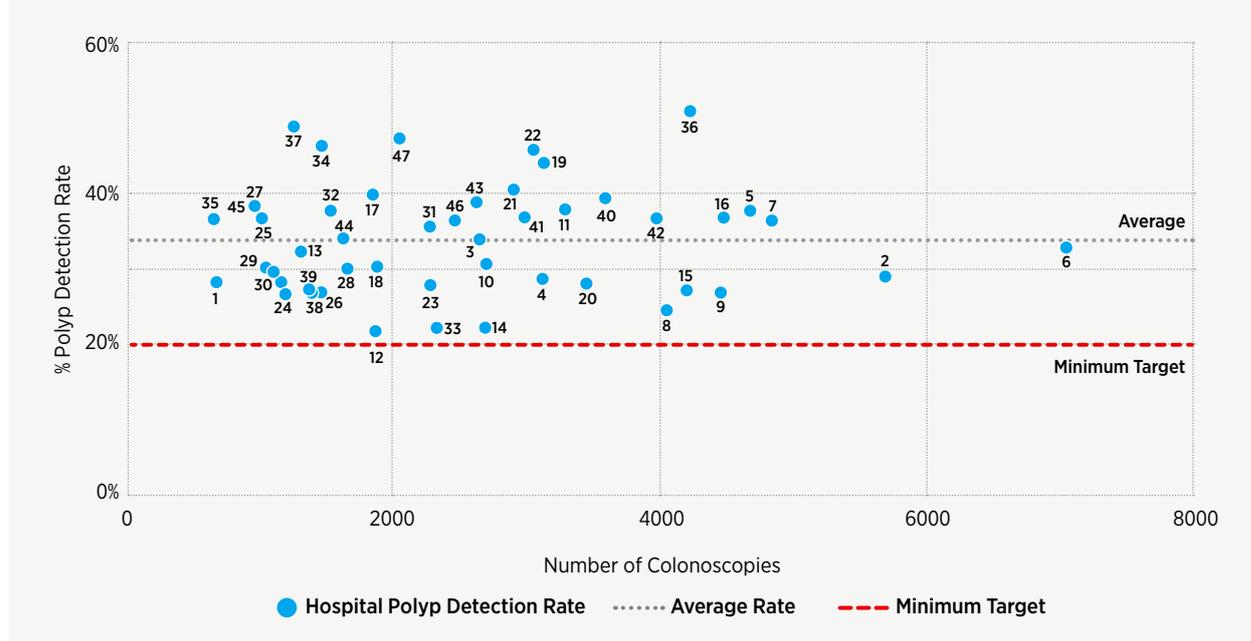
- Number of colonoscopies with polyps detected expressed as a percentage of total colonoscopies per endoscopist

### Key Quality Target:

- $\geq 20\%$  of all colonoscopies should have a polyp(s) detected

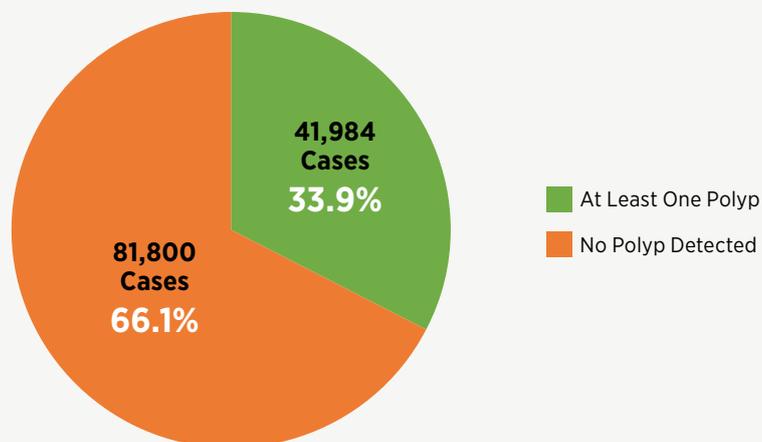
In 2022, all participating hospitals met the minimum target of greater than or equal to 20% of colonoscopies with one or more polyps detected (Figure 4.5). This was unchanged from findings reported in both 2019 and 2020. The national average for all hospitals in the NEQI Programme in 2022 was 33.8%, which is consistent with previous years.

**FIGURE 4.5: Percentage Polyp Detection Rate by Hospital, 2022**



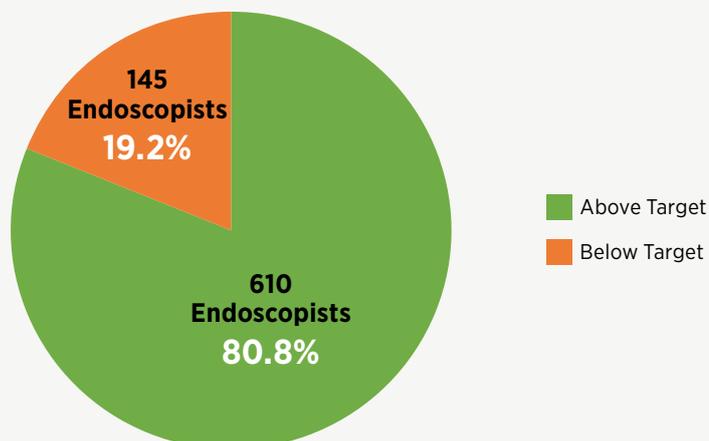
In 2022, the national average polyp detection rate was 34% (Figure 4.6), representing a minor increase from both 2019 and 2020 of 1% when the national polyp detection rate was 33% for both years.

**FIGURE 4.6: Percentage and Number of Colonoscopies Where At Least One Polyp Was Detected, 2022**

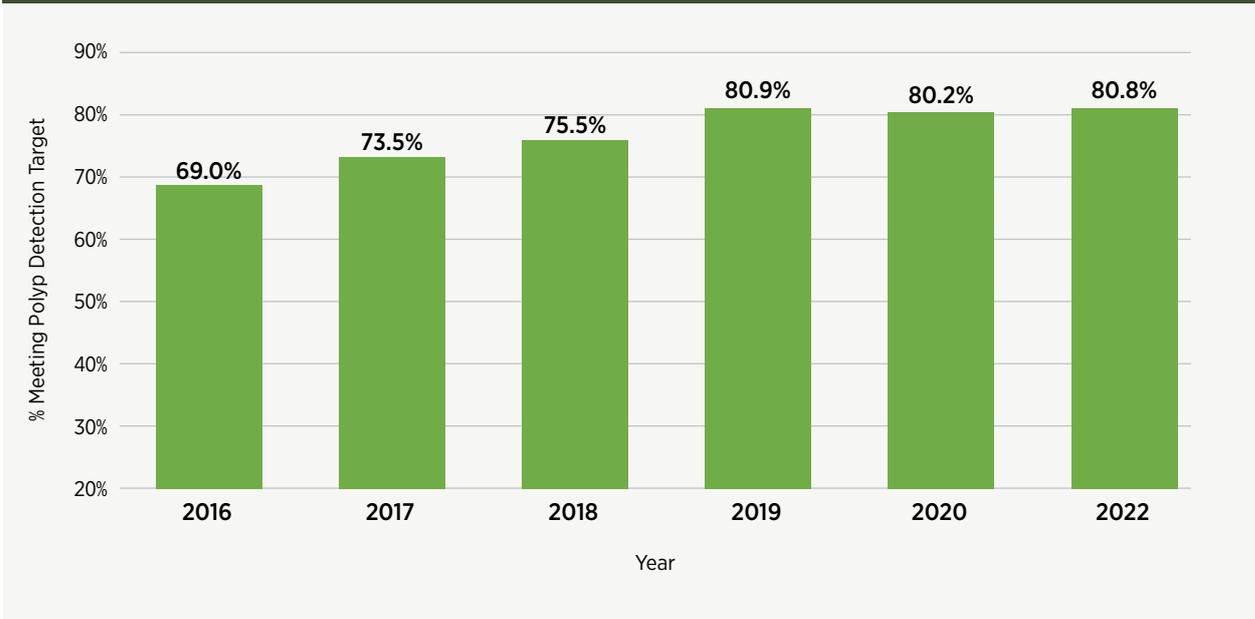


In 2022, 81% of endoscopists met the target for polyp detection rate (Figure 4.7 below). This was unchanged from findings reported in 2019, however, it was up over 10% since national data reporting began in 2016 (Figure 4.8).

**FIGURE 4.7: Percentage and Number of Endoscopists Above and Below Polyp Detection Target, 2022**



**FIGURE 4.8: Percentage of Endoscopists Meeting Polyp Detection Target – Year on Year, 2016 to 2022**



### KEY FINDING

In 2022, 81% of endoscopists met the target for polyp detection rate. This was unchanged from findings reported in 2019 however, it was up over 10% since national data reporting began in 2016.

## Spotlight: Polyp Detection Rates in patients aged 50 years and older

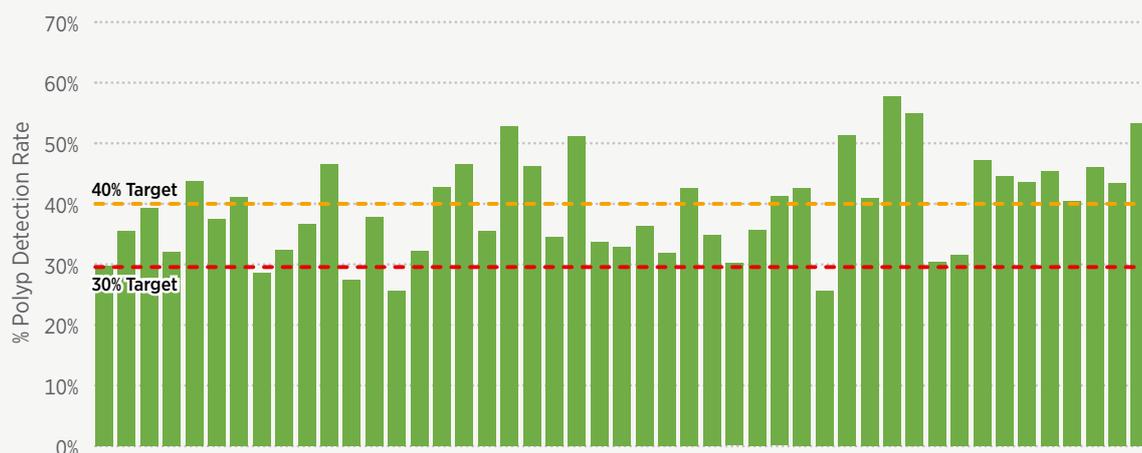
The European Society of Gastroenterology (ESGE) have introduced the idea of higher targets for polyp detection rates in patients aged over 50<sup>6</sup>. This could be achieved in a stepped approach by moving to a 30% polyp detection rate Target in patients aged 50 years and older, before moving to 40% target. The NEQI Programme has not adopted this recommendation to date, however, this section of the report will explore what the NQAIS-Endoscopy data say about the application of these targets to the 2022 dataset. As this is not an official part of the NEQI Guidelines, hospitals are not named in this section.

Figure 4.9 shows how each hospital's polyp detection rate compares to these targets. The percentage of hospitals meeting each target are:

- 91% (43 out of 47) of hospitals meet the 30% target.
- 51% (24 out of 47) of hospitals meet the 40% target.

This is consistent with the European Colonoscopy Quality Investigation (ECQI) Group study which shows other countries throughout Europe where roughly 50% met the 40% target.<sup>7</sup>

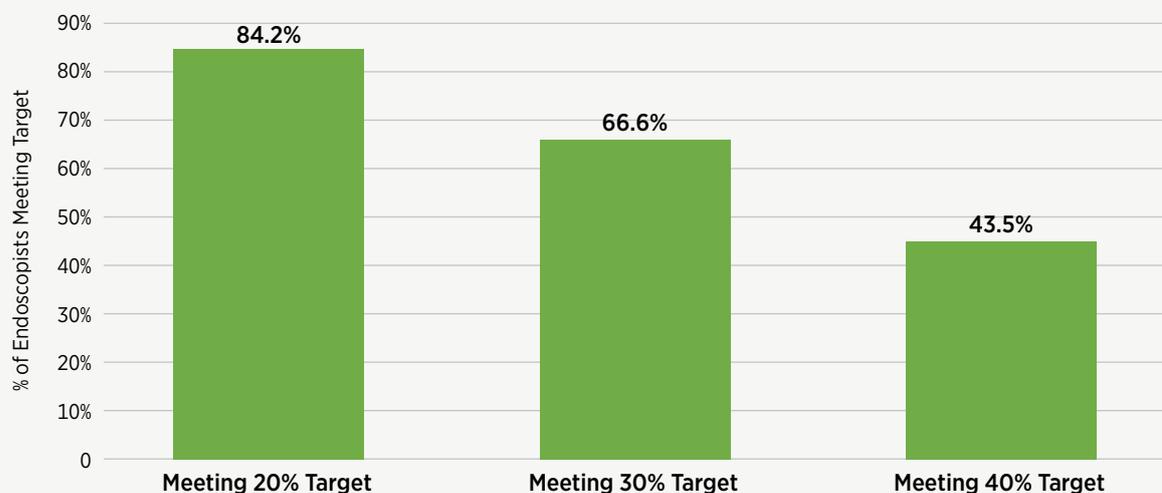
**FIGURE 4.9: Polyp Detection Rate for Patients Aged 50 and Older by Hospital, 2022**



<sup>6</sup> Kaminski, Thomas-Gibson, Bugajski et al. (2017) "Performance measures for lower gastrointestinal endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) quality improvement initiative", UEG Journal, Vol. 5(3) pp 309-334

Figure 4.10 shows the percentage of endoscopists meeting each target based on the 2022 NQAIS-Endoscopy data.

**FIGURE 4.10: Percentage of Endoscopists Meeting Each Polyp Detection Rate Target with Patients Aged 50 and Older, 2022**



As the target of 20% is regularly met by all participants, the NEQI working group suggested that this preliminary analysis of different polyp detection rates could be beneficial for an incremental evolution of this key quality indicator, if supported in the future.

Although adenoma detection rate remains the gold standard for quality in colonoscopies, and while integration of histology and endoscopy remains unfeasible, focusing on polyp detection rates with patients aged 50 years and older might be a more meaningful KQI, as this is the demographic most likely to present with polyps.

This analysis shows that Irish hospitals score comparable to European averages shown in the ECQI Group study based on the 2022 data in NQAIS-Endoscopy.<sup>8</sup>

<sup>7,8</sup> Spad, Koulaouzidis, Hasan et al. (2021) "Colonoscopy quality across Europe: a report of the European Colonoscopy Quality Investigation (ECQI) Group, *Endosc Int Open*, 09, E1465 - E1462

### 4.3 Comfort Score

Patient comfort during a colonoscopy is central to the NEQI programme objective of enhancing the provision of quality care to patients. The programme advocates using the modified Gloucester Scale as shown below in order to measure comfort score.

**Gloucester Scale**

- 1 - No discomfort** - Resting comfortably throughout.
- 2 - Minimal** - One or two episodes of mild discomfort, well tolerated.
- 3 - Mild** - More than two episodes of discomfort, adequately tolerated.
- 4 - Moderate** - Significant discomfort, experienced several times during the procedure.
- 5 - Severe** - Extreme discomfort, experience frequently during the procedure

The KQI for comfort score was first set out in 2011 and was later amended in January 2020. This is measured as the number of colonoscopies with a comfort score of 1, 2, or 3 as a percentage of the total number of colonoscopies performed. This target was amended to bring the KQI in line with international standards, JAG guidelines, and clinical practice.

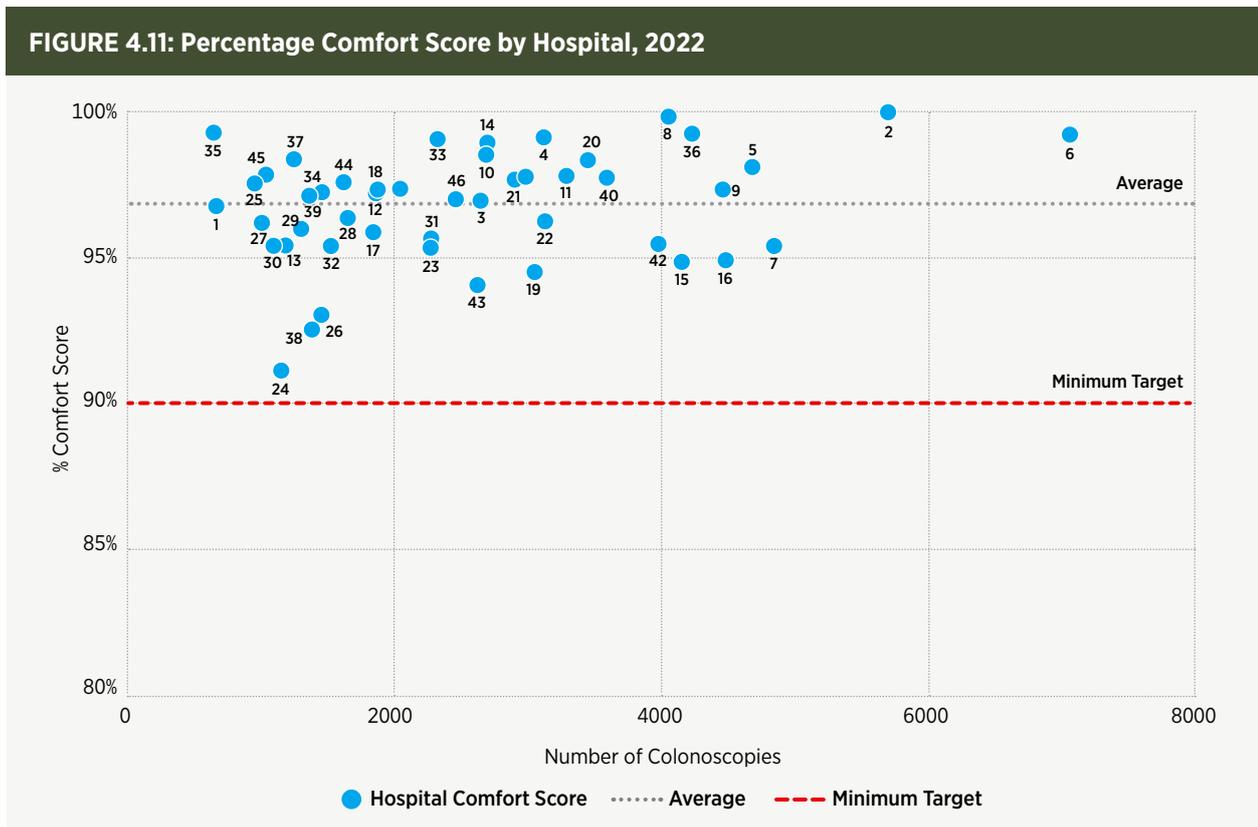
**Key Quality Indicator:**

- Percentage of colonoscopies performed with a comfort score of a 1 to 3 per endoscopist

**Key Quality Target:**

- ≥90% of colonoscopies performed should have a comfort score of a 1 to 3

All participating hospitals met the minimum target for comfort score in 2022, similar to findings reported in 2019 and 2020 (Figure 4.11).



The national average percentage comfort score between 1 and 3 for 2022 was 97% (Figure 4.12), this remains unchanged when compared to both 2019 and 2020.

**FIGURE 4.12: Percentage and Number of Colonoscopies by Comfort Score, 2022**

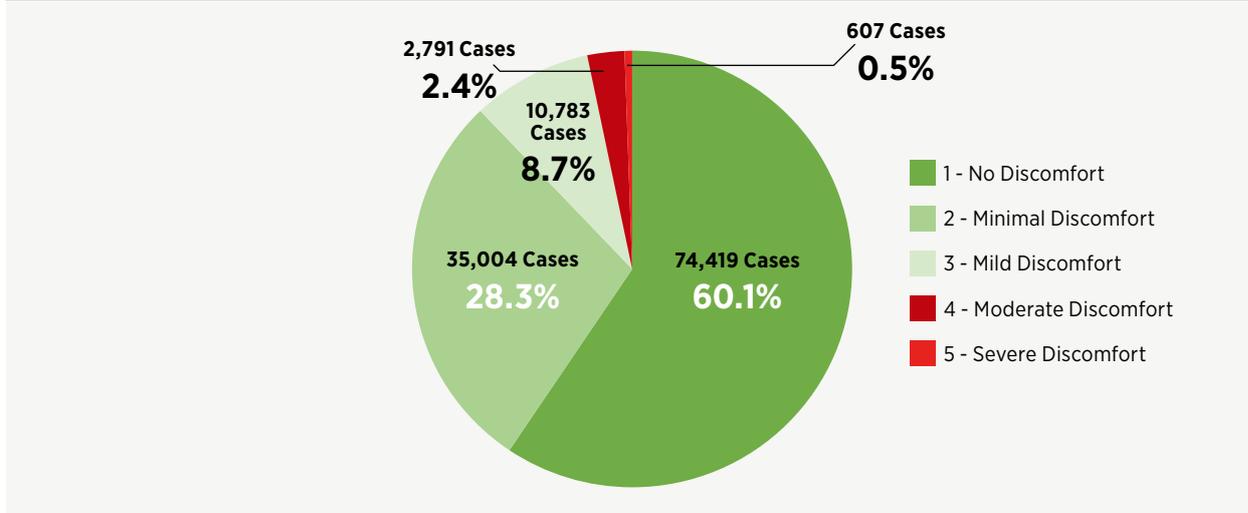
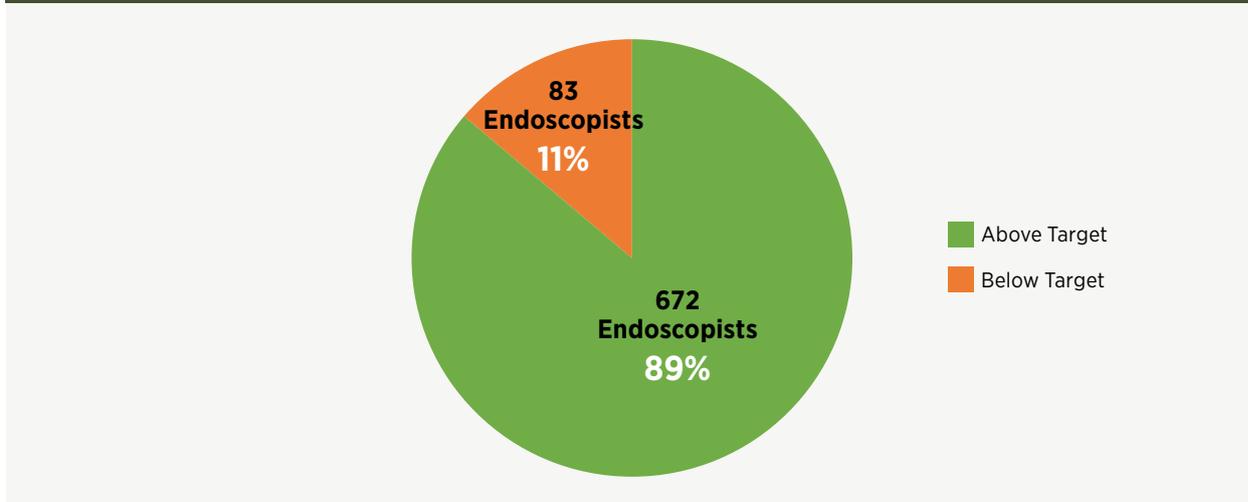


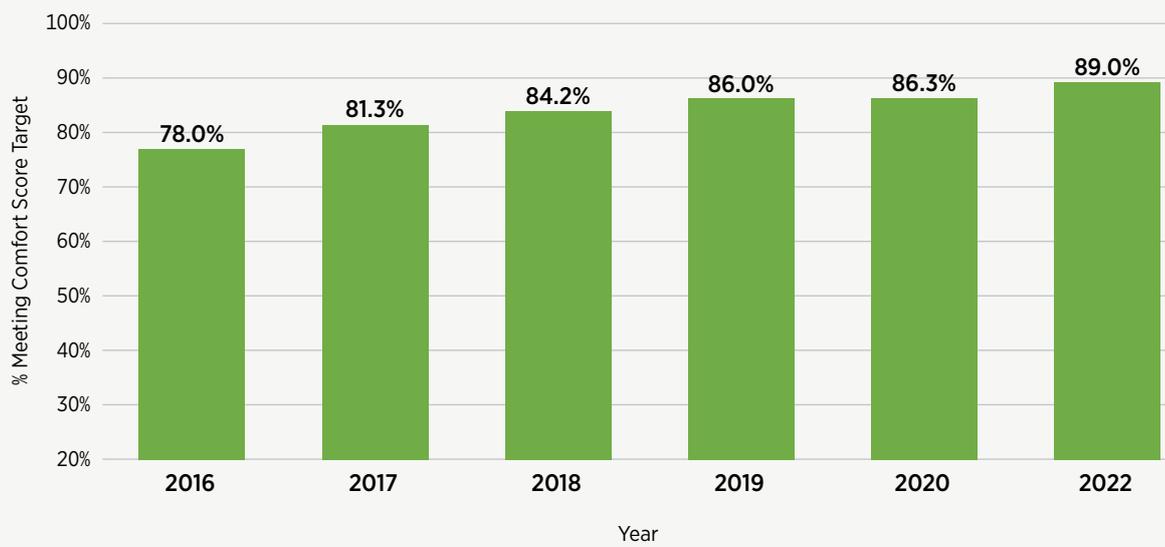
Figure 4.13 shows that 89% of endoscopists met the comfort score target in 2022. This is an increase of 3% compared to the percentage of endoscopists who met the target for this key quality indicator in both 2019 and 2020 (Figure 4.14).

**FIGURE 4.13: Percentage and Number of Endoscopists Above and Below Comfort Score Target, 2022**



Comfort score is a subjective measurement which is dependent on the information observed in the procedure room and collected in the endoscopy reporting system of each hospital. The working group recommend that best practice is that consensus is reached between the endoscopy nurse and endoscopists regarding the comfort score before it is submitted into the ERS.

**FIGURE 4.14: Percentage of Endoscopists Meeting Comfort Score Target – Year on Year, 2016 to 2022**



### KEY FINDING

89% of endoscopists (672 out of 755) met the comfort score target in 2022. This is an increase of 3% compared to percentage of endoscopists who met the target for this key quality indicator in both 2019 and 2020.

## 4.4) Bowel Preparation

The ability to provide a detailed visual examination for a patient via colonoscopy is reliant on effective bowel preparation. Good bowel preparation supports improved polyp detection and caecal intubation. Poor bowel preparation is associated with failure to reach the caecum and hinders the detection of lesions. However, to date no single bowel preparation for colonoscopy has emerged as consistently superior over another.

### Key Quality Indicator:

- Total number of colonoscopies with adequate and excellent scores, as defined below, expressed as a % of all colonoscopies performed

### Key Quality Target:

- Minimum: Bowel preparation described as excellent or adequate in  $\geq 90\%$  of colonoscopies
- Achievable: Bowel preparation described as excellent or adequate in  $\geq 95\%$  of colonoscopies

## Bowel Preparation Definitions

**Excellent:** No or minimal solid stool and only clear fluid requiring suction

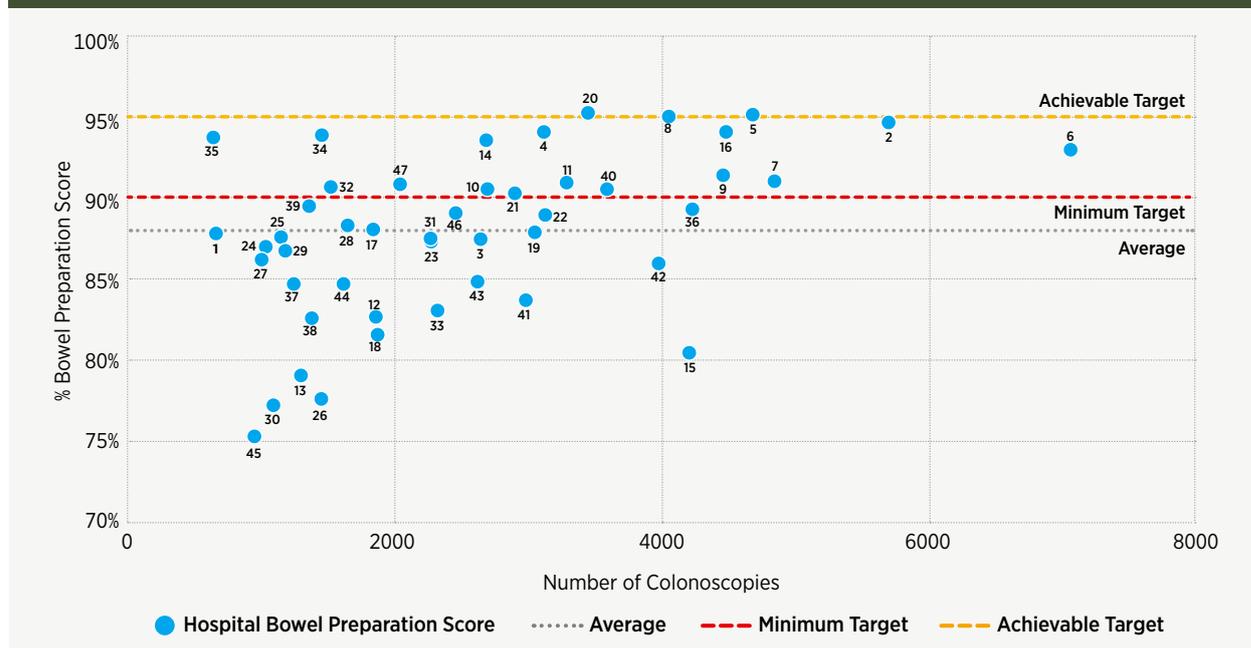
**Adequate:** Collections of semi-solid debris that are cleared with washing/suction

**Poor:** Solid or semi-solid debris that cannot be cleared

In 2022, 38% of hospitals (18 out of 47) recorded meeting the minimum target for bowel preparation (Figure 4.15). This is a decrease of just 1% when compared to 39% in 2019 (17 of 44 hospitals) and a decrease of 11% compared to 49% in 2020 (22 out of 45 hospitals).

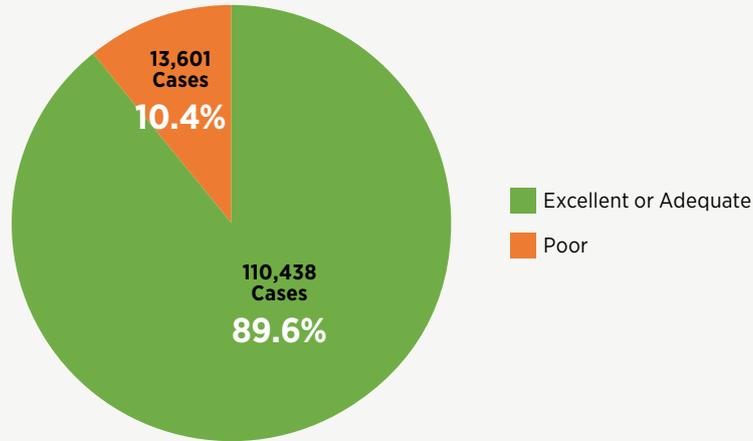
This temporary increase of 10% in 2020 is likely due to the increase in pre-assessment and triaging which occurred as a result of the pandemic restrictions. These two measures have been recommended in the past by the NEQI Programme as possible measures for addressing low bowel preparation scores and inform some of the suggested QI initiatives later in this chapter.

**FIGURE 4.15: Percentage Bowel Preparation Score by Hospital, 2022**



The national bowel preparation rate was recorded as 89% in 2022 (Figure 4.16) remaining unchanged from the rates recorded in both 2019 and 2020.

**FIGURE 4.16: Percentage and Number of Colonoscopies by Bowel Preparation Score, 2022**



It is the opinion of the NEQI working group that patients should be provided written instruction ahead of the procedure and split dose bowel preparation to be administered, when possible, to help increase the quality of bowel preparation. Measures such as nurse triaging could also help to increase bowel preparation rates.

The NEQI working group recommend QI initiatives are undertaken in order to increase the quality of bowel preparation. It is also recommended that baseline data are collected via NQAIS-Endoscopy, and where improvements are required that a QI project is carried out.

The following are examples of potential QI initiatives that could be carried out:

- enhanced written instructions supplied to patients before procedure
- split dose bowel preparation provided to patients ahead of procedures
- video instruction of bowel preparation ahead of procedure for patients
  - For example, the [Louth Hospital's Bowel Preparation video](#) which was presented at the 2022 NEQI Conference.

The NEQI programme is happy to facilitate any templates needed for the initiation of these projects. Please contact programme management if you require further information.

### KEY FINDING

In 2022, 38% of hospitals (18 out of 47) recorded meeting the minimum target for bowel preparation. This is a decrease of just 1% when compared to 39% in 2019 (17 of 44 hospitals) and a decrease of 11% compared to 49% in 2020 (22 out of 45 hospitals).

### RECOMMENDATION

The NEQI Programme recommend that hospitals ensure that the instructions provided to patients ahead of procedures, either via leaflet and/or video, be revised and enhanced to ensure that they are as clear as possible. This will help patients to interpret the preparation requirements easily and accurately, which will result in increased quality of bowel preparation and decrease the likelihood of repeat procedures as a consequence of poor bowel preparations. The written instructions should also be available in languages other than English which reflect the local population.

# CHAPTER 5 OESOPHAGOGASTRO- DUODENOSCOPY (OGD)



An upper GI endoscopy or oesophagogastroduodenoscopy (OGD) is a procedure used to diagnose and treat problems in the upper GI (gastrointestinal) tract. The upper GI tract includes the oesophagus, stomach, and the duodenum.

OESOPHAGOGASTRODUODENOSCOPIES (UPPER GI)	
Duodenal 2nd Part Intubation (Duo 2)	≥95%
Retroflexion	≥95%

The purpose of this procedure does not always involve reaching the anatomical landmarks required to report on this KQI. This is the case for procedures in a number of participating hospitals and further highlights the importance of not directly comparing hospitals in this report. Endoscopy reporting systems are currently unable to differentiate between these procedures and as such the NQAIS-Endoscopy data will include these data unadjusted.

## 5.1) Duodenal Second Part Intubation

Duodenal second part intubation is an important part of the completeness of an upper GI endoscopy procedure. To perform an upper GI endoscopic procedure, the endoscope should be passed through the pylorus to examine the first and second parts of the duodenum.

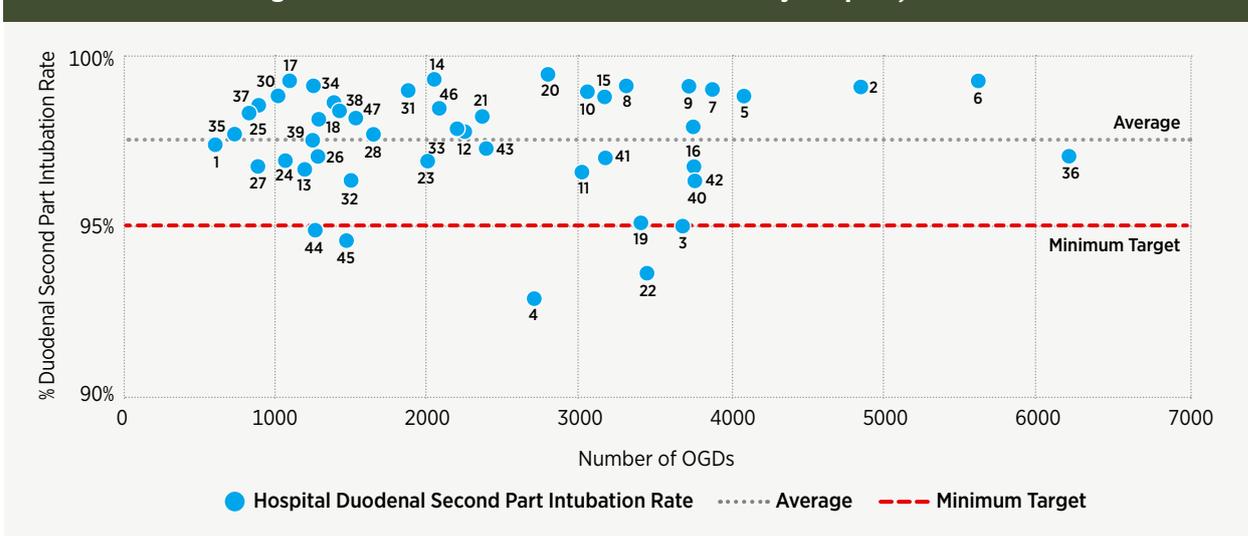
### Key Quality Indicator:

- Number of cases in which duodenal second part intubation was achieved, expressed as a % of total OGD cases per endoscopist

### Key Quality Target:

- Intubation of duodenum second part in ≥95% of cases

FIGURE 5.1: Percentage Duodenal Second Part Intubation Rate by Hospital, 2022



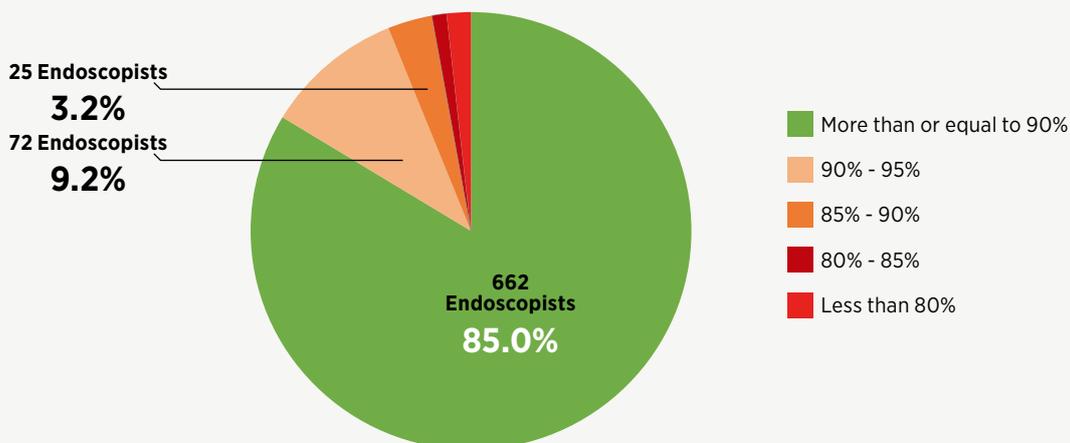
The percentage of hospitals meeting the target of greater than or equal to 95% OGDs with duodenum second part intubation recorded was 91% (43 out of 47) in 2022 (Figure 5.1). This figure was reduced from 98% (43 out of 44) in 2019 to 91% (41 out of 45) in 2020.

The NEQI working group recognise that some sites specialise in procedures that would not necessarily require or permit the intubation of the duodenal second part and that this will influence upper GI KQIs. It is also acknowledged that issues persist surrounding the recording of the data required for these KQIs. Although the number of sites reporting such issues has decreased each year since 2016, the NEQI working group would like to restate the importance of ensuring endoscopy reporting systems are up to date and that the fields required for QI data entry are mandatory.

**NOTE FROM BLACKROCK HEALTH BLACKROCK CLINIC**

*“Blackrock Clinic are aware that intubation and retroflexion may not be possible in some OGD cases as some of our patients have undergone bariatric or upper GI cancer resection surgery. The prevalence of these specialist procedures means that statistics relating to key quality indicators for upper GI procedures will be affected for a number of endoscopists in the hospital. The impact of case mix on these KQIs highlight the need to confirm statistics collected in NQAIS-Endoscopy against local hospital data.”*

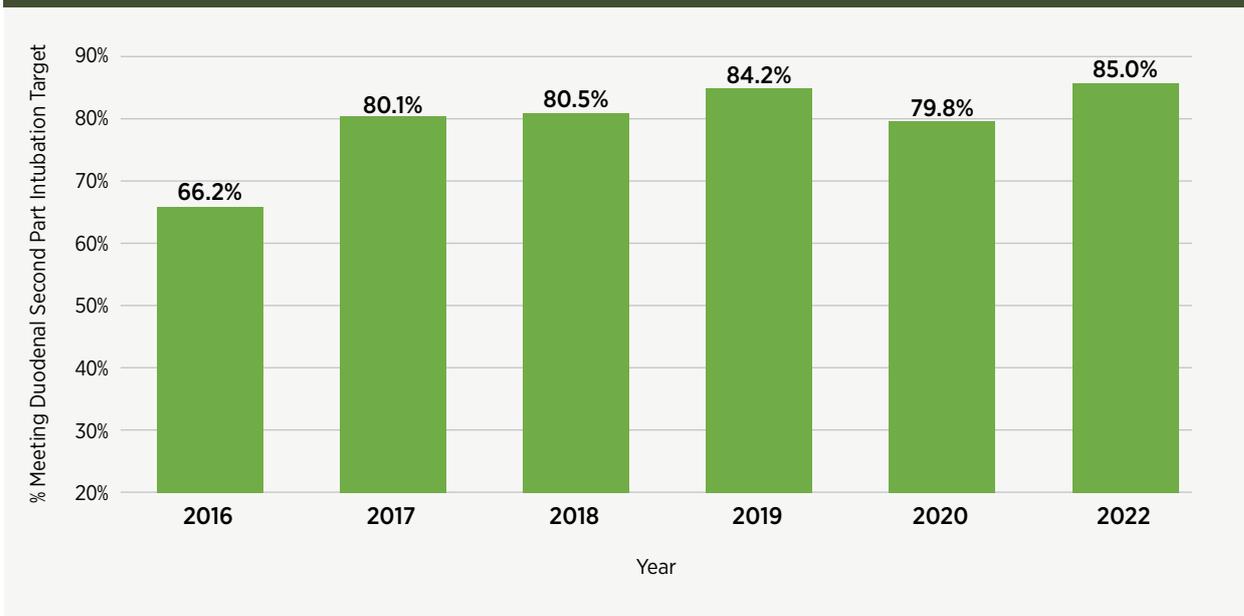
**FIGURE 5.2: Percentage and Number of Endoscopists by Duodenal Second Part Intubation Rate Category, 2022**



In 2022, the national duodenal second part intubation rate was 97.6%. This remains unchanged when compared with 2020 and 2019.

In 2022, 85% of endoscopists had a duodenal second part intubation rate of greater than or equal to 95% (Figure 5.2). This was 5% more than the percentage of endoscopists who met the target for this KQI in 2020 and 1% more than 2019 (Figure 5.3).

**FIGURE 5.3: Percentage of Endoscopists Meeting Duo2 Intubation Target – Year on Year, 2016 to 2022**



In April 2023 the Endoscopy in Barrett’s Oesophagus online course was released on the RCPI [website](#). This free course is aimed at (but not exclusively for) trainee gastroenterologists, surgeons and nurse endoscopists training in upper GI endoscopy. This online course was developed by the HSE Acute Operation’s Endoscopy Programme and RCPI with funding received from the NDTP.

The HSE Acute Operation’s Endoscopy Programme and JAG launched JETS Workforce in Ireland in May 2023. [JETS Workforce](#) is a training pathway for nurses and other healthcare professionals (aside from doctors/surgeons) who work in an endoscopy service. The programme is designed to provide a standardised framework for training for the workforce.

### KEY FINDING

In 2022, 85% of endoscopists had a duodenal second part intubation rate of greater than or equal to 95% (Figure 5.2). This was 5% more than the percentage of endoscopists who met the target for this KQI in 2020 and 1% more than 2019.

## 5.2) Retroflexion

Retroflexion, also known as the J manoeuvre, allows for a full view and inspection of the cardia and fundus of the stomach during an OGD. It is an important indicator of the quality and completeness of an upper GI endoscopic procedure.

### Key Quality Indicator:

- Number of cases in which retroflexion was performed expressed as a percentage of all OGD cases per endoscopist

### Key Quality Target:

- Retroflexion (J manoeuvre) in stomach to visualise fundus in  $\geq 95\%$  of cases

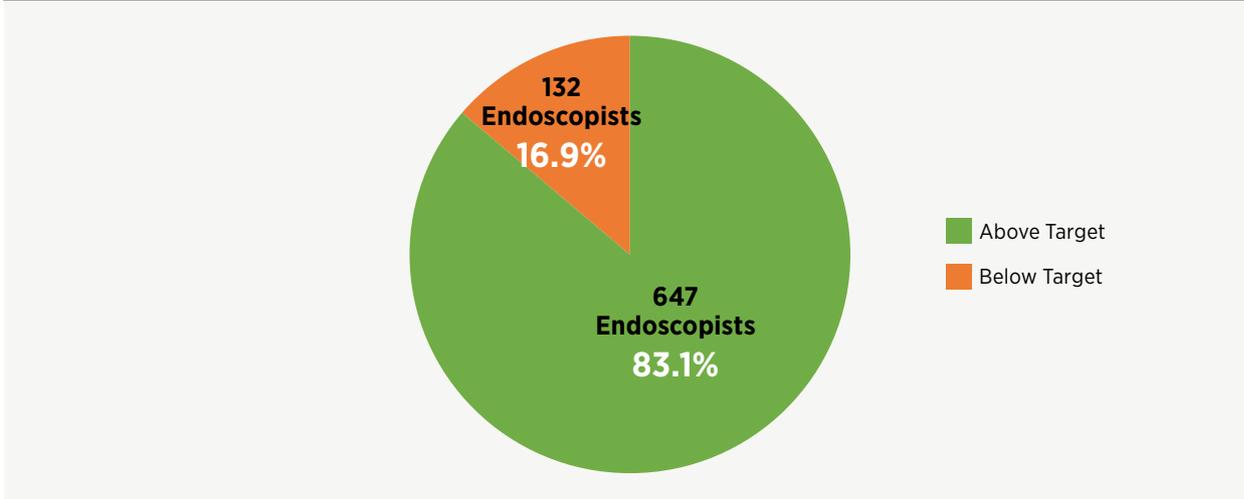
Figure 5.4 shows that in 2022, 96% (45 out of 47) units met the target of greater than or equal to 95% of OGDs with retroflexion recorded. This is a slight increase compared to 93% (42 out of 45 hospitals) in 2020 but has reduced from 98% (43 out of 44 hospitals) in 2019.

**FIGURE 5.4: Percentage Retroflexion Rate by Hospital, 2022**



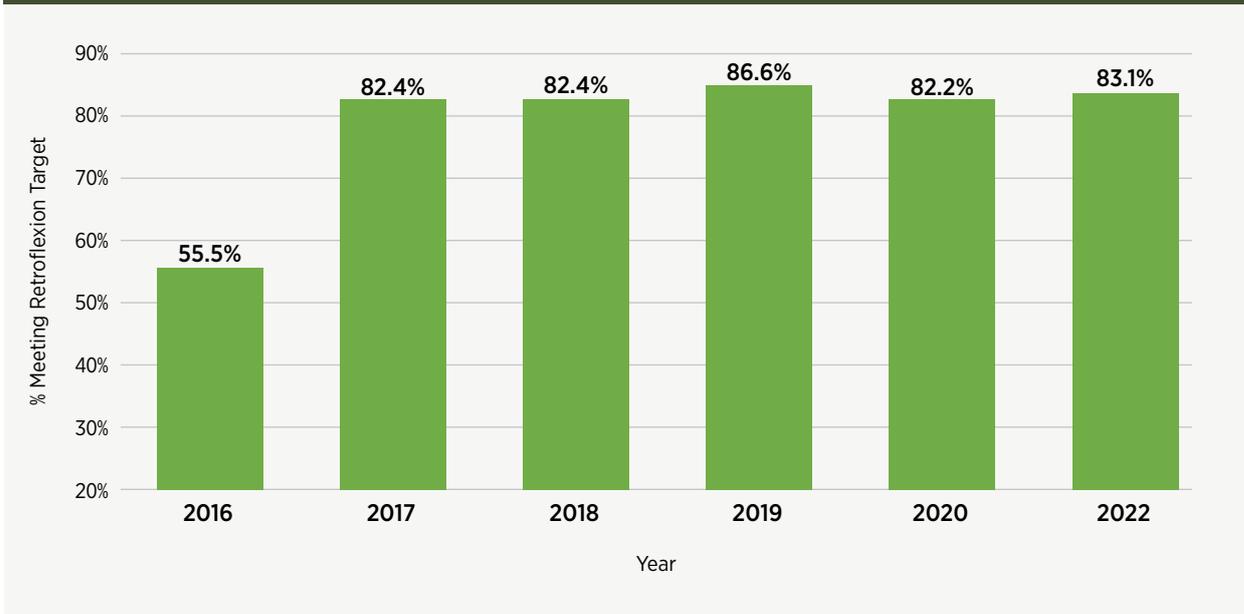
As outlined in relation to duodenal second part intubation, the NEQI working group believe that changes in case mix may be a contributing factor to the reduction of cases reported as visualising the fundus during a retroflexion procedure. As documented for the duodenal second part intubation there is at least one hospital experiencing difficulties recording accurate data for this KQI due to their ERS not requiring this field as mandatory.

**FIGURE 5.5: Percentage and Number of Endoscopists Above and Below Retroflexion Rate Target, 2022**



The percentage of endoscopists meeting the target for this KQI is 83% (Figure 5.5), this figure has dropped by 3.5% when compared to the same period in 2019 (Figure 5.6) and increased by 1% when compared to 2020.

**FIGURE 5.6: Percentage of Endoscopists Meeting Retroflexion Target – Year on Year, 2016 to 2022**



# CHAPTER 6 SEDATION

# 6

SEDATION	TARGET	ADDITIONAL INFORMATION
Midazolam	<p><b>Patients Aged below 70 years:</b> Median dose is <math>\leq 5</math>mg administered per endoscopist</p> <p><b>Patients Aged 70 years and Over</b> Median dose is <math>\leq 3</math>mg administered per endoscopist</p>	This KQI applies to both colonoscopies and OGDs.
Fentanyl	<p><b>Patients Aged below 70 years:</b> Median dose is <math>\leq 100</math>mg administered per endoscopist</p> <p><b>Patients Aged 70 years and Over</b> Median dose is <math>\leq 50</math>mg administered per endoscopist</p>	This KQI applies to both colonoscopies and OGDs.

Sedation improves the patient's tolerance of an endoscopy procedure, however, excessive sedation is considered a leading contributor to cardio-respiratory deaths following endoscopy in high-risk patients. This is particularly relevant for older patients (those greater than or equal to 70 years of age) where the median level of sedation should be approximately half the dose of that administered to patients under the age of 70.

The discomfort experienced by patients during an endoscopy procedure can be minimised by careful patient preparation, use of analgesia and sedation.

Pain control requires the administration of specific analgesic agents, most commonly fentanyl or pethidine. This report will re-introduce the national analysis of fentanyl usage following an increase in the quality of available data related to this analgesic.

In cases where a patient has multiple endoscopy procedures in one patient visit, the following recording practices should be employed:

1. Procedure A's record should have the type and quantity of sedation that was administered at the time of the Procedure A.
2. Procedure B's record should have the type of sedation administered for Procedure A AND the type and quantity of sedation that was administered for Procedure B.

## 6.1) Midazolam Use in Patients Aged 70 Years and Over - Colonoscopy

Midazolam is the most common type of sedative used in colonoscopies. As such, its usage is the main focus of the sedation chapter of this report.

Sedation targets for endoscopists are set on a median basis and not an average as per other KQIs. The NEQI Programme utilises the median value for these KQIs as other statistics, such as the average, can be skewed by extreme and unusual cases.

Given that sedation presents increased risk for older patients, the analysis in this report focuses on patients aged 70 years and over.

In 2022, 79% of colonoscopies performed on patients aged 70 years and older used less than or equal to 3mg of midazolam (Figure 6.1). This is an increase of 11% when compared to the 68% of colonoscopies receiving the less than or equal to 3mg in 2019 and an increase of 6% compared to 2020.

**FIGURE 6.1: Colonoscopies by Midazolam Dose Category for Patients Aged 70 and Older, 2022**

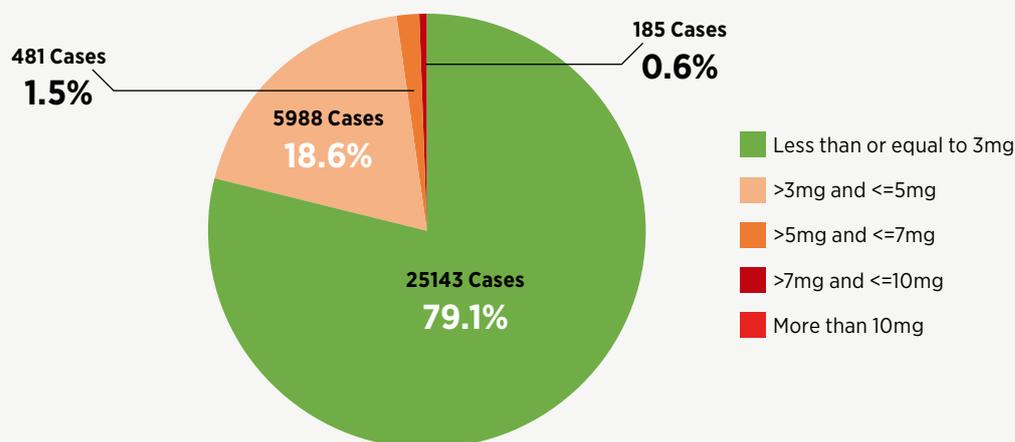
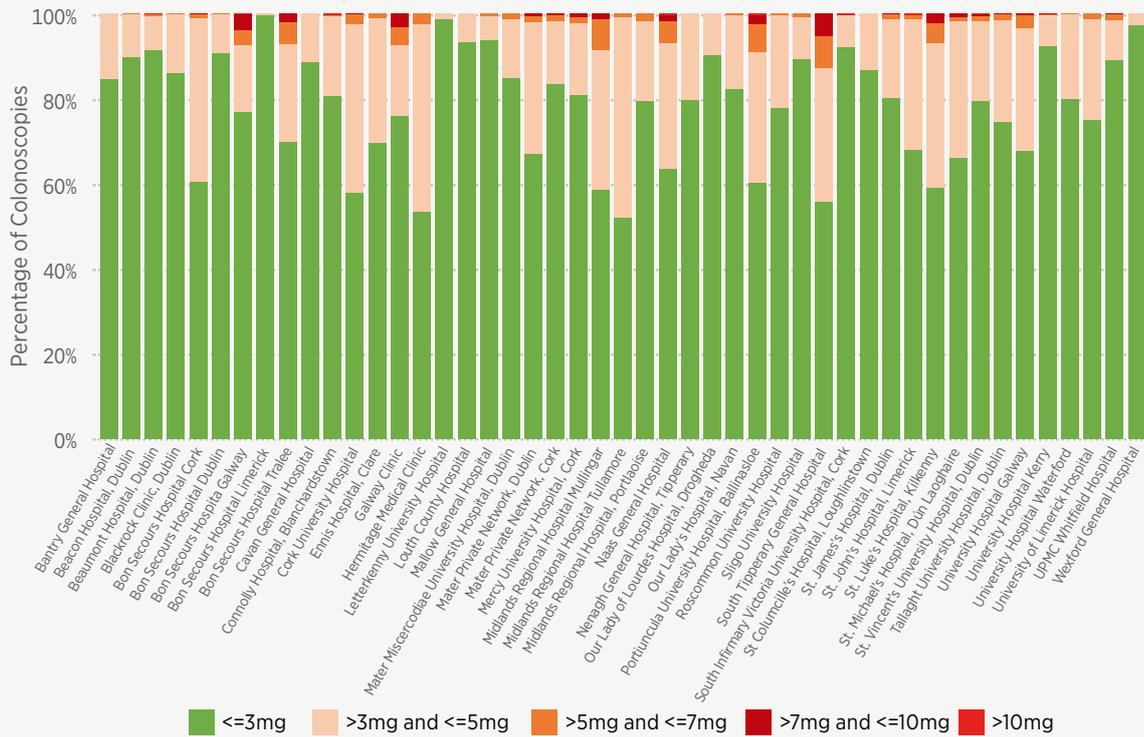


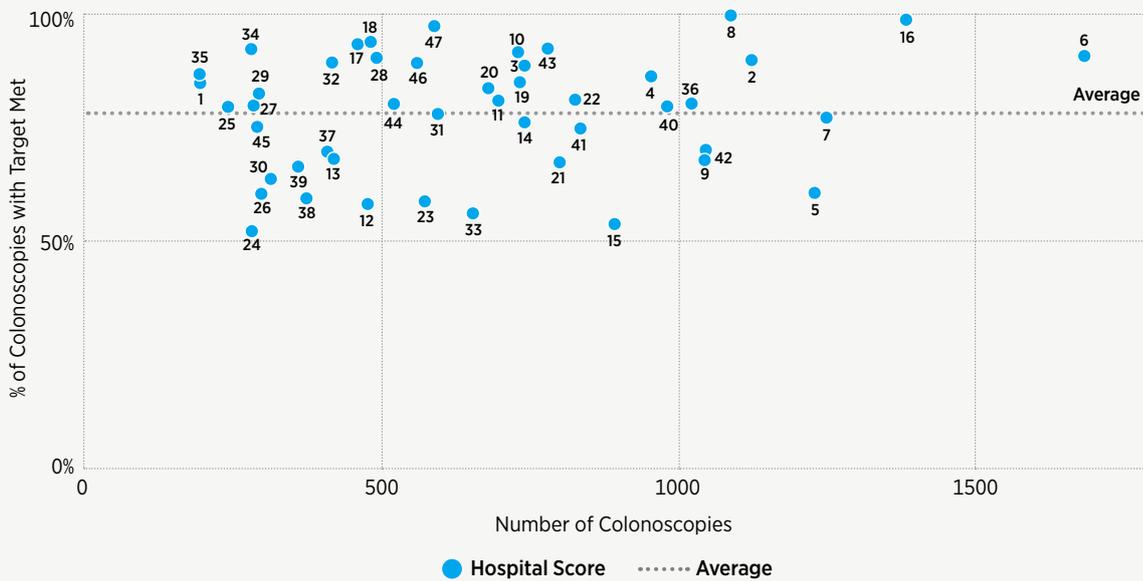
Figure 6.2 below shows each hospital's midazolam use by dose as a percentage of colonoscopies where midazolam was used. In this graph, the green bars represent the percentage of colonoscopies where patients aged 70 years and older received less than or equal to 3mg of midazolam.

This is further explored in figure 6.3 which plots the percentage of colonoscopies for patients aged 70 and older meeting the midazolam target by the number of colonoscopies performed using midazolam for this patient group for each hospital. It is clear that there is wide variation in this KQI between units nationally.

**FIGURE 6.2: Midazolam Doses in Patients Aged 70 Years and Older – Percentage of Colonoscopies per Hospital, 2022**

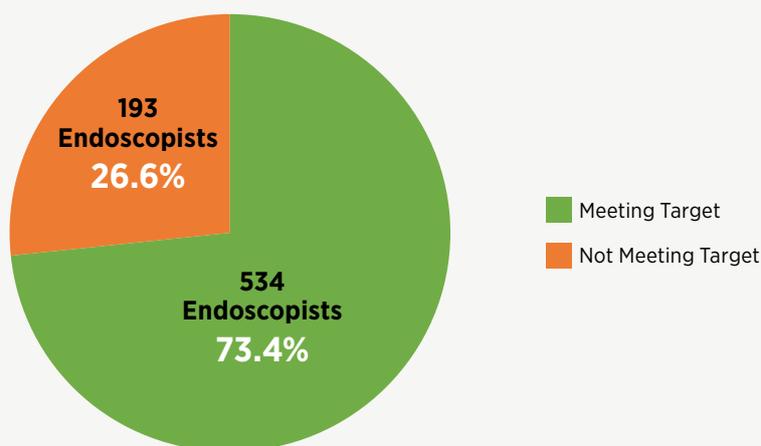


**FIGURE 6.3: Midazolam Doses Per Hospital - Percentage of Colonoscopies for Patients Aged 70 and Older where Target was Met, 2022**



In 2022, 73.5% of endoscopists reported a median midazolam dose of less than or equal to 3mg for patients aged 70 years and older (Figure 6.4). This is a decrease of 5.5% when compared to the same period in 2019 and a decrease of 0.5% when compared to 2020 (Figure 6.5).

**FIGURE 6.4: Number and Percentage of Endoscopists Meeting Midazolam Target for Colonoscopies for Patients is Aged 70 and Older, 2022**



**FIGURE 6.5: Percentage of Endoscopists Meeting Midazolam Median Target for Colonoscopies for Patients Aged 70 and Over, 2016 to 2022**



### KEY FINDING

In 2022, 79% of colonoscopies performed on patients aged 70 years and older received less than or equal to 3mg of midazolam. This is an increase of 11% when compared to the 68% of colonoscopies receiving the less than or equal to 3mg in 2019 and an increase of 6% compared to 2020.

### RECOMMENDATION

The NEQI Programme recommends that hospitals 1) examine the possibility of making 1mg/ml sedation doses available to endoscopists to facilitate more precise titration of midazolam dosing. 2) analyse the potential benefits to the patient of reducing high sedation doses while maintaining a safe, quality endoscopy and comfortable patient experience.

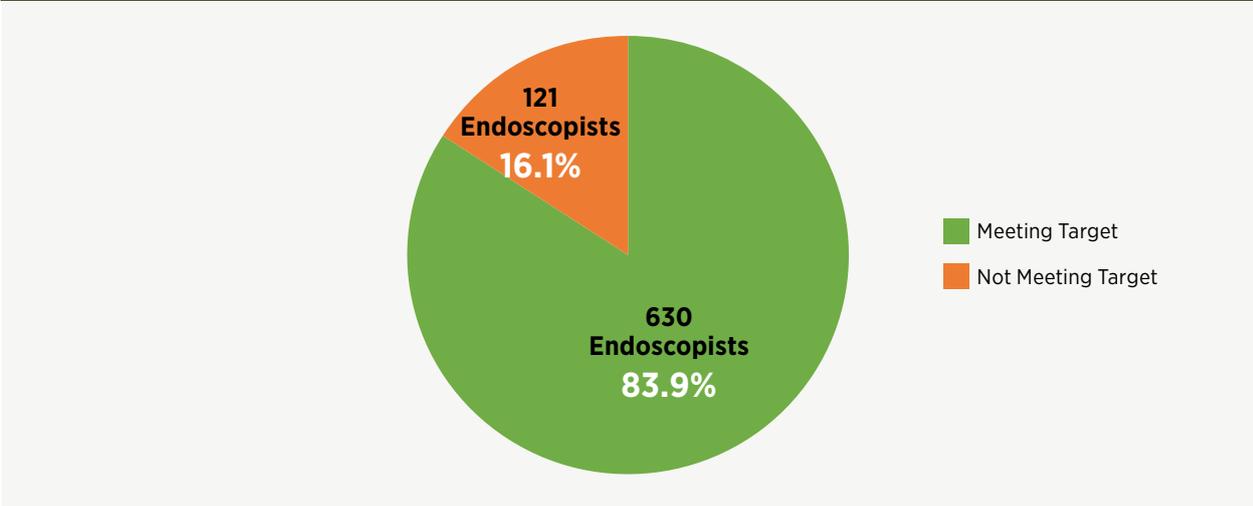
Some endoscopists are exploring techniques, such as regular position change and water emersion, that can significantly reduce, or potentially eliminate, the need for sedation usage. These techniques have the potential to positively impact patient recovery times and waiting lists.

## 6.2) Midazolam Use in Patients Over 70 - OGDs

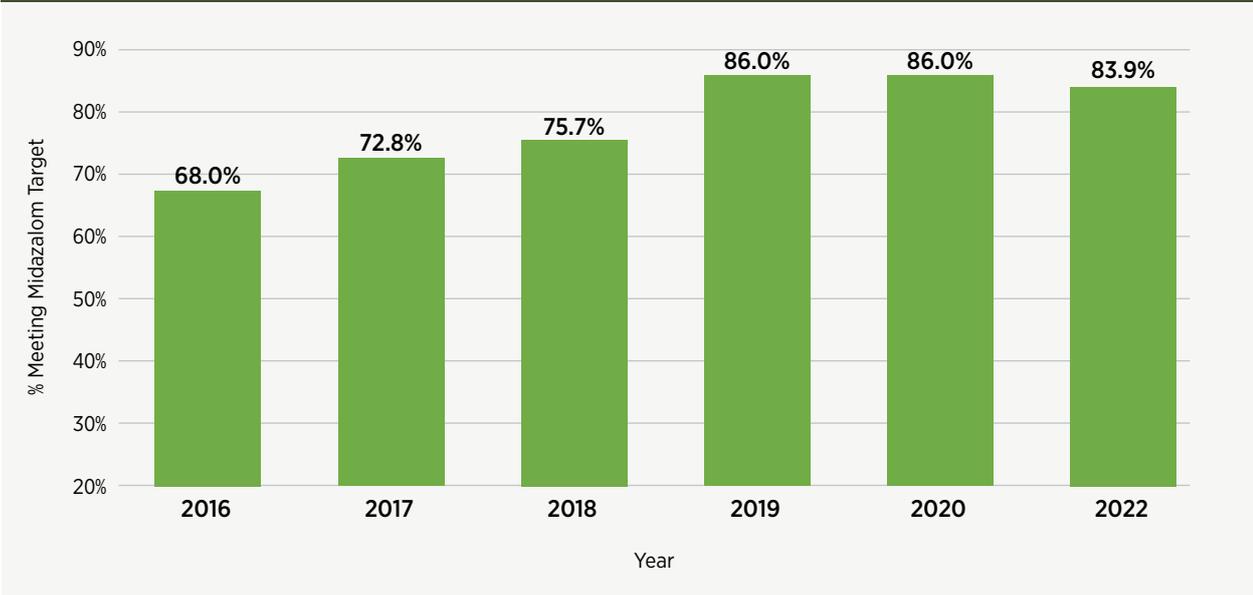
This section looks at the midazolam administered to patients aged 70 years and over for upper GI endoscopy procedures.

In 2022, 84% of endoscopists reported a median midazolam dose that was equal to or less than 3mg for patients aged 70 years and older (Figure 6.6). This is 2% less than the percentage of endoscopists (86%) who met the target in both 2020 and 2019 (Figure 6.7).

**FIGURE 6.6: Number and Percentage of Endoscopists Meeting Midazolam Median Target for OGDs for Patients Aged 70 and Older, 2022**



**FIGURE 6.7: Percentage of Endoscopists Meeting Midazolam Target for OGDs for Patients Aged 70 and Over, 2016 to 2022**



### 6.3) Fentanyl Use in Patients Aged 70 and Older

Previous iterations of the NEQI national data report have not reported on fentanyl doses due to unreliable data. As the programme has recently moved to enhanced methods of data analysis while increasing the quality of the data collected in NQAIS-Endoscopy it is now possible to present reliable findings for this key quality indicator.

As with other sedation related KQIs, this section will focus on procedures where fentanyl was administered to patients aged 70 year and older. The target median dose for endoscopists performing procedures on patients in this demographic is more than or equal to 50µ.

In 2022, 84% of endoscopists recorded a median fentanyl dose less than or equal to the target median of 50µ (Figure 6.9).

**FIGURE 6.9: Fentanyl Dose Category for Colonoscopies for Patients Aged 70 and Over, 2022**

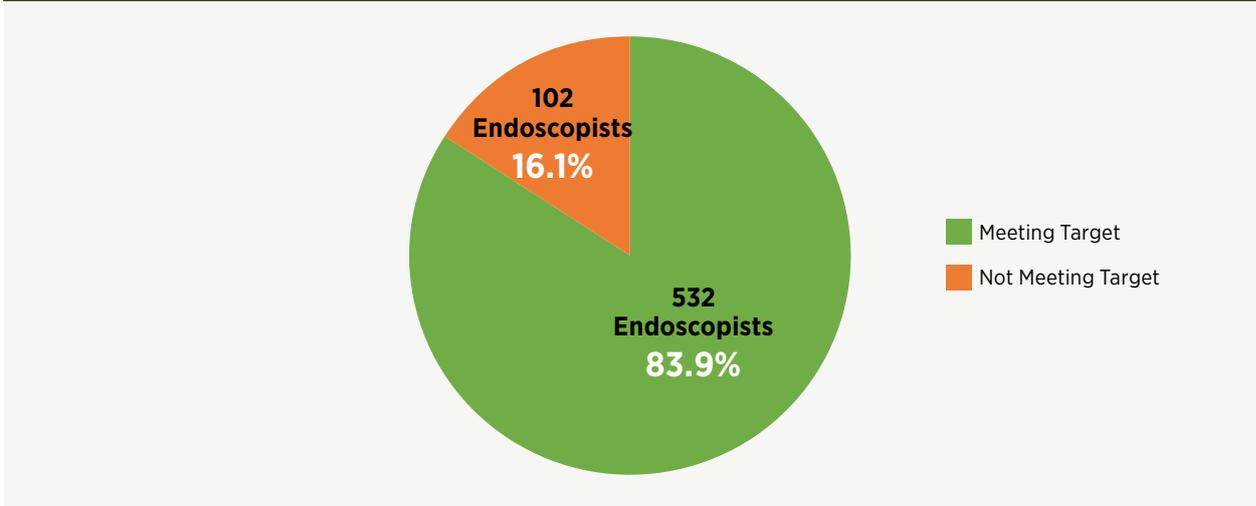
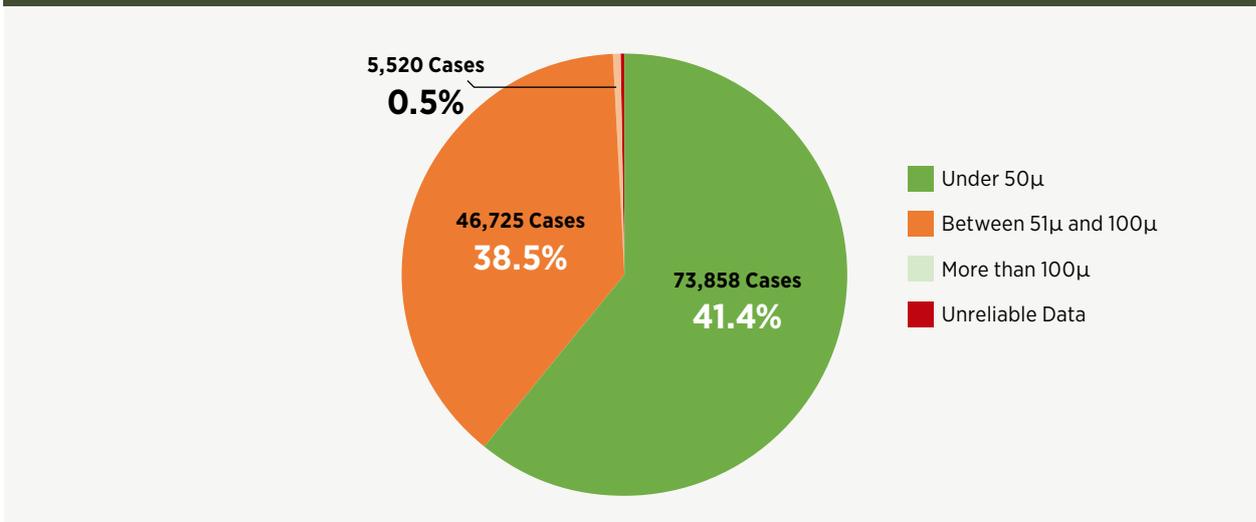


Figure 6.10 shows that when all colonoscopies where fentanyl was administered in 2022 are aggregated, 60% of procedures recorded administering less than or equal to 50µ of fentanyl. A further 38.5% endoscopists administered between 51µ and 100µ fentanyl.

**FIGURE 6.10: Fentanyl Dose Category for Colonoscopies with Patients Aged 70 and Older, 2022**



# CHAPTER 7

## YEAR ON YEAR ANALYSIS



The NEQI working group suggest that analysing the percentage of endoscopists meeting target on a year-on-year basis is the most insightful way to track the progression of endoscopy quality since the first national data report in 2016.

The percentage of endoscopists meeting targets across the KQIs listed in this report (Figure 7.1) reveal a reestablishment of levels seen in 2019.

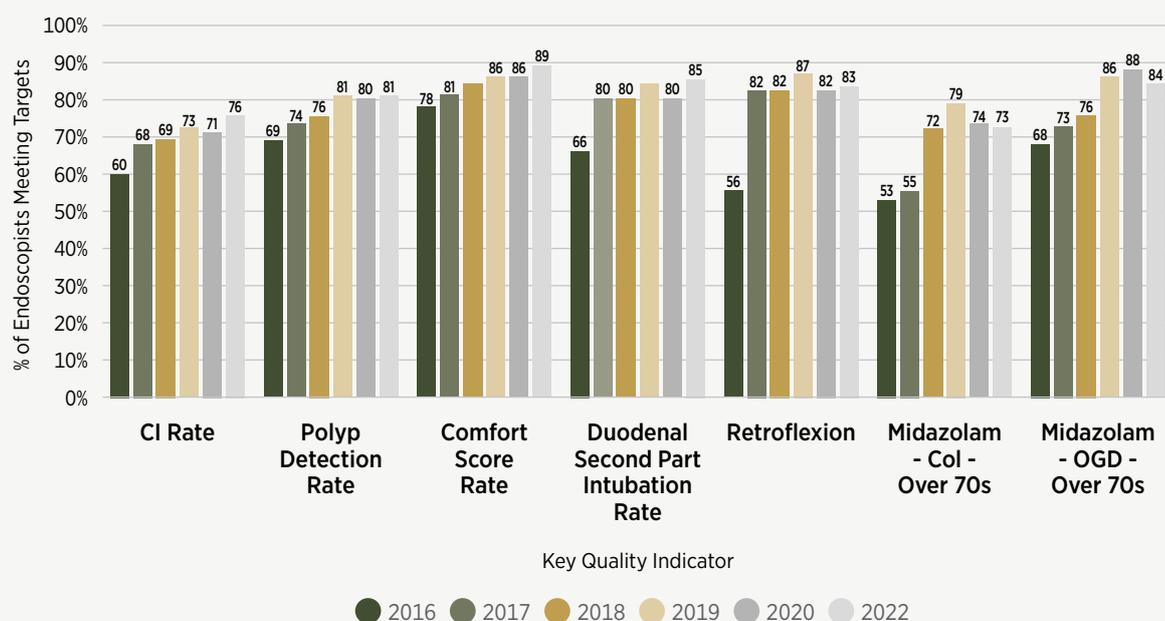
In some cases, an increase in the percentage of endoscopists meeting targets can be seen in the 2022 data when compared to 2019 findings. Caecal intubation and comfort scores have increased on 2019 levels while polyp detection rate, duodenal intubation rate and retroflexion rates have remained around 2019 levels.

This indicates a return to the pattern of incremental increases in endoscopists meeting target in 2022, post-pandemic and cyber-attack.

The percentage of endoscopists meeting target for median sedation doses given to patients aged 70 years and older appears to have experienced a slight drop for both colonoscopy and OGDs when compared to 2019 and 2020.

When the 2022 data are compared to the earliest national data report, it reveals that the achievement of all KQIs has improved significantly since publishing of national data began in 2016. Through the implementation of QI activities based on the findings in this report, and the data in NQAIS-Endoscopy, the NEQI working group aim to continue this momentum over the coming years.

**FIGURE 7.1: Percentage of Endoscopists Meeting Targets Nationally per Key Quality Indicator – Year on Year, 2016 – 2022**



## CHAPTER 8

# CONCLUSION

# 8

Following two consecutive years of data being affected by external events, the data analysed in this report highlights a welcome return to workload statistics and key quality indicator scores that are more in line with previous years. The NEQI working group is happy to report that not only do the data indicate a return to the level of pre-pandemic years, but in several key quality areas the number of endoscopists meeting targets has continued to increase.

Although the number of endoscopists meeting targets has increased in areas such as caecal intubation rate, the working group acknowledge that there remains a cohort who are not meeting certain targets who should continue to focus on meeting the standards outlined in the guidelines.

To further understand the data, the NEQI Programme aims to increase its analytical capability in the coming months, enabling investigation into this make-up of the cohort of endoscopists not meeting target. Key to understanding and improving this group will be the ability to differentiate between Trainees and consultant-performed procedures.

In 2022, the NEQI Programme participated in the effort to procure a national endoscopy reporting system, ensuring that any new system will be optimised for the collection and reporting of QI data. The programme aims to ensure that these new levels of detail are built into future endoscopy reporting systems.

This development, coupled with a streamlining of the NQAIS-Endoscopy process, means that the NEQI Programme will have the potential to significantly increase the impact of the QI data while also reducing the amount of work required to comply with the data upload schedule in the years to come.

The NEQI working group encourage participating hospitals to utilise the data to its fullest extent by using it as baseline data for quality improvement initiatives in endoscopy. The programme is happy to recommend contacts and resources to any sites who are interested in commencing such an initiative.

We would like to sincerely thank all the QI clinical leads and local operation managers for their efforts, commitment, and continued support throughout the year. We hope to move forward into the next reporting period with a reinforced focus on the importance of quality improvement in endoscopy services in Ireland.

# APPENDIX A: DETAILED RECOMMENDATIONS

TABLE A.3.1 RECOMMENDATION CHAPTER 3 NUMBER 1

**The NEQI Programme recommend that a protected time allocation of 1 hour per week for all local clinical leads, 1.5 hours per week for NEQI working group members and 2 hours per week for the working group chair are implemented to carry out the activities associated with these roles.**

**In relation to public hospitals, following discussions between the NEQI Programme and HSE Acute Operations, Acute Operations have agreed to be the assigned owner for this recommendation.**

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Patients/ members of public availing of endoscopy services in Ireland.</li> <li>• The endoscopy workforce of Ireland             <ul style="list-style-type: none"> <li>- Medical staff under the scope of endoscopy</li> <li>- Other healthcare professionals working under scope of endoscopy</li> </ul> </li> <li>• Hospital-based services availing of endoscopy services in Ireland.</li> <li>• Community based services availing of endoscopy services in Ireland.</li> <li>• Endoscopists / other healthcare professionals involved in research and development in the field of endoscopy.</li> <li>• Trainee endoscopists and other healthcare professionals working within the scope of endoscopy</li> <li>• Those participating in the NEQI programme</li> <li>• Working Group members of the NEQI programme</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• Acute Operations, HSE</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• Protected time to be assigned to local quality improvement clinical leads, NEQI working group members and the NEQI working group chair, as recommended by the NEQI working group as 1 hr/week, 1.5 hrs/week and 2 hrs/week respectively.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• The NEQI programme relies on consultant endoscopists taking on the roles of QI clinical leads locally in a volunteer capacity. In addition, the working group members and chair dedicate significant time to the running of the programme at a national level also on a volunteer basis.</li> <li>• The benefits of the programme in maintaining appropriate standards in the Irish endoscopy services is well documented but cannot be realised without the time devoted by the endoscopy workforce.</li> <li>• Current data show that the volumes of colonoscopies, OGDs and FSigs have been steadily rising throughout the years since the introduction of the NEQI Programme.</li> <li>• Protected time is required to ensure data are collected and submitted to the national dataset, providing findings both locally and nationally and to ultimately allow vital clinical audit and quality improvement initiatives to take place, with the ultimate aim of ensuring the highest clinical standards are achieved and maintained.</li> <li>• Dedicated protected time that is well defined is required to enable this to happen. Clinicians require allocated time within their working hours to assist with this.</li> <li>• The role of the QI clinical lead, the NEQI working group members and chair involve an undertaking of a significant number of responsibilities and duties on a regular basis and in order for this to be carried out efficiently and effectively dedicated time is required.</li> </ul>

**RATIONALE FOR THIS  
RECOMMENDATION  
(CONTINUED)**

**Role of the QI Clinical Lead locally:**

Such duties involve:

- Overseeing the management of the programme locally (along with the local operation manager).
- Ensuring compliance is adhered to and investigating if not.
- Analysing data uploads and reports and using them effectively to assess areas in need of improvement/ areas meeting defined targets
- Reporting to hospital management on a quarterly basis around KQIs achieved locally, and using NQAIS data and their enrolment in the programme to highlight areas requiring attention

**Role of the NHQI Working Group Members:**

Such duties involve:

- Attend monthly NEQI working group meeting. Efforts are made to ensure meetings are between 1-2 hours long.
- Responding in a timely fashion to WG meeting invite to ensure meetings can take place with appropriate quorum
- Actively participate in meetings through attendance, discussion and review, completing corresponding tasks as and when required.
- Review of monthly decisions and actions from NEQI working group meeting.
- Responding to any queries raised by participants of the programmes in a timely manner.
- Review of correspondence from programme management and respond if required.
- Involvement in a considered review to any data requests submitted to the programme for NEQI data and respond in a timely manner to these.
- Assisting programme management in any issues that arise around compliance within the programme.
- Actively contributing to any updates for the programme, such as programme Guidelines, amendments to upload schedule, expressions of interest for new members.
- Actively contributing to the annual National Data Report and overseeing its final version for publication. This involves numerous reviews over a number of months providing expert advice on findings and recommendations.
- Attendance at the annual QI conference and contribution to any material that may be presented at it if required.
- Advocating for the programme by bringing information on the QI Programme, including the latest version of the QI Guidelines to hospital management.
- Supporting open discussion and debate, and encourage fellow Working Group members to voice their insights
- Research and generate specialist programme documentation as required

**Role of the NHQI Working Group Chair:**

Additional duties to the above involve:

- Provide leadership within the working group and act as a strong advocate of the QI Programme.
- Encourage participation from working group members.
- Delegate tasks appropriately within the working group.
- Chair the monthly Working Group meeting and determine final agenda for such meeting.
- Review monthly compliance of participants with Programme Management.
- Format any correspondence required on behalf of the programme/working group to outside parties.
- Present at conferences as the NEQI Programme representative.
- Drive decision making on key programme activities within the working group.
- Resolve conflict that may arise in the course of working group meetings.
- Identify and seek resolution on working group issues which require input or steer from outside of the group.
- Continually review the progress of the programme with the programme manager.
- Represent the working group at the steering committee and other relevant forums.
- Identify an alternate to represent the working group at forums when not available.

**Compliance Data Upload Schedule**

- A review of compliance over the years has shown difficulties maintaining the programme upload schedule of quarterly uploads for participating units. The programme request that quarterly uploads occur. The programme therefore aims to have the full year data uploads from participating units by the end of March for inclusion in the national data report, giving hospitals 3 months to complete the upload of Q4 data from the previous year. In 2023, 69% hospitals had completed full uploads by this time, compared to 68% in 2022 and 62% in 2021. On investigation, programme management found that time pressures were a common theme.

**Growing Workload**

- Figures from this year's report show the highest recorded values since the initiation of the programme, with procedure numbers reaching 257,903. If the three additional hospitals in the 2022 dataset who joined after 2019 are excluded, there remains an increase of 16,288. This represents an increase of 6.8%. The growth in workload of hospitals is evident over this time frame even when additional hospitals in the national data set are accounted for.
- With workload growing and complexities increasing the need for clinical audit and quality improvement work is growing also.

**TABLE A.3.2 RECOMMENDATION CHAPTER 3 NUMBER 2**

**The NEQI Programme recommend that appropriate triaging methods, such as Faecal Immunochemical Tests, are implemented for hospitals that are experiencing longer waiting lists for colonoscopies as a result of increased workload.**

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Patients/ members of public availing of endoscopy services in Ireland.</li> <li>• The endoscopy workforce of Ireland             <ul style="list-style-type: none"> <li>- Medical staff under the scope of endoscopy</li> <li>- Other healthcare professionals working under scope of endoscopy.</li> </ul> </li> <li>• Hospital-based services availing of endoscopy services in Ireland.</li> <li>• Community based services availing of endoscopy services in Ireland.</li> <li>• Those participating in the NEQI programme.</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• HSE Acute Operations National Endoscopy Programme</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• The HSE Acute Operations National Endoscopy Programme should examine evidence for the effectiveness of FI Testing, and other triaging methods such as urea and blood tests, in addressing the growing waiting lists for colonoscopies.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• Current data show that the volumes of colonoscopies, OGDs and FSigs have been steadily rising throughout the years since the introduction of the NEQI Programme.</li> </ul>
<p><b>EVIDENCE BASE</b></p>	<p><b>Year on Year Workload Figures</b></p> <ul style="list-style-type: none"> <li>• Figures from this year’s report show the highest recorded values since the initiation of the programme, with procedure numbers reaching 257,903. If the three additional hospitals in the 2022 dataset who joined after 2019 are excluded, there remains an increase of 16,288. This represents an increase of 6.8%. The growth in workload of hospitals is evident over this time frame even when additional hospitals in the national data set are accounted for.</li> <li>• With workload growing and complexities increasing the need for clinical audit and quality improvement work is growing also.</li> </ul>

**TABLE A.2.1 RECOMMENDATION CHAPTER 2 NUMBER 1**

**The NEQI Programme recommend that the process of uploading data to NQAIS-Endoscopy be automated in order to reduce the impact on local operational manager’s workload while increasing upload compliance.**

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Participating endoscopy units.</li> <li>• Local operational managers and clinical leads.</li> <li>• HSE Acute Operations and other departments utilising national endoscopy data.</li> <li>• Hospital-based services and community-based organisations utilising data related to the endoscopy services in Ireland.</li> <li>• Endoscopists / other healthcare professionals involved in research and development in the field of endoscopy.</li> <li>• Trainee endoscopists and other healthcare professionals working within the scope of endoscopy.</li> <li>• NEQI Programme management</li> <li>• Patients/ members of public availing of endoscopy services in Ireland</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• NEQI Programme Management, RCPI</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• NEQI Programme Management should begin the process of facilitating an automated upload to NQAIS-Endoscopy from participating endoscopy reporting systems through initiating discussions with HSE eHealth and relevant vendors.</li> <li>• NQAIS-Endoscopy should be updated to allow for ERSs to automatically upload data in an agreed time frame.</li> <li>• Data quality checks and clinical lead sign off should be retained.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• The NEQI programme relies on local operational managers uploading data to NQAIS-Endoscopy on a quarterly basis.</li> <li>• As a result of staff turnover, frequent retraining of participating sites is required by the vendor of the endoscopy reporting system.</li> <li>• Given the manual nature of the upload, there is also a possibility to allow LOMs to reallocate valuable working hours should this issue be addressed.</li> <li>• Automated uploads could address the two main issues affecting upload compliance:             <ul style="list-style-type: none"> <li>- Lack of LOM training in creating the upload</li> <li>- Lack of time required to create the upload.</li> </ul> </li> <li>• An automated upload has the potential to facilitate a more frequent data upload to NQAIS-Endoscopy and could therefore increase the impact of the data available by making it even more real time.</li> <li>• Automated uploads and increased compliance will allow NEQI Programme Management to create national reports in a more timely manner due to increased levels of data compliance.</li> <li>• The NEQI Programme will maintain clinical sign-off of data uploads for any agreed automation process.</li> <li>• When data is not uploaded and signed off in a timely fashion, local and national data it cannot be used accurately for comparative analysis with other years not can it be used for research purposes.</li> </ul>
<p><b>EVIDENCE BASE</b></p>	<p><b>Compliance Data Upload Schedule</b></p> <ul style="list-style-type: none"> <li>• A review of compliance over the years has shown difficulties maintaining the programme upload schedule of quarterly uploads for participating units. The programme request that quarterly uploads occur. The programme therefore aims to have the full year data uploads from participating units by the end of March for inclusion in the national data report, giving hospitals 3 months to complete the upload of Q4 data from the previous year.</li> <li>• In 2023, 70% of hospitals had completed full uploads by this time, compared to 68% in 2022 and 65% in 2021. On investigation, Programme Management found that time pressures were a common theme.</li> </ul>

**TABLE A.6.1 RECOMMENDATION CHAPTER 6 NUMBER 1**

The NEQI Programme recommends that hospitals 1) examine the possibility of making 1mg/ml sedation doses available to endoscopists to facilitate more precise titration of midazolam dosing. 2) analyse the potential benefits to the patient of reducing high sedation doses while maintaining a safe, quality endoscopy and comfortable patient experience.

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Patients/ members of public availing of endoscopy services in Ireland.</li> <li>• The endoscopy workforce of Ireland             <ul style="list-style-type: none"> <li>- Medical staff under the scope of endoscopy</li> <li>- Other healthcare professionals working under scope of endoscopy.</li> </ul> </li> <li>• Hospital-based services availing of endoscopy services in Ireland.</li> <li>• Community based services availing of endoscopy services in Ireland.</li> <li>• Those participating in the NEQI programme.</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• HSE Acute Operations National Endoscopy Programme</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• The recommendation owner should examine the possibility to provide of smaller doses of sedation, such as 1mg/ml, and how to measure the potential benefits to patients' safety, patient comfort, and ability to work through patient lists.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• Data from the NEQI national data reports show that there is variation in hospitals on the median amount of midazolam administered to patients aged 70 years and older. The NEQI recommends that a median of 3mg is administered for this patient group. As the sedation is not always available in 1mg/ml doses, some endoscopists may not be able to administer this target median and will instead administer multiples of 2mg/ml.</li> </ul>
<p><b>EVIDENCE BASE</b></p>	<p><b>NEQI National Data Report figures for Sedation doses:</b></p> <ul style="list-style-type: none"> <li>• In 2022, 73.4% of endoscopists met the target median dose of less than or equal to 3mg for midazolam in colonoscopies with patients aged 70 and older, meaning that 13.6% of endoscopists did not meet this target. While it is acknowledged that certain patients' cohorts and complexity of cases, resulting in higher doses being administered, the median is employed reflect the most common doses administered.</li> <li>• From 2018 to 2022, between 72.1% and 79.0% of endoscopists have met the target for this key quality indicator, with the highest percentage in 2019 (79%) and the lowest in 2018 (72.1%)</li> </ul>

**TABLE A.4.1 RECOMMENDATION CHAPTER 4 NUMBER 2**

The NEQI Programme recommend that hospitals ensure that the instructions provided to patients ahead of procedures, either via leaflet and/or video, be revised and enhanced to ensure that they are as clear as possible. This will help patients to interpret the preparation requirements easily and accurately, which will result in increased quality of bowel preparation and decrease the likelihood of repeat procedures as a consequence of poor bowel preparations. The written instructions should also be available in languages other than English which reflect the local population.

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Patients/ members of public availing of endoscopy services in Ireland.</li> <li>• The endoscopy workforce of Ireland             <ul style="list-style-type: none"> <li>- Medical staff under the scope of endoscopy</li> <li>- Other healthcare professionals working under scope of endoscopy.</li> </ul> </li> <li>• Hospital-based services availing of endoscopy services in Ireland.</li> <li>• Community based services availing of endoscopy services in Ireland.</li> <li>• Those participating in the NEQI programme.</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• Participating hospitals</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• Hospitals should explore whether providing enhanced written instructions, video instruction, and split dose bowel preparation could have a positive impact on bowel preparation scores in their unit.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• National data reports consistently show that the majority of participating hospitals are not meeting the minimum target for this KQI each year. Pre-assessment and triaging which occurred as a result of the pandemic restrictions are likely to have contributed to the increase in hospitals meeting the minimum target for bowel preparation in 2020.</li> </ul>
<p><b>EVIDENCE BASE</b></p>	<p><b>Percentage of hospitals meeting minimum bowel preparation target:</b></p> <ul style="list-style-type: none"> <li>• In 2022, 38% of hospitals (18 out of 47) recorded meeting the minimum target for bowel preparation. This is a decrease of just 1% when compared to 39% in 2019 (17 of 44 hospitals) and a decrease of 11% compared to 49% in 2020 (22 out of 45 hospitals).</li> <li>• From 2016 to 2022, less than 50% of hospitals have met the minimum target for bowel preparation each year.</li> </ul>

**TABLE A.4.1 RECOMMENDATION CHAPTER 4 NUMBER 1**

The NEQI Programme recommend that any future endoscopy reporting system facilitate the differentiation between procedures performed primarily by Trainees and procedures performed primarily by consultant endoscopists.

Other splits should also be considered such as inpatient/outpatient procedures and physician/surgeon performed procedures.

<p><b>WHO BENEFITS FROM THE RECOMMENDATION?</b></p>	<ul style="list-style-type: none"> <li>• Patients/ members of public availing of endoscopy services in Ireland.</li> <li>• The endoscopy workforce of Ireland             <ul style="list-style-type: none"> <li>- Medical staff under the scope of endoscopy</li> <li>- Other healthcare professionals working under scope of endoscopy.</li> </ul> </li> <li>• Hospital-based services availing of endoscopy services in Ireland.</li> <li>• Endoscopy Trainees</li> <li>• Consultant Endoscopists</li> <li>• NEQI Programme</li> <li>• HSE National Quality and Patient Safety Directorate</li> <li>• HSE Acute Operations</li> </ul>
<p><b>WHO OWNS THE ACTION?</b></p>	<ul style="list-style-type: none"> <li>• National GI Endoscopy Quality Improvement Programme</li> </ul>
<p><b>WHAT ACTION SHOULD BE TAKEN?</b></p>	<ul style="list-style-type: none"> <li>• The NEQI Programme should ensure that any future updates to endoscopy reporting systems facilitate the differentiation between trainees and consultants in order to allow further analysis into the cohort of endoscopists who are/are not meeting targets for key quality indicators.</li> </ul>
<p><b>RATIONALE FOR THIS RECOMMENDATION</b></p>	<ul style="list-style-type: none"> <li>• Data presented in national data reports show that, despite the percentage of endoscopists meeting targets increasing across multiple KQIs, there remains approximately 25%-30% of endoscopists not meeting target. It is possible that this cohort may be comprised of Trainees, however changes to the ERS are required to confirm this.</li> </ul>
<p><b>EVIDENCE BASE</b></p>	<p><b>Data presented in National Data Reports:</b></p> <ul style="list-style-type: none"> <li>• The percentage of endoscopists meeting target for KQIs has increased year on year however a proportion remains who are not meeting target. Using caecal intubation rate as an example we can see that, although increases have been significant, the percentage not meeting target remains substantial:             <ul style="list-style-type: none"> <li>- % of endoscopists not meeting CI Rate minimum target 2016 – 40%</li> <li>- % of endoscopists not meeting CI Rate minimum target 2017 – 32%</li> <li>- % of endoscopists not meeting CI Rate minimum target 2018 – 31%</li> <li>- % of endoscopists not meeting CI Rate minimum target 2019 – 27%</li> <li>- % of endoscopists not meeting CI Rate minimum target 2020 – 29%</li> <li>- % of endoscopists not meeting CI Rate minimum target 2022 – 24%</li> </ul> </li> </ul>



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